SCOTT KNOCHE

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Patuxent Environmental and Aquatic Research Laboratory
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EDUCATION

2014	Ph.D.	Fisheries and Wildlife, Michigan State University (Specialization in Environmental and Natural Resource Economics), Dissertation Title: Discrete Choice Models of Hunting and Fishing in Michigan, Advisor: Frank Lupi
2006	M.S.	Agricultural Economics, Michigan State University (Specialization in Environmental and Natural Resource Economics), Advisor: Frank Lupi
2003	B.S.	Economics (Second Major: Finance), Michigan State University

PROFESSIONAL POSITIONS

2018 - Present	**Director**, Patuxent Environmental and Aquatic Research Laboratory, Morgan State University
2017 - 2018	**Interim Director**, Patuxent Environmental and Aquatic Research Laboratory, Morgan State University
2015 - 2017	**Senior Research Economist**, Patuxent Environmental and Aquatic Research Laboratory, Morgan State University
2014 - 2015	**Post-Doctoral Researcher**, Department of Agricultural and Resource Economics, University of Maryland, College Park and Maryland Department of Natural Resources - Fisheries Service
2009 - 2013	**Graduate Research Assistant**, Department of Fisheries and Wildlife, Michigan State University
2006 - 2009	**Economist**, National Pollution Funds Center, United States Coast Guard (GS-13 Level)
2004 - 2006	**Graduate Research Assistant**, Department of Agricultural Economics, Michigan State University

SCIENTIFIC PUBLICATIONS

Bruce, D. G., J. C. Cornwell, L. Harris, T. F. Ihde, M. L. Kellogg, **S. Knoche**, R. N. Lipcius, D. N. McCulloch-Prosser, S. P. McIninch, M. B. Ogburn, R. D. Seitz, J. Testa, S. R. Westby, and B. Vogt. (2021). A Synopsis of Research on the Ecosystem Services Provided by Large-Scale Oyster Restoration in the Chesapeake Bay. NOAA Tech. Memo. NMFS-OHC-8, 52 p.

Knoche, S., T.F. Ihde, G. Samonte, H.M. Townsend, D. Lipton, K. A. Lewis, and S. Steinback. (2020). Estimating Ecological Benefits and Socio-Economic Impacts from Oyster Reef Restoration in the Choptank River Complex, Chesapeake Bay. NOAA Tech. Memo. NMFS-OHC-6, 68 p.

Roberts, A. J., Devers, P. K., **Knoche, S.**, Padding, P. I., & Raftovich, R. (2017). Site preferences and participation of waterbird recreationists: Using choice modelling to inform habitat management. *Journal of Outdoor Recreation and Tourism*, 20, 52-59.

Roberts, A. J., Devers, P. K., **Knoche, S.**, Padding, P. I., & Raftovich, R. (2017). Incorporating Human Dimension Goals into Waterfowl Habitat Planning and Delivery, *Wildlife Society Bulletin*, 41(3), 405-415.

Knoche, S. & Lupi, F. (2016). Demand for Fishery Regulations: Effects of Angler Heterogeneity and Catch Improvements on Preferences for Gear and Harvest Restrictions. *Fisheries Research*, 181, 163-171.

Knoche, S., Lupi, F. & Suiter, A. (2015). Harvesting Benefits from Habitat Restoration: Influence of Landscape Position on Economic Benefits to Pheasant Hunters. *Ecological Economics*, 113, 97-105.

Knoche, S. & Lupi, F. (2013). Estimating the Economic Benefits of Publicly Accessible Land for Ruffed Grouse Hunters. *The Journal of Wildlife Management*, 77(7), 1294-1300.

Knoche, S. & Lupi, F. (2012). The Economic Value of Publicly Accessible Deer Hunting Lands. *The Journal of Wildlife Management*, 76(3), 462-470.

Knoche, S. & Lupi, F. (2010). Time and Money Invested in Off-Season Deer Hunting Activities. *Human Dimensions of Wildlife*, 15, 296-298.

Knoche, S. & Lupi, F. (2007). Valuing Deer Hunting Ecosystem Services from Farm Landscapes. *Ecological Economics*, 64(2), 313-320.

CONFERENCE PRESENTATIONS

Knoche, S. & Ihde, T. (2020, June). Exploring the Potential Ecological Benefits and Regional Economic Impacts of Oyster Reef Restoration in the Chesapeake Bay. Presented at the Chesapeake Community Research Symposium, virtual conference.

Knoche, S. & Ihde, T. (2019, December). Linking Ecological and Economic Models to Estimate Regional Economic Impacts of Oyster Reef Restoration. Presented at the 25th Maryland Water Quality Monitoring Council Conference, Linthicum, MD.

Knoche, S. (2018, August). Regulation Heterogeneity and Catch Conformity: Exploring Trout Angler Preferences for Fishing Site Attributes. Presented at 148th American Fisheries Society Conference, Atlantic City, NJ.

Ihde, T. & **Knoche**, **S.** (2018, August). Linking Ecological and Economic Models to Estimate Regional Economic Impacts of Different Management Strategies for Restored Oyster Reefs. Presented at 148th American Fisheries Society Conference, Atlantic City, NJ.

Knoche, S. & Ihde, T. (2018, May). Socio-Economic Impacts from Oyster Reef Restoration, Choptank River Complex, MD. Presented at the Maryland State of the Coast Conference, Cambridge, MD.

Knoche, S. & Ihde, T. (2017, November). Estimating the Ecosystem Services and Economic Impacts of Oyster Reef Restoration in the Maryland Choptank River Complex. Presented at the Global Marine Science Summit, Wilmington, NC.

Knoche, S. & Lupi, F. (2017, June). Examining the Potential for Inferential Beliefs to Affect Willingness-to-Pay Measures Obtained from Stated Choice Experiments. Presented at the Northeastern Agricultural and Resource Economics Association Annual Meeting, Arlington, VA.

Knoche, S. (2016, August). Weithman Award Presentation: A Mixed Logit Model Approach to Investigate Trout Angler Preferences for Fishing Site Attributes. Presented at 146th American Fisheries Society Conference, Kansas City, MO.

Devers, P., Roberts, A.J., Padding, P.I., Raftovich, R. & **Knoche, S.** (2016, February). Integrating Human Dimensions into Habitat Delivery: Relationships Among Landscape Characteristics and Restoration. Presented at North American Duck Symposium, Annapolis, MD.

Devers, P., Roberts, A. J., **Knoche, S.**, Padding, P.I. & Raftovich, R. (2016, January). Incorporating Human Dimensions Goals Into Waterfowl Habitat Planning and Delivery. Presented at Atlantic Flyway Technical Session – Winter 2016 meeting, Virginia Beach, VA.

Knoche, S. & Lupi, F. (2016, January). Demand for Fishery Regulations: Effects of Angler Heterogeneity and Catch Improvements on Preferences for Gear and Harvest Restrictions. Presented at 76th Midwest Fish and Wildlife Conference, Grand Rapids, MI.

Knoche, S. & Lupi, F. (2014, August). A Mixed Logit Model Approach to Investigate Trout Angler Preferences for Fishing Site Attributes. Presented at 144th American Fisheries Society Conference, Quebec City, Canada.

Siegle, J., Lupi, F. and **Knoche, S.** (2014, August). Contribution of Fishing Trip Spending to Local Economies. Poster presented at 144th American Fisheries Society Conference, Quebec City, Canada.

Knoche, S. & Lupi, F. (2014, October). Linking Pheasant Abundance to Hunting Site Choices to Estimate Economic Benefits of Habitat Restoration. Presented at 22nd Wildlife Society Conference, Pittsburgh, PA.

Knoche, S. & Lupi, F. (2012, December). What are the Economic Benefits of Conservation Reserve Program Land for Pheasant Hunters? Comparing Estimates from Two Different Approaches. Presented at 73rd Midwest Fish and Wildlife Conference, Wichita, KS.

Knoche, S. & Lupi, F. (2012, September). Estimating the Economic Value of Conservation Reserve Program Land for Pheasant Hunting. Presented at Pathways to Success Conference: Integrating Human Dimensions into Fisheries and Wildlife Management, Breckenridge, CO.

Knoche, S. & Lupi, F. (2011, December). Economic Value of Public Hunting Access for Ruffed Grouse Hunters. Presented at 72nd Annual Midwest Fish and Wildlife Conference, Des Moines, IA.

Knoche, S. & Lupi, F. (2011, July). No Income, No Trip, No Problem? Using Existing Wildlife Harvest Data to Estimate Recreation Demand Models. Presented at Agricultural & Applied Economics Association and Northeastern Agricultural and Resource Economics Association Joint Annual Meeting, Pittsburgh, PA.

Knoche, S. & Lupi, F. (2010, September). Economic Value of Deer Hunting Access for Deer Hunters in Michigan. Presented at Pathways to Success Conference: Integrating Human Dimensions into Fisheries and Wildlife Management, Estes Park, CO.

Knoche, S. (2009, October). Economic Value of Hunting Access. Presented at Partnerships for Ecosystem Research and Management (PERM) Meeting, Michigan State University, East Lansing, MI, October 2009.

Knoche, S. & Lupi, F. (2006, July). A Random Utility Travel Cost Model of Deer Hunting in Michigan. Poster presented at American Agricultural Economics Association Annual Meeting, Long Beach, CA.

Knoche, S. & Lupi, F. (2006, March). Importance of Access to Land for White-Tailed Deer Hunters in Michigan. Poster presented at 2006 Michigan Land Use Summit: Planning for Prosperity, East Lansing, MI.

Knoche, S. & Lupi, F. (2006, February). A Random Utility Travel Cost Model of Deer Hunting in Michigan. Presented at W1133 Conference: Benefits and Costs of Resource Policies Affecting Public and Private Land, San Antonio, TX, February 2006.

Knoche, S., F. Lupi, P. Bull, and R. Peyton. (2005, December). Investments in Off-Season Deer Hunting Activities. Presented at 66th Midwest Fish and Wildlife Conference, Grand Rapids, MI.

INVITED ORAL PRESENTATIONS

"Economic Impacts of Oyster Reefs", 2021 Chesapeake Oyster Science Symposium, (Invited by Tanner Council, Chesapeake Bay Foundation), presented on June 3rd, 2021.

"Could oyster reef restoration benefit seafood harvesters? An ecological-economic modeling approach", NOAA Science Seminar Series, Silver Spring, MD, (Invited by Tracy Gill, NOAA), presented on February 27, 2020.

"Could oyster reef restoration benefit seafood harvesters? An ecological-economic modeling approach", University of Maryland Center for Environmental Science – Horn Point Laboratory, Cambridge, MD, (Invited by Michael Roman, Director and Professor), presented on December 4, 2019.

"Using a Discrete Choice Experiment to Examine Maryland Trout Angler Preferences and Willingness-to-Pay for Fishing Site Attributes" University of Maryland Eastern Shore, Princess Anne, MD, (Invited by Maurice Crawford, Associate Professor), presented on April 5, 2018.

"Using a Choice Experiment to Examine Maryland Trout Angler Preferences and Willingness-to-Pay for Fishing Site Attributes" University of Maryland Center for Environmental Science – Chesapeake Biological Laboratory, Solomons, MD, (Invited by Carys Mitchelmore, Research Professor), presented on February 21, 2018.

"The Effects of Inferential Beliefs on Preferences for Fishing Site Attributes" Oklahoma State University, Stillwater, OK, (Invited by Richard Melstrom, Assistant Professor, Dept. of Agricultural Economics), presented on April 21, 2017.

"Using the Travel Cost Method to Estimate the Economic Benefits of Acid Mine Drainage Remediation to Maryland Trout Anglers" University of Maryland Center for Environmental Science – Appalachian Laboratory, Frostburg, MD, (Invited by Eric Davidson, Professor & Laboratory Director), presented on November 3, 2016.

"Economic Benefits of Acid Mine Drainage Remediation to Maryland Trout Anglers" University of Maryland Center for Environmental Science – Chesapeake Biological Laboratory, Solomons, MD, (Invited by Lisa Wainger, Research Professor), presented on April 6, 2016.

"Demand for Fishery Regulations: Effects of Angler Heterogeneity and Catch Improvements on Preferences for Gear and Harvest Restrictions" University of Delaware, Newark, DE, (Invited by Leah Palm-Forster, Assistant Professor, Dept. of Applied Economics and Statistics), presented on February 24, 2016.

"Economic Benefits of Habitat Restoration for Pheasant Hunters" Michigan Pheasants Forever State Convention, Bath, MI, (Invited by Ben Wickerham, Pheasants Forever Michigan Regional Representative), February 4, 2013.

TEACHING

Morgan State University, Department of Economics, Econ 351: Environmental Economics and Policy

DISSERTATION COMMITTEE MEMBER

Spring 2021 - Present
Student: Abubakar Ringim, Morgan State University – Bioenvironmental Science PhD program
Dissertation topic: Human Dimensions of Sika Deer Management
Chair of Committee: Scott Knoche

Fall 2016 - Present
Student: Chris Hayes, University of Maryland, College Park - MEES Graduate Program
Dissertation topic: Oysters, ecosystem services, and resource management
Chair of Committee: Lisa Wainger, Research Professor at Center for Environmental Science at University of Maryland

UNDERGRADUATE ADVISOR

Summer 2021
Student: Katie Delph, Morgan State University PEARL
Research Project: Human Dimensions of Sika Deer Hunting

Summer 2020
Student: Anna Richey, Morgan State University PEARL
Research Project: Stocked Trout Fishing Trip Expenditure Analysis

Summer 2019
Student: Olamiposi Sunmola, Morgan State University PEARL
Research Project: Baltimore Harbor Economics Analysis – PORTS Navigation System

Summer 2018
Student: Alexis Wasson, Morgan State University PEARL
Research Project: An Analysis of the Recreational Angler Vector and Associated Pathways to aid in the Prevention of Invasive Species Introductions in Mid-Atlantic Waterways

Summer 2017
Student: Rebecca Wagner, Morgan State University PEARL
Research Project: Data Entry and Analysis for Access Site Recreational Angler Creel Survey in Gunpowder River

Summer 2016
Student: Han Zhao, Morgan State University PEARL
Research Project: Survey Report and Analysis on Freshwater Recreational Fishing in Maryland

Fall 2013 - Fall 2014
Student: Jonathan Siegle, Michigan State University
Research Project: Expenditure Analysis on Recreational Fishing in Michigan

GRANTS AND CONTRACTS

"The Economic Impacts of Oyster Restoration and Seagrass Habitats of the Middle Peninsula, Virginia" (2021 - 2023), Co-PI, NOAA National Marine Fisheries Service, $250,000.

"Assessing Hunter Opinions and Economic Impacts Associated with Sika Deer Hunting and Management on Maryland's Eastern Shore" (2020 - 2022), PI, Maryland Department of Natural Resources – Wildlife & Heritage Service, $92,878.

"Morgan State University Hatchery Specialist" (2020 - 2022), PI, Maryland Sea Grant 2020-2022 Omnibus Supplemental, $36,000.

"Building Capacity of Land-Based Atlantic Salmon in the U.S." (2019 - 2022), Co-PI, NOAA Sea Grant, $28,000.

"Developing a Draft Public Survey to Identify a Quantitative and Qualitative Trash Threshold for the Recreational Use of Rivers/Streams" (2020 - 2021), PI, Maryland Department of Environment, $99,959.

"Statewide Boater Needs Assessment" (2019 - 2021), PI, Maryland Department of Natural Resources – Chesapeake & Coastal Service, $130,238.

"Baltimore Harbor Economics Analysis – PORTS Navigation System" (2019 - 2020), PI, Maryland Port Administration, $50,000.

"Developing a Decision Support System Tool for Assessing the Co-Benefits of BIG, WIF, and other Boating Infrastructure Funds for Recreational Boaters and Coastal Economies" (2019 - 2020), PI, Maryland Department of Natural Resources – Chesapeake & Coastal Service, $96,810.

"An Analysis of the Recreational Angler Vector and Associated Pathways to Aid in the Prevention of Invasive Species Introductions in Mid-Atlantic Waterways" (2017 - 2018), PI, U.S. Fish and Wildlife Service, $12,070.

"Choptank River Complex Habitat Focus Area: Quantifying Ecosystem Services" (2016 - 2018), PI, National Fish and Wildlife Foundation, $150,000.

"A Profile of Maryland Non-Tidal Anglers: Examining Participation, Preferences, and Expenditures" (2016 - 2017), PI, Maryland Department of Natural Resources – Fisheries Service, $42,248.

"An Access Site Angler Survey to Estimate Catch, Effort, and Harvest in the Gunpowder River Brook Trout Fishery" (2017), PI, Maryland Department of Natural Resources – Fisheries Service, $9,394.

REVIEWER SERVICE

Journals: *Journal of Agricultural and Resource Economics, Journal of Ecotourism, Journal of Environmental Management, Journal of Outdoor Recreation and Tourism, Journal of Wildlife Management, Resource and Energy Economics, Ecosystem Services, Sustainability, Landscape and Urban Planning*

Proposals: Mississippi-Alabama Sea Grant Consortium 2016-2018 Research Program

Conferences: Annual Agricultural and Applied Economics Association Meetings (2017, 2018)

COMMISION, BOARD, AND ADVISORY PANEL MEMBERSHIP

State of Maryland Oyster Advisory Commission (2019 - present)
State of Maryland Patuxent River Commission (2018 - present)
State of Maryland Climate Change Commission (pending confirmation, 2021 - present)
State of Maryland Outdoor Recreation Commission (2018 - 2020)
University of Maryland – Extension Advisory Council (2020 - present)
Maryland Sea Grant Institutional Council (2020 - present)
Chesapeake Environmental Protection Association Board of Trustees (2019 - present)
Stakeholder Advisory Panel Member, NOAA grant "Vulnerability of oyster aquaculture and restoration to ocean acidification and other co-stressors in the Chesapeake Bay" (2020 - present)