

## Curriculum Vitae – Dr. Susan E. Gass

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### University Teaching Fellow – Earth and Environmental Sciences, Dalhousie University

#### EDUCATION

**2002-2006 Doctor of Philosophy**  
Marine Environmental Science  
Open University/UHI Millennium Institute  
Scottish Association for Marine Science, Oban, Scotland, UK  
*Thesis title: The environmental sensitivity of cold-water corals: Lophelia pertusa*

**2000-2002 Master of Environmental Studies**  
Marine Environmental Science  
Dalhousie University, Halifax, NS  
  
*Thesis title: An assessment of the distribution and status of deep sea corals in Atlantic Canada by using both scientific and local forms of knowledge.*

Master level courses included: Intro to Environmental Studies, Environmental Toxicology, Resource and Environmental Law, Environmental Assessment, Management and the Natural Environment, Deep Sea Biology, Research Methods

**1994-1998 Bachelor of Science**  
Biology and Environmental Science  
McGill University, Montreal, Quebec

#### OTHER CERTIFICATIONS

1. Master Naturalist Certification – Montana Natural History Centre. June 12-18, 2019.
2. Wilderness First Aid Training – June 2017
3. The National Center for Case Study Teaching in Science – Completed 40 hours of training on the use of case study teaching in Science. May 26-30, 2014. University at Buffalo
4. CABIN Field Certification – Environment Canada. June 19-20, 2014.

#### TEACHING EXPERIENCE

2021 - present **University Teaching Fellow, Dalhousie University**  
Earth and Environmental Sciences, Dalhousie University, See description below

2016 - present **Senior Instructor**  
Environmental Science, Dalhousie University  
Instructor for ENVS 1100.06 Foundations of Environmental Science, ENVS 1200 Current Challenges in Environmental Science, ENVS 3001.03 Environmental Science Field School, ENVS 4003.03 Corals and Environmental Change, FIGS 0009 Navigate Your Science Degree. Academic advisor and administrative duties within the department.

2009 – 2015 **Instructor**  
Environmental Science, Dalhousie University  
Instructor for ENVS 1100.06 Foundations of Environmental Science, ENVS  
1200 Current Challenges in Environmental Science, ENVS 3001.03  
Environmental Science Field School, ENVS 4003.03 Corals and Environmental  
Change. Academic advisor and administrative duties within the department.

2008-2009 **Teaching Fellow**, School of Environmental Sciences, University of Ulster,  
Northern Ireland.  
Class coordinator and instructor (taught 25% of lectures) for 1<sup>st</sup> Year Level class  
Environment and Society. Class coordinator and instructor (75% of lectures) for  
2<sup>nd</sup> Year Level class Oceanic and Atmospheric Systems

## TEACHING AWARDS

2022 – **Dalhousie Academic Innovation Award**

2020 – **Faculty of Science Award for Excellence in Teaching**

2016 – **Dalhousie Change One Thing Challenge**

## ADMINISTRATIVE LEADERSHIP

July 1, 2022- **Faculty of Science Teaching and Learning Associate**  
present

Jan -July 1, **Program Coordinator – BSc. Environmental Science, Dalhousie**  
2020 **University**

2016-2017 **Acting Director Environmental Science, Dalhousie University**

## PUBLICATIONS

**\*Related to teaching and learning**

*Peer reviewed articles*

1. **\*Gass S.**, Mui A., Manning P., Cray H., and L. Gibson (2021). Exploring the value of a BioBlitz as a biodiversity education tool in a post-secondary environment. *Environmental Education Research* 27:1538–1556
2. **\*Ryan, AM. and S.E. Gass** (2021). When the societal meets the scientific: learning through simulation in the Earth and Environmental Sciences. In: Schnurr and Macleod eds. *Simulations and Student Learning: An Interdisciplinary Perspective*. Toronto University Press. pp 164-192
3. Sameoto, J.A., Hall, K, **Gass, S.**, Keith, D., Kirchoff, S. and C. Brown (2021). Conservation implications of demographic changes in the horse mussel (*Modiolus modiolus*) population of the inner Bay of Fundy. *Marine Ecology Progress Series*. 670, 93-104
4. **\*Gass, S.E.** and D. Scriven (2019). The Canadian Canola Controversy: the Role of Genetically Modified Organisms in Agriculture. A teaching case study in Environmental Science. National Center for Case Study Teaching in Science, University at Buffalo, State University of New York. Accessible from: [https://sciencecases.lib.buffalo.edu/collection/detail.html?case\\_id=1050&id=1050](https://sciencecases.lib.buffalo.edu/collection/detail.html?case_id=1050&id=1050)

5. \*Ryan, AM. and **S.E. Gass** (2017). Quantitative Reasoning: Exploring Troublesome Thresholds. In: Discussions on University Science Teaching: Proceedings of the Western Conference on Science Education. Vol 1: Article 16.
6. \***Gass, S.E.** and L. Ebrhardt (2016). A Trip to the Beach: Untangling the Mystery of Algal Blooms in the Great Lakes. A teaching case study in Environmental Ecology. Published by the National Center for Case Study Teaching in Science, University at Buffalo, State University of New York.
7. **Gass, S.E.** and J.M. Roberts (2011). A skeletal chronology for *Lophelia pertusa*. Journal of the Marine Biological Association of the UK. 91(4): 831-835.
8. **Gass, S.E.** and J.M. Roberts (2006). The occurrence of the cold-water coral *Lophelia pertusa* (Scleractinia) on oil and gas platforms in the North Sea: Colony growth, recruitment and environmental controls on distribution. Marine Pollution Bulletin. 52: 549-559.
9. **Gass, S.E.** and J.H.M. Willison, (2005). An assessment of the distribution of deep-sea corals in Atlantic Canada by using both scientific and local forms of knowledge. In: Freiwald and Roberts (eds) Cold-water Corals and Ecosystems. 223-245. Berlin: Springer.
10. Willison, J.H.M. and **S.E. Gass**. (2002). Creating a research agenda on marine protected areas in Nova Scotia. In Bondrup-Nielsen et al., editors. Managing Protected Areas in a Changing World. Proceedings of the Fourth International Conference on Science and Management of Protected Areas. 14-19 May 2000. 1396-1400. Wolfville, NS: SAMPAA.

#### *Edited Volumes*

1. \*Ryan, AM., **S.E. Gass**, R. Dean, S. McLean, T. Haffie (2019). Discussions on University Science Teaching: Proceedings of the Western Conference on Science Education. Volume 2. <http://www.thewesternconference.ca>. Expected publication date January 2019.
2. \*Ryan, AM., **S.E. Gass**, R. Dean, S. McLean, T. Haffie (2017). Discussions on University Science Teaching: Proceedings of the Western Conference on Science Education. Volume 1. <http://www.thewesternconference.ca>
3. Willison, J.H.M., J. Hall, **S.E. Gass**, E.L.R. Kenchington, M. Butler, and P. Doherty (editors). (2001). Proceedings of the First International Symposium on Deep Sea Corals. Halifax, NS: Ecology Action Centre and the Nova Scotia Museum. 231 pp.

#### *Conference presentations relating to Teaching and Learning*

1. **S. Gass**, L. Gibson, A. Mui, P. Manning and H. Cray. Can an urban campus BioBlitz increase understanding of biodiversity and develop a stronger sense of place among undergraduate students? Presentation at the AESS 2020 Conference - virtual event - July 15-17, 2020
2. **S.E. Gass** and A.M. Ryan (2019). Challenging and Motivating STEM Students Through the Use of Pertinent Cases. Presentation at the Transforming Stem Higher Education conference. American Association for Colleges and Universities. Chicago, Illinois. November 7-9, 2019.
3. A.M. Ryan and **S.E. Gass** (2019) Science and humanity: teaching in context. Workshop at the Western Conference on Science Education. London, Ontario. July 3-5, 2019
4. **S. Gass** and L. Gibson (2017) Explore, Snap, Record: Learn about using a Bioblitz to engage students and reconnect them to their local natural environment. Workshop presented at the Environmental Education and Communication Conference May 18-21, 2017. Wolfville, NS

5. L. Gibson and **S. Gass** (2017) BioBlitz: A Tool for Biodiversity Discovery. Presentation at the Society for Teaching and Learning in Higher Education Annual Conference June 20-23, Halifax, NS
6. **S. Gass** and A.M. Ryan (2017) Diversity and not Dilution: Enriching undergraduate science education through internationalizing the curriculum. Workshop at the Western Conference on Science Education. London, Ontario. July 4-7, 2017.
7. **S. Gass** (2016) Using case studies in a first year Environmental Science class as a means of engaging students in deeper learning. Presentation at the AESS 2016 Conference June 8-11, 2016, Washington, DC
8. Ryan, A.M. and **S. Gass** (2015) Quantitative reasoning: crossing thresholds (workshop, Western Conference on Science Education, London, Ontario, July 2015
9. Ryan, A.M., G. Gass, **S. Gass**, K. Ryan, and J. Van Dommelen (2014) Quantitative reasoning and visualization data across the Sciences. 5<sup>th</sup> Biennial Threshold Concepts Conference, July 2014, Durham, UK (Presenter A.M. Ryan)
10. Ryan, A., **S. Gass**, **G. Gass**, K. Ryan and J. Vandomlen. (2013) More juggling with less struggling: Troublesome concepts ACROSS the sciences. Workshop at the Western Conference on Science Education. London, Ontario.
11. Wright, T., K. Munroe and **S.E. Gass** (2011) Environmental Science at Dalhousie University, an Evolving Curriculum. Presentation at the Association for Environmental Studies and Sciences 2011 Conference. Burlington, Vermont.