

Dr. Sonja Ann Christensen

Contact Information

Department of Fisheries and Wildlife; Michigan State University
480 Wilson Rd. Room 11A; East Lansing, MI 48824, USA
Mobile Phone: 410-629-9076
E-mail: chris625@msu.edu

Education

1. Ph.D., Department of Fisheries and Wildlife, Specialization in Disease Ecology; May 2018. Michigan State University. Co-Advisors: Dr. William Porter and Dr. David Williams. *Dissertation: Population Impacts and Disease Patterns of Hemorrhagic Disease in White-Tailed Deer: Understanding the Role of an Emergent Disease. 2018. Michigan State University, East Lansing, Michigan, USA.*
2. M.Sc., Wildlife and Fisheries Science; May 2010. The Pennsylvania State University. Advisor: Dr. Duane Diefenbach. *Thesis: Movement and habitat use of sika and white-tailed deer on Assateague Island National Seashore, Maryland. 2010. Pennsylvania State University, University Park, Pennsylvania, USA.*
3. B.Sc., Major: Biology, Ecology emphasis; Minor: Geography; December 2005. Minnesota State University, Mankato.

Professional Appointments

- **Academic**
 - **Assistant Professor** – Fisheries and Wildlife Department, Michigan State University, East Lansing, Michigan. January 1 2022 – Present.
 - Assignment: 50% Research, 30% Outreach, 15% Teaching, 5% Service. Full-time appointment. Current assignment activities are centered on wildlife disease ecology and epidemiology, and wildlife management, with a special focus on population impacts of disease on ungulate species and the role of climate change on wildlife health. Supervisor (Dept. Chair): Dr. Gary Roloff
 - Fish and Wildlife Health Coordinator: Association of Fish and Wildlife Agencies. Washington D. C. March 2021 – Present.
 - **Academic Specialist** – Fisheries and Wildlife Department, Michigan State University, East Lansing, Michigan. August 2020 – December 2021 (same duties as listed for Assistant Professor).

- **Postdoctoral Fellow** – Michigan State University, East Lansing, Michigan: December 2017 – August 2020; Supervisor: Dr. William Porter.
 - **Graduate Research Assistant** – Michigan State University, East Lansing, Michigan: August 2013 – December 2017. Supervisor: Dr. William Porter.
 - **Graduate Research Assistant and Teaching Assistant** – University of Montana, Missoula, MT: August 2011 – August 2013. Supervisors: Dr. Paul Krausman, Dr. Vicki Pontz, and Dr. Mark Hebblewhite.
 - **Graduate Research Assistant** – The Pennsylvania State University, Pennsylvania Cooperative Fish and Wildlife Research Unit, University Park, Pennsylvania: January 2006 – May 2008. Supervisor: Dr. Duane Diefenbach.
- **Government**
 - **Deer and Moose Project leader (statewide supervisor of deer and moose management)** - Massachusetts Division of Fisheries and Wildlife, Westborough, MA: April 2008 – August 2011.
 - Conducted research and long term planning to effectively manage Massachusetts's deer resource. This included setting program priorities and implementing management for ecological and stakeholder goals.
 - Prepared Pittman-Robertson Reports for federal fund match for white-tailed deer and moose projects.
 - Developed annual antlerless permit allocations and was responsible for processing of deer permits.
 - Provided technical guidance, thinking and supervision to district and support staff assigned to deer checking stations.
 - Represented DFW as deer project leader through regional conferences, prepared and reviewed Journal articles and advised municipalities, state, and federal agencies as well as the general public and stakeholders.
 - Oversaw and permitted captive cervid facilities.
 - Functioned as primary biologist for moose management needs.
 - Informed stakeholders regarding Division activities.
 - Conducted investigation of wildlife diseases including parasitic, viral, bacterial, and prion agents in the Cervidae family, including a funded Chronic Wasting Disease (CWD) surveillance and monitoring program.

- **Wildlife Research Biologist Paraprofessional**, Minnesota Department of Natural Resources, Farmland Wildlife Research, Madelia, Minnesota: November 2004 – January 2006.

Publications

Peer-reviewed Articles (13)

1. Cook, J.*, D. Williams, W. Porter, and **S. Christensen**. 2022. Improved predictions and forecasts of chronic wasting disease occurrence using multiple mechanism dynamic occupancy modelling. *Journal of Wildlife Management*. Accepted June 25 2022.
2. Hanley, B. J., Carstensen, M., Walsh, D. P., **Christensen, S. A.**, Storm, D. J., Booth, J. G., Guinness, J., Them, C. E., Ahmed, M. S., & Schuler, K. 2022. Informing Surveillance through the Characterization of Outbreak Potential of Chronic Wasting Disease in White-Tailed Deer. *Ecological Modelling*. 471, 110054. <https://doi.org/10.1016/j.ecolmodel.2022.110054>
3. Butts, D.* N. Thompson, **S. A. Christensen**, D. M. Williams, and M. S. Murillo. 2022. Data-Driven Agent-Based Model Building for Animal Movement Through Exploratory Data Analysis. *Ecological Modelling*, 470, 110001. <https://doi.org/10.1016/j.ecolmodel.2022.110001>
4. Cook, J.*, **S. Christensen**, D. Williams, W. Porter, K. Robinson. 2022. An expert-elicited approach to inform proactive risk assessments for infectious wildlife diseases. *Conservation Science and Practice*, e12678, <http://doi.org/10.1111/csp2.12678>
5. **Christensen, S. A.**, M. Farr, and D. M. Williams. 2021. Assessment and Novel Application of N-mixture Models for Aerial Surveys of Wildlife. *Ecosphere*, 12(8), e03725. <https://doi.org/10.1002/ecs2.3725>
6. **Christensen, S. A.**, D. M. Williams, W. F. Porter, and B. A. Rudolph. 2021. Spatial variation of white-tailed deer (*Odocoileus virginianus*) population impacts and recovery from epizootic hemorrhagic disease. *Journal of Wildlife Diseases*, 57(1), 82-93. <https://doi.org/10.7589/JWD-D-20-00030>
7. **Christensen, S. A.**, M. Ruder, D. M. Williams, W. Porter, and D. Stallknecht. 2020. The role of drought as a determinant of emergent hemorrhagic disease in the Eastern United States. *Global Change Biology*. 26(7): 3799-3808 <https://doi.org/10.1111/gcb.15095>

8. **Christensen, S. A.**, K. Straka, R. Mason. 2020. A New Approach to Combating CWD. Michigan is seeking scientific solutions using collaboration. *The Wildlife Professional*. *The Wildlife Professional*, 14(2): 51-53.
9. Carrera, R., W. B. Ballard, P. R. Krausman, J. Devos Jr., M. C. Wallace, S. Cunningham, O. J. Alcumbrac, and **Christensen, S. A.** 2015. Reproduction and nutrition of desert mule deer with and without predation. *The Southwest Naturalist*, 60(4): 285-298.
10. Krausman, P. R., **Christensen, S. A.**, McDonald J. E., and Leopold B. D. 2014. Dynamics and social issues of overpopulated deer ranges in the United States: a long term assessment. *Journal of California Fish and Game*, 100(3): 434-448.
11. Wagner, T., Diefenbach, D. R., **Christensen, S. A.**, Norton, A. S. 2011. Using Multilevel Models to Quantify Heterogeneity in Resource Selection. *Journal of Wildlife Management*, 75: 1788 – 1796.
12. McDonald, J. E., Destefano, S., Gaughan, C., Mayer, M., Woytek, W. A., **Christensen S. A.**, Fuller, T.K. 2011. Survival and harvest-related mortality of white-tailed deer in Massachusetts. *Wildlife Society Bulletin*, 35: 209 – 219.
13. McDonald, J., **Christensen S.**, Deblinger R., Woytek W. 2009. An alternative to climate change for explaining species loss in Thoreau’s woods. *Proc Natl Acad Sci USA* 106:E28.

Book Chapters (1)

1. **Christensen, S. A.** 2020. Leading from the start. Pages 171-173 in W. W. Taylor, A. K. Carlson, A. Bennett, and C. P. Ferreri, editors. *Lessons in Leadership: Integrating Courage, Vision, and Innovation for the Future of Sustainable Fisheries*. American Fisheries Society, Bethesda, Maryland.

Published Software (2)

1. Hanley, B. J., Them, C. E., Mitchell, C. I., Carstensen, M., Walsh, D. P., **Christensen, S. A.**, Storm, D. J., Booth, J. G., Guinness, J., Abbott, R. C., Ahmed, M. S., & Schuler, K. 2022. SLEI Model Software [Software]. Cornell University Library eCommons Repository. doi.org/10.7298/csew-h225.2
2. Hanley, B. J., Them, C. E., Mitchell, C. I., Carstensen, M., Walsh, D. P., **Christensen, S. A.**, Storm, D. J., Booth, J. G., Guinness, J., Abbott, R. C., Ahmed, M. S., & Schuler, K. 2022. SEI Model Software [Software]. Cornell University Library eCommons Repository. doi.org/10.7298/csew-h225

3. Hanley, B., Mitchell, C. I., Abbott, R., Hollingshead, N., Carstensen, M., Walsh, D., **Christensen, S.**, Storm, D., Kelly, J., Miller, L., & Schuler, K. 2021. Wildlife Disease Hazard Software [Software]. Cornell University Library eCommons Repository. doi.org/10.7298/w4rn-xq85
4. Hanley, B., Mitchell, C. I., Abbott, R. C., Hollingshead, N., Carstensen, M., Walsh, D., **Christensen, S.**, Storm, D., Kelly, J., Them, C., Ahmed, S., Miller, L., & Schuler, K. 2022. Regional Wildlife Disease Hazard Software [Software]. Cornell University Library eCommons Repository. doi.org/10.7298/hqg5-ac08

Technical Reports (3)

1. **S. Christensen**, William Porter, and David Williams. 2018. Local-scale assessment and monitoring of deer populations following a major mortality event. Final Performance Report, WSFR Grant ID: MI W-155-R Study 1.22, Michigan Department of Natural Resources, Lansing, MI.
2. Diefenbach, D. R., and **S. A. Christensen**. 2009. Movement and habitat use of sika and white-tailed deer on Assateague Island National Seashore, Maryland. Natural Resource Technical Report NPS/NER/NRTR—2009/140. National Park Service, Philadelphia, PA.
3. Grund, M., L. Cornicelli, D. Fulton, B. Haroldson, E. Dunbar, **S. Christensen**, and M. Imes. 2005. Evaluating alternative regulations for managing white-tailed deer in Minnesota – a progress report. Pages 132-137 in P. Wingate, R. Kimmel, J. Lawrence, and M. Lenarz, editors. Summaries of Wildlife Research Findings, 2005. Division of Fish and Wildlife, Minnesota Department of Natural Resources, St. Paul, MN.

Manuscripts Currently Under Review or Revision (4)

1. Thompson, N.*, M. Huang, **S. Christensen**, and S. Demarais. Managing the Fire: Wildlife Agency Responses to Chronic Wasting Disease in Free-ranging Cervids. Revise and resubmit
2. Ufer, D.*, **S. A. Christensen**, E. Pomeranz, and Ortega, D. An Economic Assessment of the Role of Stakeholder Incentives in Managing an Infectious Wildlife Disease. Revise and resubmit
3. Ufer, D.*, **S. A. Christensen**, D. L. Ortega, N. Pinnizzotto, K. Schuler. Stamping out wildlife disease: Are hunter-funded stamp programs a viable option for chronic wasting disease management? Revise and resubmit

Book Chapter, under review (1)

1. Ruder, M. G., and S. A. Christensen. Bluetongue, Epizootic Hemorrhagic Disease, and Cervid Adenoviral Hemorrhagic Disease. Chapter 7, in R. Radcliffe and D. Jessup, editors. *Wildlife Health, Disease, and Conservation*. Johns Hopkins University Press.

*Student-led papers

Research Grant Activity

1. **S. Christensen** and J. Bartz. Multistate CWD Strategic Planning Initiative. Michigan Department of Natural Resources/Michigan State University joint wildlife disease initiative. Amount: \$17,650, Awarded July 2021. Role: PI.
2. **S. Christensen**. Fish and Wildlife Health Coordination and Strategic Planning. Association of Fish and Wildlife Agencies (AFWA). Amount: \$64,000. Awarded March 2021. Role: PI.
3. **S. Christensen**, C. Jennelle, D. Walsh, J. Martin, E. Michel. Prospective simulation assessments of alternative harvest strategies to mitigate and control CWD invasion and spread. Minnesota Department of Natural Resources. Amount: \$100,000. Awarded February 2021. Role: PI.
4. **S. Christensen**, K. Schuler, N. Pinizzotto, D. Ortega. CWD Show and Tell: Gauging Hunters' Willingness to Adopt Management Practices. Michigan Department of Natural Resources/Michigan State University joint wildlife disease initiative. Amount: \$70,833, Awarded September 2020. Role: PI.
5. **S. Christensen**, D. Williams, S. Mayhew. Evaluation of deer population parameter estimates and implications for CWD management. Michigan Department of Natural Resources/Michigan State University joint wildlife disease initiative. Amount: \$86,204. Awarded September 2020. Role: PI.
6. **S. Christensen** and J. Pedersen. *North American interdisciplinary chronic wasting disease research consortium*. NIMSS NC-1209 Research Multistate 5 - year proposal, awarded June 2020.
7. D. Williams, D. Etter, and **S. Christensen**. Group size, bioaccumulation, and baiting: quantifying factors affecting disease transmission among deer. Michigan Department of Natural Resources/Michigan State University joint wildlife disease initiative. Amount: \$203,930, Awarded September 2020. Role: Co-PI.
8. D. Walsh, **S. Christensen**, Jonathan Cook, Tyler Harms, Trevor Hefley, Chris Jennelle, Julien Marten, Jonathan Mawdsley, Eric Michel, Daniel O'Brien, Krysten Schuler, Daniel Storm, Dr. David Walter, Pulling on the Same End of the Rope: Developing a Regional CWD Adaptive Management Framework. Michigan

- Department of Natural Resources/Michigan State University joint wildlife disease initiative. Amount: \$114,381, Awarded September 2020. Role: Co-PI, MSU Sub-contract PI.
9. T. Harms, P. Lukacs, D. Walsh, D. Storm, J. Stenglein, C. Jennelle, E. Michel, A. Norton, **S. Christensen**, D. Williams. An Innovative Approach to Evaluating Effects of Cervid Population Management For Chronic Wasting Disease on both Public and Private Lands. Submitted Aug. 2020, Awarded. Role: Co-PI.
 10. **S. Christensen** and W. Porter. *Multistate CWD Strategic Planning Initiative*. Michigan Department of Natural Resources/Michigan State University joint wildlife disease initiative. Amount: \$16,387, Awarded August 2019. Role: PI.
 11. W. Porter and **S. Christensen**. Evaluating the interaction of emerging diseases on white-tailed deer populations. The Hal and Jean Glassen Memorial Foundation. Amount: \$260,033, Awarded September 1, 2017 – August 31, 2021. Role: Co-PI.
 12. D. Williams and **S. Christensen**. Influence of deer harvest regulations on antlerless harvest, abundance, and sex and age composition: implications for managing deer in the face of chronic wasting disease. Sponsor: Michigan Department of Natural Resources. Amount: \$239,463, Awarded for May 1, 2019 – September 30, 2023. Role: Co-PI.
 13. K. Schuler, D. Williams, **S. Christensen**, A. Belsare, D. Walter, D. Walsh, C. Jennelle, B. Hanley. Optimizing CWD surveillance: regional synthesis of demographic, spatial, and transmission–risk factors. Michigan Department of Natural Resources/Michigan State University joint wildlife disease initiative. Amount: \$241,094, Awarded September 2019 - September 30, 2023. Role: Co-PI. (Phases I and II)
 14. W. Porter, D. Williams and **S. Christensen**. Management solutions for chronic wasting disease. Michigan State University, College of Agriculture and Natural Resources, AgBioResearch and MSU Extension. July 1, 2016 – June 30, 2021. Amount: \$300,000. Role: Key Personnel
 15. D. Williams, W. Porter, and **S. Christensen**. Assessing drivers of spread and transmission of Chronic Wasting Disease in Michigan deer. Division of Wildlife, Michigan Department of Natural Resources. October 1, 2017 – September 30, 2022. Amount: \$502,736 + \$114,222 supplement. Role: Key Personnel.
 16. W. Porter, D. Williams, and **S. Christensen**. Management of chronic wasting disease. Division of Wildlife, Michigan Department of Resources. October 1, 2016 – September 30, 2021. Amount: \$250,000. Role: Key Personnel

Presentations at Professional Conferences (Last 5 Years)

1. **Christensen, S. A.**, Ufer, D., Ortega, D., Pinizzotto, N., and Schuler, K. CWD Show and Tell: Guaging Hunters' Willingness to Adopt Management Practices. Oral Presentation at the 28th Annual TWS Conference, November 1st – 5th, 2021.
2. Gurney, S., **S. A. Christensen**, Nichols, M, Mayhew, S., Etter, D. and Williams, D. Temporal Variation of White-Tailed Deer Detection and Implications for Population Parameter Estimates. Poster Presentation at the 28th Annual TWS Conference, November 1st – 5th, 2021.
3. Tilley, A., **S. A. Christensen**, J. Trudeau, and S. Bolin. Inferring infection risk of west nile virus from wildlife: connecting landcover selection and seroprevalence in free-ranging white-tailed deer. Poster presentation at the 28th Annual TWS Conference, November 1st – 5th, 2021.
4. Courtney, S. E., Etter, D., **S. A. Christensen**, and D. Williams. Quantifying Factors Affecting Chronic Wasting Disease Transmission Among Deer. Poster Presentation at the 28th Annual TWS Conference, November 1st – 5th, 2021.
5. Trudeau, J., D. M. Williams, **S. A. Christensen**, D. Etter. How far so they really go? The long and tortuous path of dispersing white-tailed deer in michigan. Oral presentation at the 28th Annual TWS Conference, November 1st – 5th, 2021.
6. **S. A. Christensen** and D. M. Williams. Emerging diseases in Michigan and Beyond: Addressing Challenges Through Innovation and Partnerships. Association of Fish and Wildlife Agencies Annual Meeting, CWD Special Session. September 13th 2021.
7. **Christensen, S. A.**, Ufer, D., Ortega, D., Pinizzotto, N., and Schuler, K. CWD Show and Tell: Guaging Hunters' Willingness to Adopt Management Practices. Presentation at the Southeast Deer Study Group Meeting, February, 2021.
8. **Christensen, S. A.** Drivers of Emerging Hemorrhagic Disease. *Invited Symposium Speaker: Climate Change and Wildlife Disease*. Presentation at the 27th Annual TWS Conference, September 27- October 1, 2020.
9. M Huang, N Thompson, **S Christensen**, S Demarais. Putting Out the Fire: A Review of Wildlife Agency Responses to Chronic Wasting Disease. Presentation at the 27th Annual TWS Conference, September 27- October 1, 2020.
10. Thompson, N. E., D. M. Williams, **S. A. Christensen**, D. J. Butts, M. Murillo, and W. F. Porter. Agent-based modeling: the new frontier for combating chronic wasting disease. Oral presentation at *80th Annual Midwest Fish and Wildlife Conference*. 27 January 2020. Springfield, Illinois.

11. Trudeau, J. T., D. M. Williams, **S. A. Christensen**, and W. F. Porter. Identifying the relative risk of short-term deer movements to the geographic spread of chronic wasting disease. Oral presentation at *80th Annual Midwest Fish and Wildlife Conference*. 28 January 2020. Springfield, IL.
12. Trudeau, J. K., D. M. Williams, **S. A. Christensen**, D. R. Etter, and W. F. Porter. Convenience or selection? A look at the resource selection of Michigan white-tailed deer. Oral presentation at *The Wildlife Society 2020 Annual Conference (Virtual)*. 1 October 2020.
13. Belsare, A., **S. A. Christensen**, N. E. Thompson, D. Williams, W. Porter. Model-informed strategies for chronic wasting disease management. Oral presentation at the 26th Annual Meeting of The Wildlife Society. 3 October 2019. Reno, NV.
14. Cook, J., **S. A. Christensen**, D. Williams, W. Porter. Putting out the fire: modeling the spread and spark dynamics of chronic wasting disease. Oral presentation at the 26th Annual Meeting of The Wildlife Society. 3 October 2019. Reno, NV.
15. Thompson, N. E., **S. A. Christensen**, D. Williams, W. Porter. Using agent-based modeling to improve our understanding of chronic wasting disease. Oral presentation at the 26th Annual Meeting of The Wildlife Society. 3 October 2019. Reno, NV.
16. Trudeau, J. K., D. Williams, **S. A. Christensen**, W. Porter. Michigan's white-tailed deer are going on short vacations. Oral presentation at the 26th Annual Meeting of The Wildlife Society. 3 October 2019. Reno, NV.
17. **Christensen, S. A.** Climate impacts on fish and wildlife disease. *Invited*. Oral presentation at 2019 Conservation and Climate Change: Impact on Michigan Fisheries and Wildlife Forum. 23 August 2019. East Lansing, MI.
18. Thompson, N., **S. A. Christensen**, D. Williams, W. Porter. Using agent-based modeling to improve our understanding of chronic wasting disease. Oral presentation at the 2019 International Wildlife Disease Association Conference. 6 August 2019. Tahoe City, CA.
19. Cook, J. D., **S. A. Christensen**, D. M. Williams, W. F. Porter. Learning from Others: Modeling the Growth and Spread of Chronic Wasting Disease with Limited Local Information. Oral presentation at the 2019 Annual Meeting of the Michigan Chapter of The Wildlife Society. 14 March 2019. Gaylord, MI.
20. **Christensen, S. A.**, D. Williams, and W. Porter. Application of N-mixture models for aerial surveys of wildlife: A comparison study. Oral presentation at the 9th International Deer Biology Congress. 7 August 2018. Estes Park, CO.

21. **Christensen, S. A.**, D. Williams, and W. Porter. Epizootic hemorrhagic disease affects abundance and distribution of free-ranging deer populations. Oral presentation at the 9th International Deer Biology Congress. 9 August 2018. Estes Park, CO.
22. Cook, J.D., **S. A. Christensen**, D.M. Williams, and W.F. Porter. Learning from others: Modeling the growth and spread of chronic wasting disease in an emergent area. Oral presentation at the 9th International Deer Biology Congress. 5 August 2018. Estes Park, CO.
23. Stanke, H.D., J. Cook, **S. A. Christensen**, W.F. Porter, and D.M. Williams. Connecting the dots: A landscape approach for Michigan CWD. Oral presentation at the 2018 Annual Meeting of the Michigan Chapter of The Wildlife Society. 16 March 2018. Gaylord, MI.
24. **Christensen, S. A.**, M. Ruder, D. Williams, W. Porter, J. Fischer, and D. Stallknecht. The Role of Drought as a Predictor of Hemorrhagic Disease in the Eastern United States. Oral presentation at the 41st Annual Meeting of the Southeast Deer Study Group. February 21st, 2018. Nashville, TN.
25. **Christensen, S. A.**, M. Ruder, D. Williams, W. Porter, J. Fischer, and D. Stallknecht. Drought as a risk factor for hemorrhagic disease in the eastern United States. Oral presentation at the 24th Annual Meeting of The Wildlife Society. 26 September 2017. Albuquerque, NM
26. Stanke, H., J. Cook, **S. Christensen**, W. Porter and D. Williams. Investigating the effects of landscape connectivity on the occurrence of chronic wasting disease in Michigan. Poster presentation at the 24th Annual Meeting of The Wildlife Society. September 2017. Albuquerque, NM. *Awarded best student poster 2017

Professional Leadership and Outreach

Professional Engagement and Coordination

- Association of Fish and Wildlife Agencies (AFWA) Fish and Wildlife Health Coordinator
 - National Fish and Wildlife Health Initiative coordinator and staff. Steering Committee host/facilitator for all meetings and lead on all Initiative products.
 - Provide technical expertise on AFWA position support letters, resolutions, legislation, and intergovernmental agreements.
 - AFWA Fish and Wildlife Health Committee staff and expertise support; includes meeting host and presenter for bi-annual meetings March 8th and September 10th 2021.

- AFWA Science and Research Committee presenter, CWD update, September 8th 2021.
- AFWA OneHealth Initiative, inter-agency meeting host/facilitator and coordinator July 12th 2021.
- Editor and co-author, AFWA Guidance on SARS-CoV-2 and Free Ranging White-Tailed Deer document September 2021.
https://www.fishwildlife.org/application/files/5516/3277/5426/Guidance_SARS-CoV2_White-tailed_Deer_SEP2021.pdf
- Co-host, AFWA CWD Special Session. AFWA Annual Meeting September 13th 2021.
- Scientific Program Committee, Wildlife Disease Association International Conference, planned for July 2022, Madison, WI.
- Invited speaker, “National Perspectives on CWD Science Initiatives” – USDA APHIS CWD Stakeholder meeting Dec. 7-9 2021.
- Invited panalist, “CWD: Barriers, Challenges, Lessons Learned” - Michigan CWD Investigators Meeting, January 25-26, 2022.
- Invited and current member, USGS Biothreats and Invasive Species Research Program Council October 2021 and March 2022.
- Reviewer, Wildlife Management Institute CWD-Alliance CWD Grant Program. October 2021.
- Multistate Chronic Wasting Disease Research Consortium. Editor and co-founder. Host, Annual meeting, Virtual, October 2021 and Past-Chair on Executive Board. NIMSS NC1209 project.
- Invited subject matter expert, NWHC-WIDNR-Ventana CWD mapping and modeling project for Wisconsin. September 2021.
- Co-lead of Inaugural Trilateral Wildlife Health Webinar series, initiated January 2021. Coordinated TWS Wildlife Disease Working Group speakers May and November 2021.
- Multistate Chronic Wasting Disease Research Consortium Editor. Host – Inaugural meeting: Virtual, July 2020 and Past-Chair on Executive Board. NIMSS NC1209 project.
- Multistate Chronic Wasting Disease Research Consortium, lead PI and organizer (Multistate project, NCDC 234): S. Christensen, J. Pedersen, Bill Barker, and W. Porter, Leaders. Inaugural strategic planning meeting on Sept. 9-10, 2019.
- AFWA, National Fish and Wildlife Health Initiative Steering Committee: Assistant Coordinator, September 2015-2020; meeting host July 2019.
- Served on the USFWS Midwest Landscape Initiative (MLI) CWD group
- Invited reviewer for the Arkansas Game and Fish Commission CWD Response Plan (Dec. 2020).
- Invited Expert for USGS Socio-Ecological CWD modeling exercise (Dec 2020)

- Article in SCWDS Briefs (July 2020): Drought and EHD.
- *Invited participant*: Climate Change and Wildlife Health Workshop, January 7-10, 2020. Hosted by National Wildlife Health Center and USGS, Madison, WI.
- STEM teaching workshop attendee, Michigan State University, 2018-2020.
- USGS led Midwest Chronic Wasting Disease Research Initiative. December 2017 – present.
- Christensen, S.A. and W.F. Porter. Michigan Deer Disease Initiative. Invited briefing to Senator Debbie Stabenow. 5 February 2018. Lansing, MI.

Additional Selected Professional Development and Outreach

- Workshop participant: Fundamentals of Structured Decision Making 28th Annual TWS Conference 2021.
- MSU Wildlife Disease Association Student Chapter. Invited Speaker. “One Health in Fisheries and Wildlife”. November 17th 2021.
- MSU Extension Video discussing MSU/MDNR funded hunter behavior research: <https://youtu.be/x6zEJoDD8RI>
- Panelist and presenter for the Surveillance Optimization for CWD (SOP4CWD) Webinar (Nov 2020)
- Invited speaker, National Quality Deer Management Association staff visit to Michigan State University, “Emerging disease in Michigan deer: addressing challenges through research”. March 22nd 2019.
- Invited speaker, The Hal and Jean Glassen Foundation Board Meeting, project update. “Emerging disease in Michigan deer: addressing challenges through research”. March 19th 2019 and March 4th 2020.
- Invited speaker, MSU Wildlife Disease Association meeting, “Emerging disease in Michigan deer: addressing challenges through research”. February 5th 2019.
- Graduate of *Emerging Leaders Program at the Great Lakes Leadership Academy*, (9-month program of individual and organizational leadership skills development). April – Sept. 2016.
- Invited guest, Mike Avery Radio Show. EHD in Michigan. July 2016.
- Invited guest, WLEW Radio – Outdoors DNR live call-in show, Sept. 24 2015 and Nov. 10th 2016.
- Presented at The Lansing Rotary Club meeting, Lansing, MI. “Emerging disease issues for Michigan deer.” 9 July 2015.
- Invited guest, Michigan Out of Doors TV: EHD episode #1537, Sept 2015.
- Invited guest, Wild Michigan Radio show with Duran Martinez. Dec. 20th 2014.
- Invited speaker, Safari Club International Lansing chapter, annual white-tail night. Presented on deer diseases and ecology. December 11th 2014.
- Invited speaker, Becoming an Outdoor Woman deer workshop, Fall 2008 - 2010.

- Co-lead telemetry workshop, School of Forest Resources Wildlife and Fisheries Science undergraduates; The Pennsylvania State University, Spring 2007.
- Invited Speaker, Pennsylvania Deer Association, Western Chapter, Annual Meeting. Deer research, PA USGS Wildlife Cooperative Unit. Fall 2006.

Courses Taught

Instructor on Record

- Instructor, Michigan State University ISB202-009, 3 credit course. Spring Semester 2021. Applications of Environmental & Organismal Biology. Synchronous online course. 105 Students. S. Christensen. (1 paid Undergraduate Learning Assistant)
- Instructor, Michigan State University FW490-004. 3 credit course. Rachel Correia. Independent Study. Spring Semester 2021.
- Co-Instructor, Michigan State University FW885. Fall semester 2017. Leadership in Natural Resources and Environmental Management. 2 credit course. 13 Students. Co-taught, W. Porter and S. Christensen

Teaching Assistant

- University of Montana WILD 480: Applied Wildlife Management (Human-Dimensions in Wildlife), Spring 2013, Faculty lead: Dr. Paul Krausman
- University of Montana WILD 370: Wildlife Habitat Management and Conservation, Spring 2012, Faculty lead: Dr. Victoria Drietz.

Guest Lectures

- MSU FW 423 Principle of Fish and Wildlife Disease. Instructor: Dr. Tom Loch. Michigan State University. 9 November 2021.
- ACC BIO 207 WILDLIFE & FISHERIES ECOLOGY & MGT. Instructor: Anna Mitterling. Alpena Community College. 11 November 2021.
- MSU FW 894 Graduate Intro Seminar. Instructors: Dr. Abigail Bennett and Dr. Jim Bence. Michigan State University. 29 October 2021.
- MSU LCS 660 Wildlife Disease Ecology and Conservation Medicine. Deer management and disease ecology. Instructor: Dr. Jean Tsao Michigan State University. 28 August 2021.
- MSU IBIO 355. Ecology, Honors Section. *Title*: Population impacts and patterns of disease: Integrating the ecology of infectious diseases with wildlife conservation and management. Instructor: Dr. Mary Bremigan and Dr. Marjorie Weber. Michigan State University. 26 September 2019.

- MSU FW 101. Fisheries and Wildlife Ecology and Management. *Title: Fish and Wildlife Disease Ecology.* Instructor: Dr. Mary Bremigan. 4 April 2019.
- MSU FW 462. Fish and Wildlife Disease Ecology. *Title: Effects of disease on populations of wild animals.* 8 February 2018.
- MSU FW/MC 481. Global Issues in Fisheries and Wildlife. *Title: Emerging disease in deer populations.* 28 February 2018.
- MSU FW 101. Fundamentals of Fisheries and Wildlife. *Title: Fish and wildlife disease ecology.* 22 March 2018.
- MSU FW 101. Fundamentals of Fisheries and Wildlife. *Title: Case Studies in Wildlife Disease Research: CWD and EHD in White-tailed Deer.* April 20th 2017
- Central Missouri University – Wildlife management. *Title: Fish and wildlife disease ecology. Wildlife management and disease.* March 4 2016.
- MSU FW 424 (analysis and management of fish and wildlife populations), *Title: Measuring impacts of disease in wildlife populations.* November 2014.
- MSU ENT 401 (arthropod vector disease ecology course). *Title: Emerging Deer Disease in Michigan.* Kellogg Biological Station, June 2014 and June 2015.
- WFCON 565 (wildlife population dynamics and management), *Title: Deer Management and Biology, and Deer Aging Using Tooth Wear and Replacement;* University of Massachusetts, Amherst: Fall 2008, 2009, and 2010.
- Wildlife Biology, *Title: Radio-Telemetry and Remote Sensing for Wildlife;* Framingham State College, Massachusetts March 2010.
- Radio-telemetry, Student chapter TWS techniques workshop, 2008, 2009, 2010.
- WFS 310. *Title: Radio-telemetry; The Pennsylvania State University* Fall 2007.

Research Advising

Postdoc Supervisor

- Dr. Florian Hodel, Hired June 14 2021.

Graduate Student Supervisor

- Steven Gurney, MS student, First Enrolled Spring 2021. Anticipated graduation May 2023.

Graduate Student Mentoring

- Jon Cook, PhD candidate (FW), Graduated December 2020.
- Noelle Thompson, PhD student (FW), anticipated graduation May 2022.
- Jonathan Trudeau, PhD student (FW), anticipated graduation May 2022.
- Danielle Ufer, PhD student (AFRE), Graduated May 2021.

Undergraduate Supervising and Mentoring

- Avery Tilley (currently advising, graduating May 2023) – Professorial Assistant. Undergraduate Research primary supervisor.
 - Awarded AASONA Fellowship for Undergraduate Research (\$5,000)
 - Awarded CANR URP funding for Undergraduate Research (\$2,000)
- Katie King - Glassen Undergraduate Experience. Hired October 2021. Primary Supervisor.
- Kali Rush (graduated May 2016) – Undergraduate Research co-supervisor.
- Kelsey Fischer (graduated December 2017).
- Sydney Manning (graduated December 2017).
- Hunter Stanke (graduated May 2019) – Undergraduate Research co-supervisor.
- Addison Pletcher (graduating May 2021) – Primary supervisor 2019.

Selected Awards

- Presidential Award, Michigan Chapter of The Wildlife Society. 2019.
- North Central Section of TWS Regional Outstanding Graduate Student of the Year award 2016, \$500
- The Hal and Jean Glassen Foundation Fellow Conservation Medicine Fellowship 2015 \$8,000
- Joseph G. Schotthoefer Memorial Student Award, Safari Club International Michigan Involvement Committee, September 2014. \$2,000.
- Graduate Research Enhancement Fellowship, for attendance to the Introduction to Distance Sampling Workshop at St. Andrews University, Scotland. Summer 2014. \$1,000. Michigan State University.

Referee and Review Service

- Guest Editor, The Northeast Naturalist.
- Manuscript Reviewer: Journal of Biogeography, Global Change Biology, Landscape Ecology, Global Ecology and Conservation, The Journal of Wildlife Management, Wildlife Society Bulletin, The Northeast Naturalist.

Professional Affiliations

- The Wildlife Society – Member: National, North Central Section, and Michigan chapter – 2013-present
 - *Current* Board Member, National TWS Wildlife Disease Working Group; *Re-elected for Oct. 2021 - 2023.*
 - Board Member, National TWS Wildlife Disease Working Group Oct 2019 – 2021 term.

- Michigan Chapter - served as board member, president-elect, president, and past-president, 2015-2019.
- Wildlife Disease Association, 2015-present.
- The Wildlife Society – Montana Chapter and Northwest Section 2012 – 2013
- The Wildlife Society – New England Chapter and Northeast Section 2009 – 2013
 - Vice president, 2010-2011.
- The Wildlife Society - Pennsylvania Chapter 2006-2008
- The Wildlife Society – Minnesota Chapter 2005-2006

Links to Select Media Releases

- Interview in *The Wildlife Professional*: “Deer Don’t Wear a Mask” (March 2022 issue).
- Bridge Michigan Interview: <https://www.bridgemi.com/michigan-environment-watch/hunting-wanes-fear-southern-michigan-deer-invasion-grows> Nov. 8 2021
- [Chronic wasting disease threatens michigan deer hunting wildlife conservation efforts](#). In the Field magazine, MSU. February 2020.
- [CWD study will track deer movement](#). Interview, Times Herald, January 2018.
- Michigan Out of Doors T.V. - EHD Interview (begins at 17:50) Sept 9 2015 #1537. [Evaluating EHD impacts on Michigan's deer](#)
- [Effort to curb Lyme disease puts deer in the crosshairs](#) Interview as Massachusetts Deer Project Leader, October 26, 2010.