

# 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. *In Revision*. 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*
10. **Archer, SK**, AS Kahn, SP Leys, T Norgard, F Girard, CP Du Preez, and A Dunham. *In Revision*. Pyrosome consumption by benthic organisms during blooms in the NE Pacific and Gulf of Mexico. *Ecology*
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. *In Press*. Glass Sponge Reefs in the Strait of Georgia and Howe Sound: Status assessment and ecological monitoring advice. DFO Canadian Science Advise Secretariat Research Document

## PUBLICATIONS IN REVIEW OR ADVANCED STAGES OF PREPARATION (Draft available on request):

- 1 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: *Journal of Experimental Marine Biology and Ecology*
2. **Archer, SK**, WD Halliday, A Riera, X. Mouy, JWF Chu, MK Pine, A Dunham, and F Juanes. *In Prep*. Preliminary description of the acoustic environment on a glass sponge reef. Target Journal: *Marine Ecology Progress Series*
3. **Archer, SK**, J Tucker\*, and CA Layman. *In Prep*. Are sponges a second foundation species in seagrass beds? Target Journal: *Marine Biology*
4. RE Rossi, **SK Archer**, and CA Layman. *In Prep*. Mapping a mangrove die-off on a local scale: A case study from The Bahamas. Invited Submission: *Sensors*

## CONFERENCE PROCEEDINGS:

**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 63<sup>rd</sup> Annual Meeting of the Gulf and Caribbean Fisheries Institute*

## GOVERNMENT/TECHNICAL REPORTS:

Copeland, T, J Johnson, **S Kraft**, P Bunn. 2007. Idaho Natural Production Monitoring and Evaluation 2006 annual report. Idaho Fish and Game

## 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:

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:

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.

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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**, 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. 10<sup>th</sup> 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. 10<sup>th</sup> 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

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 25<sup>th</sup> 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 100<sup>th</sup> 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 37<sup>th</sup> 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. 8<sup>th</sup> Annual William R. and Lenore Mote 2011 Symposium. Contributed Paper.

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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. 63<sup>rd</sup> 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. 22<sup>nd</sup> 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.

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

### 17<sup>th</sup> 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.

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## **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. 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. Graduate Research Fellowship Program Review Panelist. National Science Foundation.  
2017. Scientific Steering Committee. 10<sup>th</sup> 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  
2010. 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

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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

## **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  
Graduate Women in Science, Rho Tau Chapter  
Ecological Society of America