

Jesse Sayles

Curriculum Vitae

PhD Candidate

School of Geographical Science and Urban Planning
Arizona State University

Phone: 857-231-6708, Email: Jesse.Sayles@asu.edu

Background

Citizenships: U.S.A. and German (European Union)

Research Interests: sustainability, human-environment geography, resilience, natural resource governance, social network analysis, landscape ecology, restoration, local and indigenous peoples, coastal and watershed systems.

Skills and Tools: GIS (ArcGIS), social network analysis (R and UCINET), systems modeling (STELLA and XPPAUT), quantitative (R and SPSS) and qualitative (NVivo and MAXQDA) analysis, data management (R and Microsoft excel).

Languages: English (Fluent), Spanish (Conversational), French (Conversational)

Education

2009 – 2015 (expected) Ph.D. Geography
Arizona State University, School of Geographical Sciences and Urban Planning, Tempe, AZ.
Committee: Dr. B.L. Turner II (chair), Dr. Marco Janssen, and Dr. Dain Childers

2006 – 2008 M.Sc. Geography
Concordia University, Department of Geography, Planning and Environment, Montreal, QC.

2000 – 2004 B.Sc. Environment – Biodiversity and Conservation Biology
McGill University, McGill School of Environment, Montreal, QC.

Publications

Journal Articles

Sayles, J.S. and J.A. Baggio. (In revision). Social-ecological network analysis of scale-mismatch in estuary watershed restoration. *Proceedings of the National Academy of Sciences, U.S.A.*

Sayles, J.S. (In press). No wilderness to plunder: Process thinking reveals Cree land-use via the goose-scape. *The Canadian Geographer*.

Benessaiah, K. and **J. Sayles**. 2014. Drug trafficking's effects on coastal ecosystems. *Science*. 343 (6178): 1431.

Sayles, J.S. 2012. A review of Practicing Geography: Careers for Enhancing Society and the Environment. *The Professional Geographer*. 64(4): 626-627.

Sayles, J.S. and M. E. Mulrennan. 2010. Securing a future: Cree hunters' resistance and flexibility to environmental changes, Wemindji, James Bay. *Ecology and Society*. 15(4): 22. [online] URL: <http://www.ecologyandsociety.org/vol15/iss4/art22/>

Sayles, J.S. and D.I. Green. 2005. Bilateral action for right whales. *Science*. 310 (5754): 1616-1617.

Book Chapters

Sayles, J.S. (In press). I have a case study box about my master's research appearing in the 2015 *Canadian Coastal Assessment of Climate Change*. Full citation forthcoming. This was an invited contribution.

Sayles, J.S. and M.E. Mulrennan. (In review). Cree hunters' modifications of the coast: Agency in a changing land. In M. Mulrennan, C. Scott and K. Scott, (eds), *Striking a Balance: The Science and Politics of Environmental Protection in James Bay*. Vancouver, BC: UBC Press.

Bussi eres, V., M.E. Mulrennan, and **J.S. Sayles**. (In review). Cultural connection to the Wemindji coastal and marine environment. In M. Mulrennan, C. Scott and K. Scott, (eds), *Striking a Balance: The Science and Politics of Environmental Protection in James Bay*. Vancouver, BC: UBC Press.

Theses and Dissertation

Sayles, J.S., (In prep). Addressing social-ecological scale mismatches for estuary watershed restoration in the Whidbey Basin, Puget Sound, WA. PhD. Dissertation. Arizona State University, Tempe, AZ.

Sayles, J.S. 2008. *Tapaiitum: Human Modifications of the Coast as Adaptations to Environmental Change, Wemindji, Eastern James Bay*. Master's thesis. Concordia University. Montreal, QC.

*Benessaiah, K., A. Bennett, S. Boyce, E. Crawford, V. Demers, M. Forrest, E. Lagac e, C.C. Lemoine, C. P eloquin, **J. Sayles**, S. Schiff, and K. Scott. 2003. *Aa-Wiichaaautuwiihkw: Creating a culturally appropriate watershed and adjacent marine coastal protected area in Paakumshumwaau (old factory) Wemindji, James Bay, Quebec*. Group senior project. McGill School of Environment, McGill University. Montreal, QC.

*Authors are listed in alphabetical order.

Non-refereed Publications

Sayles, J.S. and E. White. 2006. Appendix F: Discussion of dams on the Wallkill River. In, Wallkill River Watershed Conservation and Management Plan Steering Committee (eds), *Wallkill River Watershed Conservation and Management Plan*. Ulister County Soil and Water Conservation District. New York.

Sayles, J.S. 2005. *DRAFT New York State Department of Environmental Conservation Hudson River Estuary Program stream barrier inventory and characterization methodology and training manual*. New York State Department of Environmental Conservation, Hudson River Estuary Program. New Paltz, NY.

Sayles, J.S. 2005. Knowledge flow: a Hudson River Estuary watershed citizens' tool for ecological discussions about stream barriers and barrier removal. Pages 30-36 in, David Burns, Lisa Vasilakos, Rick Oestrike (eds), *Natural Resource Management Plan for the Fishkill Creek Watershed, June 2005*. Dutchess County Environmental Management Council. New York.

Sayles, J.S. 2005. *Summary report of the stream barrier inventory and characterization of the Fishkill Creek Watershed*. New York State Department of Environmental Conservation, Hudson River Estuary Program. New Paltz, NY

Posters

- Sayles, J.S.** and J.A. Baggio. 2015. Social-ecological network analysis of scale-mismatch in estuary watershed restoration. At the symposium on Sustaining the Commons: Interplay between Theory and Practice, Center for Behavior, Institutions and the Environment, Arizona State University. 19 March.
- Sayles, J.S.** and M.E. Mulrennan. 2014. Landscape modifications by Wemindji Cree hunters in response to rapid coastal changes. At the 2014 Symposium on Science and Traditional Knowledge in the Eeyou Marine Region. 25-27 March.
- Sayles, J.S.**, K.L. Larson, E.M. Cook, and S.H. Hall. 2011. The influence of environmental values, urban structure, and neighborhood context on household-level biodiversity and plant composition. At the 2011 Annual Meeting of the Association of American Geographers. 12-16 April.
- Sayles, J.S.**, E.M. Cook, K.L. Larson, and S.H. Hall. 2011. The influence of environmental values and neighborhood context on household-level biodiversity. At the Central Arizona-Phoenix Long-Term Ecological Research Project Thirteenth Annual Poster Symposium. 12-13 January.
- Cook, E., R. Hale, D. Iwaniec, J. Corman, X. Dong, G. Metson, and **J. Sayles**. 2010. Urban stoichiometry: an elemental approach to understanding human-environment interactions. At the Central Arizona-Phoenix Long-Term Ecological Research Project Twelfth Annual Poster Symposium. 14 January.

Presentations

- Sayles, J.S.** and J.A. Baggio. 2014. A social-ecological approach to estuary-restoration planning: integrating social networks into landscapes. At the 2014 Salish Sea Ecosystem Conference. 30 April - 02 May.
- Sayles, J.S.** 2012. Session discussant for researching and improving geography graduate education for STEM careers, sponsored by the AAG EDGE project. At the 2012 Annual Meeting of the Association of American Geographers. 24-28 February.
- Sayles, J.S.** 2012. TA survey results and TA workshop. At the School of Geographical Sciences and Urban Planning Brown Bag Series, Arizona State University, Tempe, Arizona. 25 January.
- Polsky, C., M. Grove, K. Larson, L. Ogden, J. Fraser, E. Harris, D. Martin, R. Garvoille, **J. Sayles**, and N. Vaughn. 2011. Landscape and social ecologies of suburbanization: what is on our residential landscapes? At the 2011 Annual Meeting of the Association of American Geographers. 12-16 April.
- Sayles, J.S.** 2010. Environmental changes, resource harvesting, tradeoffs, and values in Wemindji, James Bay. At the 2010 Annual Meeting of the Association of American Geographers. 14-18 April.
- Campbell, G. and **J.S. Sayles**. 2008. Crisis of faith and conversion during the first LMS mission to Madagascar, 1820-36. At the Workshop on Madagascar: Humans, Health, and Environment in Madagascar. The Indian Ocean World Center, McGill Univ. 10-11 Oct.
- Sayles, J.S.** and M.E. Mulrennan. 2008. Wemindji Cree adaptations to coastal landscape change, Eastern James Bay. At The 2008 Annual Meeting of the Association of American Geographers. 15-19 April.

- Sayles, J.S.** and M.E. Mulrennan. 2007. James Bay Cree response to coastal landscape change, Eastern James Bay. At The National Ocean Management Research Network (OMRN) Conference 2007. 24-27 Oct.
- Sayles, J.S.** and M.E. Mulrennan. 2007. Where islands meet the mainland: understanding dynamic human and biophysical historic coastal changes in Wemindji, Eastern James Bay, QC. At the 8th International Association of Canadian Universities for Northern Studies (ACUNS) Student Conference on Northern Studies. 19-21 Oct.
- Sayles, J.S.** and M.E. Mulrennan. 2006. Adaptation to coastal change: recent shoreline displacement and associated human land-use and landscape modifications, Wemindji, Eastern James Bay, Quebec. At the New England – St. Lawrence Valley Division of the Association of the American Geographers Annual Meeting. 13-15 Oct.
- Sayles, J.S.** 2005. A three tiered, nested approach to stream barrier inventory: characterizing barriers for restoration discussions in tributaries of the Hudson River Estuary. At the ASWM Integrated Restoration of Riverine Wetlands, Streams, Riparian Areas, and Floodplains in Watershed Contexts workshop. 15-16 Nov.

Funding and Awards

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| 2014 | Travel Grant, Graduate College, Arizona State University. \$350 |
| 2014 Fall | Travel Grant, Graduate and Professional Student Association, Arizona State University. \$522. |
| 2014 Spring | Travel Grant, Graduate and Professional Student Association, Arizona State University. \$950. |
| 2013 – 2014 | Graduate Research Assistant Fellowship, Walton Sustainability Solutions Initiatives, Arizona State University. \$30,000 stipend plus tuition waiver and health insurance. |
| 2013 | Summer Research Fellowship, Graduate College, Arizona State University. \$6,000. |
| 2013 | Travel Grant, Graduate and Professional Student Association, Arizona State University. \$950. |
| 2013 | Matthew G. Bailey Scholarship, School of Geographical Sciences and Urban Planning, Arizona State University. Project Title: <i>Integrating landscape restoration and social network analysis to address scalar mismatches in estuaries</i> . \$1,468. |
| 2009 – 2013 | Teaching / Research Assistant Award, School of Geographical Sciences and Urban Planning, Arizona State University. \$13,780 annually for four years plus tuition waiver and health insurance. |
| 2012 Fall | Research Support Award, School of Geographical Sciences and Urban Planning, Arizona State University. Project Title: <i>Integrating landscape restoration and social network analysis to address scalar mismatches in estuaries</i> . \$400. |
| 2012 Spring | Research Support Award, School of Geographical Sciences and Urban Planning, Arizona State University. Project Title: <i>Integrating landscape restoration and social network analysis to address scalar mismatches in estuaries</i> . \$340. |
| 2012 | Melvin G. Marcus Scholarship, School of Geographical Sciences and Urban Planning, Arizona State University. Project Title: <i>Integrating landscape restoration and social network analysis to address scalar mismatches in estuaries</i> . \$883. |

- 2012 Travel Grant, Graduate and Professional Student Association, Arizona State University. \$545.
- 2011 – 2012 Graduate Research Award, Graduate and Professional Student Association, Arizona State University. Project Title: *Scale Mismatch in Estuary Restoration*. \$1,989.
- 2011 Travel Grant, Graduate and Professional Student Association, Arizona State University. \$405.
- 2011 Matthew G. Bailey Scholarship, School of Geographical Sciences and Urban Planning. Arizona State University. Project Title: *Restoring Estuaries for Future Changes: A Multi-Scalar Social-Ecological Approach*. \$1,490.
- 2011 JumpStart Grant, Graduate and Professional Student Association, Arizona State University. Project Title: *Addressing Scale Mismatches in Estuary Restoration*. \$431.
- 2009 University Graduate Fellowship, Graduate College, Arizona State University. \$5,000.
- 2008 Conference Travel Grant, School of Graduate Studies, Concordia University. \$740.
- 2006 – 2008 International Tuition Fee Remission Award, School of Graduate Studies, Concordia University. \$8,043.74.
- 2006 – 2008 Research Assistant Fellowship. Faculty of Arts and Sciences, Concordia University. \$5,000 annually for two years.
- 2006 – 2008 Research Assistant Stipend. The Wemindji Protected Area Project. \$6,000 annually for two years. The Wemindji Protected Area Project was funded through SSHRC's Community-University Research Alliance and Aboriginal Research programs.

Research and Work Experience

- 2012 Analyst, Environment International, Ltd, Seattle, WA.
 - Research and writing for Lee, V.L. and P.J. Biden. 2014. Natural Resources Damage Assessment Deskbook, 2nd ed. Washington DC: Environmental Law Institute.
- 2010 Research Assistant – Dr. Kelli Larson (Geography / Sustainability) and Dr. Sharon Hall (Life Science), Global Institute of Sustainability and Central Arizona-Phoenix Long-Term Ecological Research Project, Arizona State University.
 - Quantitative and qualitative analysis of social-ecological dynamics of residential landscapes
 - Training and mentoring two undergraduate research assistants for qualitative interview work
- 2008 – 2009 Research Assistant – Dr. Gwyn Campbell (History), Indian Ocean World Center, McGill University.
 - Research team coordinating and grant writing. Our \$2.5 million application was fully funded
 - GIS analysis and cartography
- 2006 – 2008 Research Assistant – Dr. Monica Mulrennan (Geography), Department of Geography Planning and Environment, Concordia University.
 - Marine protected area workshop organization
 - Synthesizing environmental impact assessments

- 2007 GIS analyst, Wemindji Protected Area Project, McGill University.
• Database creation and data digitizing
- 2007 Research Assistant – Dr. Florin Pendea (Geography), Department of Geography, McGill University.
• Wetland coring for paleoenvironmental reconstruction in James Bay, QC, Canada
- 2006 Independent Contractor, Hudson River Estuary Program, New York State Department of Environmental Conservation, NY.
• Feasibility study for riparian buffer mapping and monitoring methodologies
- 2005 – 2006 River Restoration Analyst, Hudson River Estuary Program, New York State Department of Environmental Conservation, NY and Student Conservation Association / AmeriCorps.
• Developing a dam and culvert inventory and characterization program for citizen-led watershed restoration
- 2003 – 2005 Director of Youth Experiential Learning Programs (2004 to 2005) and White Water Kayak Instructor (2003), H₂O Adventures, Montreal, QC.
• Pedagogy design, group management, instruction, and general programs management
- 1997 – 2002 Lead Guide of Sea Kayak Camps (2001 and 2002) and Kayak and Ski Instructor/staff (1997 to 2000), Charles River Recreation, Newton, MA.
• Group management and instruction
- 1998 – 2000 Student Director (1999-2000) and Junior Leader (1998), Environmental Science Program, Newton, MA.
• Group management and instruction

Teaching Experience

- 2009 – 2015 Teaching assistant, School of Geographical Sciences and Urban Planning, Arizona State University.
• Society and Environment
• Introduction to Physical Geography (– full lab instruction duties –)
• Geography of World Crises
• Geography of the Middle East and North Africa
- 2008 – 2009 Instructor for graduate student GIS workshop series (lectures and labs), Indian Ocean World Centre, McGill University.
- 2008 Teaching assistant, Department of Geography, McGill University.
• Earth's Changing Surface (introduction to geomorphology)
- 2006 – 2008 Teaching assistant, Department of Geography, Planning and Environment, Concordia University
• GIS for Environmental Impact Assessment (– graduate level course, full lab instruction duties –)
• Advanced GIS
• Geographic Information Systems
• The Natural Environment: Air and Water

I also have a background in outdoor education as illustrated by my work experience (1997 – 2005)

Service

- (1) Reviewer for Arizona State University, Graduate and Professional Student Association's Travel Grant funding program (a monthly obligation, 2012-2015) and JumpStart grant program (a semesterly obligation, 2011-2015).
- (2) Reviewer for Arizona State University's Student Representatives to the Clinton Global Initiative University in March 2014. This was a one-time commitment. I was invited to review as an expert in sustainability and environment.
- (3) Steering committee member for Graduates in Integrative Society and Environment Research (GISER) at Arizona State University from fall 2011 through fall 2013. This was a monthly, plus as needed time obligation.
- (4) Organizer and member of the unofficial committee to improve the teaching assistant program, School of Geographical Sciences and Urban Planning, Arizona State University. Time commitment varied in fall 2011 and led to a weekly workshop in spring 2012.
- (5) Reviewer for Puget Sound Characterization Volume 1: The Water Resources Assessments (Water Flow and Water Quality). Stanley et al. 2011. WA Department of Ecology. Publication #11-06-016. Olympia, WA. This was a one-time commitment.
- (6) Organizer and facilitator for 2010 spring semester writers' studio series, School of Geographical Sciences and Urban Planning, Arizona State University. This was a weekly time commitment.

Research Groups and Professional Affiliations

- (1) Graduates in Integrative Society and Environmental Research (GISER) at Arizona State University, giserasu.org
- (2) The Urban Ecology Research Lab (UERL) at the University of Washington, www.urbaneco.washington.edu/
- (3) The Wemindji Protected Areas Partnerships (formerly Wemindji Protected Area Project), <http://wemindjiprotectedareapartnership.weebly.com/>
- (4) NASEBERRY: a community for network analysis in social-ecological studies <http://www.naseberry.org/>
- (5) Association of American Geographers (AAG)
- (6) US Regional Association of the International Association for Landscape Ecologist (US-IALE)
- (7) International Network for Social Network Analysis (INSNA)