

Stephanie K. Archer

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EDUCATION:

2015 Ph.D. Zoology NC State University (began at Oregon State University and Florida International University)
2009 M.S. Ecology Utah State University
2004 B.S. Ecology University of Georgia

PROFESSIONAL APPOINTMENTS:

2016 - Present *Natural Sciences and Engineering Research Council of Canada's Visiting Postdoctoral Fellowship*. Fisheries and Oceans Canada
2017 - Present Postdoctoral Researcher, Canadian Healthy Oceans Network 2

PUBLICATIONS (* DENOTES UNDERGRADUATE COAUTHOR):

11. **Archer, SK**, S Buhler, and CA Layman. 2018. Ambient nutrient availability drives the outcome of an interaction between a sponge (*Halichondria melanadocia*) and a seagrass (*Thalassia testudinum*). *Journal of Experimental Marine Biology and Ecology* **503**:86-91
10. **Archer, SK**, AS Kahn, SP Leys, T Norgard, F Girard, CP Du Preez, and A Dunham. 2018. Pyrosome consumption by benthic organisms during blooms in the NE Pacific and Gulf of Mexico. *Ecology*. DOI: 10.1002/ecy.2097
9. **Archer, SK**, JL Stevens, RE Rossi, KO Matterson, and CA Layman. 2017. Abiotic conditions drive significant variability in microbial activity and nutrient processing in a common Caribbean sponge, *Ircinia felix*. *Limnology and Oceanography* **62**: 1783–1793. DOI:10.1002/lno.10533
8. Easson, CG, **SK Archer**, KO Matterson, CJ Freeman, RW Thacker. 2015. Spatial variability in sponge community assemblages across an anthropogenic gradient in Bocas Del Toro, Panama. *PeerJ* **3**:e1385
7. Layman, CA, S Buhler, ST Giery, R Rossi, T Penland, M Henson, A Bogdanoff, M Cove, A Irizarry, C Schalke, and **SK Archer**. 2015. A primer on the history of food web ecology: Fundamental contributions of fourteen researchers. *Food Webs* **4**: 14-24
6. **Archer, SK**, EW Stoner, and CA Layman. 2015. A complex interaction between a sponge (*Halichondria melanadocia*) and a seagrass (*Thalassia testudinum*) in a subtropical coastal ecosystem. *Journal of Experimental Marine Biology and Ecology* **465**:33-40
5. **Archer, SK**, JE Allgeier, BX Semmens, SA Heppell, CV Pattengill-Semmens, AD Rosemond, PG Bush, CM McCoy, BC Johnson, and CA Layman. 2015. Hot moments in spawning aggregations: Implications for ecosystem-scale nutrient cycling. *Coral Reefs* **34**(1):19-23. DOI: 10.1007/s00338-014-1208-4
4. **Archer, SK** and TA Crowl. 2014. Retention of learned predator recognition in an endangered sucker *Chasmistes liorus liorus*. *Aquatic Biology* **20**:195-202. DOI: 10.3354/ab00558
3. Layman CA, ZR Jud, **SK Archer**, and D Riera*. 2014. Provision of ecosystem services by artificial shoreline structures in a highly impacted estuary. *Environmental Research Letters* **9**: 044009. DOI: 10.1088/1748-9326/9/4/044009
2. Heppell, SA, BX Semmens, **SK Archer**, CV Pattengill-Semmens, PG Bush, BC Johnson, CM McCoy, and SS Heppell. 2012. Documenting recovery of a spawning aggregation through size frequency analysis from underwater laser calipers measurements. *Biological Conservation* **155**: 119-127
1. **Archer, SK**, SA Heppell, BX Semmens, CV Pattengill-Semmens, PG Bush, CM McCoy, and BC Johnson. 2012. Patterns of color phase indicate spawn timing at a Nassau grouper (*Epinephelus striatus*) spawning aggregation. *Current Zoology* **58**(1):70-80

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PEER REVIEWED GOVERNMENT REPORTS:

1. Dunham, A, J Mossman, **SK Archer**, S Davies, J Pegg, E Archer. 2018. Glass Sponge Reefs in the Strait of Georgia and Howe Sound: Status assessment and ecological monitoring advice. DFO Canadian Science Advise Secretariat Research Document. RES2018/010
2. DFO. 2018. Glass Sponge aggregations in Howe Sound: locations, reef status, and ecological significance assessment. DFO Canadian Science Advise Secretariat Science Response. Contributors: **Archer, SK**, L Burke, JW Chu K Conway, G Dennison, A Dunham, K Gale R Kung, A Ladwig, L McAuley, J Mossman, and J Pegg

PUBLICATIONS IN REVISION (Draft available on request, ° indicates equal contribution):

1. **Archer, SK**°, WD Halliday°, A Riera, X. Mouy, JWF Chu, MK Pine, A Dunham, and F Juanes. *In Revision*. The first description of a glass sponge reef soundscape reveals fish calls and elevated sound pressure levels. *Marine Ecology Progress Series*

PUBLICATIONS IN REVIEW/ADVANCED STAGES OF PREPARATION (Draft available on request, ° indicates equal contribution):

1. RE Rossi, **SK Archer**, and CA Layman. *In Prep*. Mapping a mangrove die-off on a local scale: A case study from The Bahamas. Target Journal: *Sensors*
2. Rossi, RE, **SK Archer**, and CA Layman. *In Prep*. Potential role of biotic stressors in a dwarf red mangrove (*Rhizophora mangle*) die-off. Target Journal: *Aquatic Botany*
3. **Archer, SK**, J Tucker*, and CA Layman. *In Prep*. Are sponges a second foundation species in seagrass beds? Target Journal: *Marine Biology*
4. Dunham, A°, **SK Archer**°, J Mossman, S Davies, J Pegg, L Burke. *In Prep*. Assessing ecological role of deep-water biogenic habitats: Glass sponge reefs in the Georgia Basin. Target Journal: *Continental Shelf Research*
5. Rossi, RE, **SK Archer**, and CA Layman. *In Prep*. Mapping prevalence of mangrove disease using a citizen science approach: information gleaned and lessons learned. Target Journal: *Citizen Science Practice and Theory*
6. **Archer SK**, D Scriven, L Burke, and A Dunham. *In Prep*. A flexible quantitative index of ecosystem-based management effectiveness. Target Journal: *Ecological Applications*

CONFERENCE PROCEEDINGS:

1. **Archer, SK**, SA Heppell, BX Semmens, CV Pattengill-Semmens, PG Bush, CM McCoy, SS Heppell, BC Johnson. 2010. Development of a novel method for monitoring recovery on spawning aggregations, *Proceedings of the 63rd Annual Meeting of the Gulf and Caribbean Fisheries Institute*

GOVERNMENT/TECHNICAL REPORTS:

3. Dunham, A and **S.K. Archer**. *In Prep*. Assessment and monitoring of the glass sponge reefs. *In: The State of the Physical, Biological and Selected Fishery Resources of Pacific Canadian Marine Ecosystems in 2017*. . Can. Tech. Rep. Fish. Aquat. Sci.
2. Gauthier, M., J. M.R. Curtis, K.S.P Gale, **S.K. Archer**, and D.R. Haggarty. 2018. SGaan Kinghlas-Bowie Seamount Marine Protected Area Species Inventory: Algae, Bryozoa, Cnidaria, and Porifera. Can. Tech. Rep. Fish. Aquat. Sci. 3196: vi + 56 p
1. Copeland, T, J Johnson, **S Kraft**, P Bunn. 2007. Idaho Natural Production Monitoring and Evaluation 2006 annual report. Idaho Fish and Game

PREPRINTS:

1. **Archer, SK**, L Burke, and A Dunham (2018). Improving monitoring by understanding the patterns and drivers of biodiversity on Canada's Glass Sponge Reefs. PeerJ Preprints 26495

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GRANTS (IN US DOLLARS):

2015-2016. National Science Foundation, “RAPID: An interdisciplinary approach to elucidating the causes of widespread mangrove die-off”, (Non-PI Co-author). \$75,187 (OCE 1405198)
2014. NCSU University Graduate Student Association Award for Conferences. \$1,500
2014. Explorer’s Club Grant. Will warming seas change sponge ecosystem function? \$2,000
2011. Mote Symposium Travel Grant. William R. and Lenore Mote Symposium. Florida State University. \$500
2008. Research Support Award, Utah State University Ecology Center. \$3,000
2008. June Sucker Technical Committee Grant. Temperature Shock in Larval June Sucker, (Non-PI Co-author). \$31,000
2008. Research Grant Utah Chapter of the American Fisheries Society. Learning in June Sucker, *Chasmistes liorus*. \$1,000

SEMINARS AND INVITED TALKS:

10. **Archer, SK**. 2017. Leadership Meeting, Fisheries and Oceans Canada
9. **Archer, SK**. 2017. Ocean Wise Marine Speaker Series
8. **Archer, SK**. 2017. Vancouver Island University Chasing Coral Panel
7. **Archer, SK**. 2017. Vancouver Island University Science and Technology Series
6. **Archer, SK**. 2016. University of Victoria Biology Seminar Series
5. **Archer, SK**. 2016. Pacific Biological Station, Department of Fisheries and Oceans Canada
4. **Archer, SK**. 2015. Florida Gulf Coast University STEM Seminar Series
3. **Archer, SK**. 2013. Smithsonian Marine Station Seminar Series
2. **Archer, SK**. 2012. Friends of the Environment’s Abaco Lionfish Derby
1. **Archer, SK** and TA Crowl. 2009. Oregon State University Stream Team Seminar Series

PRESENTATIONS:

2018

29. Rossi, RE, **SK Archer**, and CA Layman. An update on the die-off of dwarf red mangrove (*Rhizophora mangle*) in the Marls. 2018 Abaco Science Alliance Conference. Contributed Paper.
Boyd, LL*, EW Stoner, P M, **SK Archer**, K Comer-Santos, M Heithaus, ER. Whitman. Effect of *Holothuria arenicola* on Seagrass Beds in Abaco, Bahamas. 2018 Abaco Science Alliance Conference. Poster.

2017

27. Rossi, RE, **SK Archer**, and CA Layman. The potential role of biotic stressors in a dwarf red mangrove (*Rhizophora mangle*) die-off. Coastal & Estuarine Research Federation Biennial Meeting. Contributed Paper.
26. Rossi, RE, **SK Archer**, and CA Layman. A closer look at a mangrove die-off. A case study from Abaco, The Bahamas. Bonefish & Tarpon Trust Science Symposium. Contributed Paper.
25. Rossi, RE, **SK Archer**, Jean Ristaino and CA Layman. A species of *Pestalotiopsis* species identified infecting *Rhizophora mangle* in The Bahamas. American Phytopathological Society Annual Meeting. Poster.
24. **Archer, SK**, G Dennison, and A Dunham. Initial report on nine newly discovered glass sponge reefs in British Columbia, Canada. 10th World Sponge Conference. Contributed Paper.
23. **Archer, SK**, J Mossman, J Pegg, S Davies, and A Dunham. Sponge distribution and community-habitat associations in nine glass sponge reefs in the Strait of Georgia. 10th World Sponge Conference. Poster.
22. **Archer, SK**, J Mossman, J Pegg, S Davies, and A Dunham. Sponge distribution and community-habitat associations in nine glass sponge reefs in the Strait of Georgia. GeoHab 2017 – 17th International Symposium. Poster.
21. Boyd, LL*, EW Stoner, P M, **SK Archer**, K Comer-Santos, M Heithaus, ER. Whitman. Effect of *Holothuria arenicola* on Seagrass Beds in Abaco, Bahamas. 37th Annual Symposium on Sea Turtle Biology and Conservation: 2017. Poster.

2016

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20. **Archer, SK**, J Mossman, and A Dunham. Seascape ecology of glass sponge reefs: fine scale measurements of habitat heterogeneity and its relationship to community structure. PICES 25th Annual Meeting. Contributed Paper.

19. Rossi, RE, **SK Archer**, and CA Layman. A closer look at a mangrove die-off. Abaco Science Alliance. Contributed Paper.

2015

18. **Archer, SK** and CA Layman. Presence of a second foundation species alters seagrass ecosystem structure. The 100th Annual Meeting of the Ecological Society of America. Contributed Paper.

17. **Archer, SK** and CA Layman. Presence of a second foundation species alters seagrass ecosystem structure and function. The 37th AMLC Scientific Meeting. Contributed Paper.

16. **Archer, SK** and CA Layman. Presence of a second foundation species alters seagrass ecosystem structure. Zoology Graduate Student Association Symposium. Contributed Paper.

2014

15. **Archer, SK**, EW Stoner, CA Layman. Complex interactions comprise a sponge-seagrass commensal relationship in a sub-tropical coastal ecosystem. Zoology Graduate Student Association Symposium. Contributed Paper.

14. **Archer, SK**, EW Stoner, CA Layman. Complex interactions comprise a sponge-seagrass commensal relationship in a sub-tropical coastal ecosystem. Benthic Ecology Meeting. Contributed Paper.

13. **Archer, SK**, EW Stoner, CA Layman. Sponges in seagrass: From species interactions to ecosystem function. Bahamas Natural History Conference. Contributed Paper.

12. **Archer, SK** and CA Layman. Sponge diversity of nearshore habitats of Abaco. Abaco Science Alliance Conference. Poster.

2013

11. **Archer, SK**, EW Stoner, CA Layman. Sponge-seagrass interactions: investigating the interaction between turtle grass (*Thalassia testudinum*) and *Halichondria melanadocia*. Ninth World Sponge Conference. Contributed Paper.

10. **Archer, SK** and CA Layman. Sponge diversity of nearshore habitats of Abaco. Bahamas National Natural History Conference. Poster.

2011

9. **Archer, SK**, SA Heppell, BX Semmens, CV Pattengill-Semmens, PG Bush, CM McCoy, SS Heppell, BC Johnson. You gotta look good for the party: Evidence for a link between cleaning organisms and aggregating grouper. 8th Annual William R. and Lenore Mote 2011 Symposium. Contributed Paper.

8. Heppell, SA, BX Semmens, CV Pattengill-Semmens, PG Bush, CM McCoy, SS Heppell, BC Johnson, **SK Archer**. Oceanic patterns associated with Nassau grouper aggregation spawn timing: Shifts in surface currents on the nights of peak spawning. Southern Division, American Fisheries Society. Invited symposium paper.

2010

7. **Archer, SK**, SA Heppell, BX Semmens, CV Pattengill-Semmens, PG Bush, CM McCoy, SS Heppell, BC Johnson. Development of a novel method for monitoring recovery on spawning aggregations. 63rd Annual Meeting of the Gulf and Caribbean Fisheries Institute. Contributed paper.

6. **Archer, SK**, SA Heppell, BX Semmens, CV Pattengill-Semmens, PG Bush, CM McCoy, SS Heppell, BC Johnson. Development of an alternative method for monitoring recovery on spawning aggregations. 22nd Annual Meeting of the Gilbert Ichthyological Society. Contributed paper.

2009

5. **Archer, SK** and TA Crowl. Naïve prey versus nonnative predators: A role for behavior in endangered species conservation. Annual Meeting of the Oregon Chapter of the American Fisheries Society. Contributed paper.

2008

4. **Archer, SK** and TA Crowl. Predator detection and learning capabilities in an endemic lake sucker. Annual Meeting of the Desert Fishes Council. Contributed paper.

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3. **Archer, SK** and TA Crowl. Predator detection and learning capabilities in an endemic lake sucker. Annual Meeting of the American Fisheries Society. Contributed paper.
2. **Archer, SK** and TA Crowl. Predator detection and learning capabilities in an endemic lake sucker. Annual Meeting of the Ecological Society of America. Contributed paper.
1. **Archer, SK** and TA Crowl. Predator detection and learning capabilities in an endemic lake sucker, Annual Meeting of the Utah Chapter of the American Fisheries Society. Poster.

UNIVERSITY-LEVEL TEACHING EXPERIENCE:

Florida International University

- Teaching Assistant, *General Biology Lab I*. 2013. Spring semester
- Teaching Assistant, *Ecology Lab*. 2012. Fall semester

Oregon State University

- Instructor of record, *Management Principles of Salmon in the Pacific Northwest*. 2010. Fall quarter
- Teaching Assistant, *Global Crises in Resource Ecology*. 2010. Winter, spring, summer, quarters

Utah State University

- Teaching Assistant, *Ecology*. 2007. Fall semester

University of Georgia

- Teaching Assistant, *Ichthyology*, UGA. 2005. Spring semester

FIELD AND SHORT COURSE TEACHING EXPERIENCE

17th Annual Marine Conservation Summer Teacher Training Workshop- Bahamas Reef Environmental Education Foundation

- Instructor, *Seagrass Ecology*, *Sponge Ecology*, and *History of The Bahamian Sponge Fishery*. 2015. Summer short courses

Summer Field Courses- FRIENDS of the Environment, Abaco, The Bahamas

- Instructor, *Habitat Conservation and Protected Areas*. 2014. Summer short course
- Instructor, *Surprising Sponges*. 2013. Summer short course

International Field Studies, Forfar Field Station

- Instructor, *Fish Identification*, *Fish Behavior*, *Geology*, 2005-2006.

GUEST LECTURES:

Marine Protected Areas in British Columbia, FISH 322, Marine Ecology, Vancouver Island University. 2017
Aquatic Invasive Species, FISH 207 and FISH 205, Invertebrate Ecosystems, Vancouver Island University 2016.
Career Paths in Natural Resources, Fisheries and Wildlife 255, Field Sampling and Methodology, Oregon State University. 2010

OUTREACH:

2017. Chasing Coral Screening. Panel Discussion Member. Vancouver Island University.
2017. Elementary and Secondary Classroom Visits. Prince Rupert, Bella Bella, and Shearwater, BC.
2012-2015. Contributor. Abaco Scientist Blog, <http://appliedecology.cals.ncsu.edu/absci/>
2013-2015. Mentor. North Carolina State University, 2 undergraduate students.
2012-2013. Mentor. Florida International University, 3 undergraduate students.
2013. Assistant, FRIENDS of the Environment Summer Science Camp, Abaco, The Bahamas.
2010. Mentor, Apprenticeships in Science and Engineering, Saturday Academy

PROFESSIONAL SERVICE:

2017-2018. Review Panelist. National Science Foundation.

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2017. Scientific Steering Committee. 10th World Sponge Conference.
2017-Present. Participant. PICES Working Group 32, Biodiversity of Biogenic Habitats.
2017. Participant. DFO-CHONe Workshop on Identifying Ecologically and Biologically Significant Areas in Need of Management.
2015. Vice President. Rho Tau Chapter of Graduate Women in Science.
2015. Organizer. Ecology, Evolution, and Organismal Biology Seminar Series. North Carolina State University.
2015. Organizer. Advances in Ecology Discussion Group. North Carolina State University.
2010-2011. Organizer, Faculty and Graduate Student Discussion Group, Department of Fisheries and Wildlife, Oregon State University
2010-2013. Council Member, Gilbert Ichthyological Society
2010-2011. Co-President, Fisheries and Wildlife Graduate Student Association, Oregon State University
2010. Student Evaluation Chair, Promotion and Tenure Committee, Department of Fisheries and Wildlife, Oregon State University
2010. Committee Chair, Silent Auction, Research and Advances in Fisheries, Wildlife, and Ecology Symposium Fisheries and Wildlife Graduate Student Association, Oregon State University
2010. Mentor, Student-Mentor Social, Oregon Chapter of the American Fisheries Society Annual Meeting
2010. Student Volunteer, Oregon Chapter of the American Fisheries Society Annual Meeting
2009. Student Volunteer, Oregon Chapter of the American Fisheries Society Annual Meeting
2008. Student Volunteer, Utah Chapter of the American Fisheries Society Annual Meeting
2007. Volunteer, Audio-Visual, Idaho Chapter of the American Fisheries Society Annual Meeting

SCHOLARSHIP AND FELLOWSHIPS:

2016-Present. Natural Sciences and Engineering Research Council of Canada's Visiting Fellow in Government Agencies Postdoctoral Fellowship. Fisheries and Oceans Canada
2017-Present. Postdoctoral Research Fellow. Canadian Healthy Oceans Network 2
2013-2015. Graduate Research Assistantship, North Carolina State University
2012-2013. Presidential Fellowship. Florida International University
2011. Sustainable Fisheries Foundation William Trachtenberg Scholarship, Western Division, American Fisheries Society
2011. Thomas G. Scott Grant Scholarship, Department of Fisheries and Wildlife, Oregon State University
2011. Coombs-Simpson Memorial Fellowship, Department of Fisheries and Wildlife, Oregon State University
2011. H. Richard Carlson Scholarship, Department of Fisheries and Wildlife, Oregon State University
2009. Henry E. Mastin Graduate Student Fund, Department of Fisheries and Wildlife, Oregon State University
2009-2011. Graduate Research Assistantship, Oregon State University
2008-2009. Graduate Research Assistantship, Utah State University
2007-2008. Presidential Fellowship, Utah State University
2002. Regional Scholarship, Professional Golf Association
2001-2004. Regents Fee Waiver, University of Georgia
2001-2004. Charter Scholarship, University of Georgia

AWARDS:

2015. Best Presentation, Zoology Graduate Student Association Symposium, North Carolina State University
2011. Chairman's Leadership Award, Department of Fisheries and Wildlife, Oregon State University
2008. Carl L. Hubbs Award for Best Student Paper, The Desert Fishes Council
2005. Institute of Ecology's Teaching Assistant Award, University of Georgia

PRESS:

<http://www.cbc.ca/news/canada/british-columbia/live-stream-glass-sponge-1.4109423>
<https://www.thenorthernview.com/news/protecting-rare-ancient-glass-sponge-reefs/>

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<https://www.theglobeandmail.com/news/national/expedition-to-rare-glass-sponge-reefs-in-bc-to-be-streamed-live-online/article34928694/>

<http://www.cbc.ca/listen/shows/daybreak-north/episode/13773954>

<https://www.canadiangeographic.ca/article/watch-live-researchers-explore-rare-bc-sea-glass-sponges>

EDITORIAL POSITIONS:

Associate Editor, Food Webs

JOURNALS REVIEWED FOR:

Animal Behaviour

Journal of Experimental Marine Biology and Ecology

Oecologia

Deep-Sea Research Part I

PeerJ

Freshwater Science

Marine Ecology Progress Series

PROFESSIONAL MEMBERSHIPS:

Sigma Xi

Ecological Society of America

Limnology and Oceanography