

Curriculum Vita for Mary C. Christman

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PERSONAL INFORMATION

Manager and Owner, MCC Statistical Consulting LLC, 2219 NW 23rd Terrace, Gainesville, FL 32605. Tel: (352) 371 – 4093, Cell: (443) 786 – 1735, marycchristman@gmail.com

Courtesy Associate Professor, Department of Biology and Department of Statistics, University of Florida, Gainesville, FL 32611

EDUCATIONAL BACKGROUND

1977 B.S. University of Pennsylvania, Biology.

1979 M.S. University of Delaware, Marine Sciences (Biology and Physical Oceanography).

1993 Ph.D. George Washington University, Mathematical Statistics.

RECENT POSITIONS HELD

2011-pres *Owner and Independent Statistical Consultant*, MCC Statistical Consulting, LLC

2011-pres *Courtesy Associate Professor*, Department of Biology, University of Florida

2011-pres *Courtesy Associate Professor*, Department of Statistics, University of Florida

2005-2011 *Associate Professor*, Department of Statistics – IFAS, University of Florida

2002-2004 *Associate Professor*, Department of Animal and Avian Sciences, Biometrics Program, University of Maryland, College Park

1999-2002 *Assistant Professor*, Department of Animal and Avian Sciences, Biometrics Program, University of Maryland, College Park.

1994-1999 *Assistant Professor*, Department of Mathematics and Statistics, The American University.

RESEARCH, SCHOLARLY, AND CREATIVE ACTIVITIES

Book Chapters

Christman, M.C. 1997. Comparison of some sampling designs for spatially clustered populations. In: *Modelling Longitudinal and Spatially Correlated Data: Methods, Applications, and Future Directions*, Springer-Verlag, NY, pp. 175-186.

Christman, M.C. and R.W. Jernigan. 1997. Spatial correlation models as applied to evolutionary biology. In: *Modelling Longitudinal and Spatially Correlated Data: Methods, Applications, and Future Directions*, Springer-Verlag, NY, pp. 221-232.

Christman, M.C. 2004. Mapping Subterranean Biodiversity. In: *The Encyclopedia of Caves*. Ed. D. C. Culver. Elsevier Science.

Christman, M.C. 2004. Chapter 7: Sequential Sampling for Rare or Geographically Clustered Populations. In *Sampling Rare or Elusive Species: Concepts, Designs and Techniques for*

Estimating Population Parameters, ed. by W. Thompson. Island Press.

Russek-Cohen, E. and M. C. Christman. 2004. Statistical Methods for Environmental Monitoring and Assessment. In: *Environmental Monitoring*, ed. by G. Bruce Wiersma. CRC Press, pp. 391-406.

Christman, M. C. 2006. Element 5: Characterization and Incorporation of Uncertainty in Fisheries Management pg. 213-233 in: *Chesapeake Bay Fisheries Ecosystem Advisory Panel (NOAA Chesapeake Bay Office). Fisheries Ecosystem Planning for the Chesapeake Bay*, ed. E. Houde and M. McBride, American Fisheries Society, trends in Fisheries Management 3: Bethesda, MD.

Christman, M. C. 2009. Sampling of rare populations. *Handbook of Statistics No. 29, Sample Surveys: Theory, Methods and Inference*, ed. by Danny Pfefferman and C. R. Rao, Chapter 6.

Christman, M.C. 2008. Bivariate Distributions. In: *The Encyclopedia of Environmetrics, 1st ed.* A.-H. El-Shaarawi and W. Piegorsch (eds). John Wiley & Sons Ltd, Chichester, UK.

Christman, M.C. 2012. Hansen--Hurwitz estimator in *Encyclopedia of Environmetrics 2nd Edition*, A.-H. El-Shaarawi and W. Piegorsch (eds). John Wiley & Sons Ltd, Chichester, UK, pp.1262-1264. DOI: 10.1002/9780470057339.vah003.pub2.

Christman, M.C. 2012. Multistage design in *Encyclopedia of Environmetrics 2nd Edition*, A.-H. El-Shaarawi and W. Piegorsch (eds). John Wiley & Sons Ltd, Chichester, UK, pp.244-247. DOI: 10.1002/9780470057339.vam046.pub2.

Christman, M.C., Zagmajster, M. 2012. Mapping Subterranean Biodiversity. In W. B. White and D. C. Culver, ed.: *Encyclopedia of Caves*, Academic Press, pp. 474 - 481.

Books

Edward E. Gbur, Walter W. Stroup, Kevin S. McCarter, Susan Durham, Linda J. Young, Mary Christman, Mark West, and Matthew Kramer. 2012. *Analysis of Generalized Linear Mixed Models in the Agricultural and Natural Resources Sciences*. A publication of the American Society of Agronomy, Soil Science Society of America, and Crop Science Society of America, Madison, WI, xiii + 283 pgs.

Peer-Reviewed Articles Published (*work done by student/post-doc under direction of MCC)

Van Heukelem, W., C.C. Epifanio, Christman, M. C. and S.D. Sulkin. 1983. Growth of juvenile Geryon quinquedens (Brachyura; Geryonidae) in the laboratory. *Fisheries Bulletin*. 81: 903-905.

Nayak, T.K. and Christman, M. C. 1992. Effect of unequal catchability on estimates of the number of classes in a population. *Scandinavian Journal of Statistics* 19: 281-287.

Christman, M. C. and T.K. Nayak. 1994. Sequential unbiased estimation of the number of classes in a population. *Statistica Sinica* 4:335-352.

Christman, M. C. 1996. Further aspects of sequential unbiased estimation of the number of classes in a population. *Statistica Sinica* 6:997-1004.

Christman, M. C., R.W. Jernigan, and D. Culver. 1997. A comparison of two models for estimating phylogenetic effect on trait variation. *Evolution* 51:262-266.

Christman, M. C. 1997. Efficiency of some sampling designs for spatially clustered populations. *Environmetrics* 8:145-166.

Pontius, J.S. and Christman, M. C. 1998. Bootstrap confidence intervals from adaptive sampling of an insect population. *Proceedings of the 1997 Kansas State University Conference on Applied Statistics in Agriculture*, pp.191-203.

Culver, D.C., H.H. Hobbs III, M.C. Christman, and L.L. Master. 1999. Distribution Maps of Caves and Cave Animals in the United States. *Journal of Cave and Karst Studies* 61:139-140.

Christman, M.C., D. C. Culver, H.H. Hobbs III, and L.L. Master. 2000. Reply: Distribution Maps of Caves and Cave Animals in the United States. *Journal of Cave and Karst Studies* 62:184-185.

Christman, M.C. 2000. A review of quadrat-based sampling of rare, geographically-clustered populations. *Journal of Agricultural, Biological and Environmental Statistics* 5(1):168-201.

Culver, D.C., L.L. Master, M.C. Christman, and H.H. Hobbs III. 2000. Hidden Biodiversity: The Obligate Subterranean Fauna of the 48 Contiguous States. *Conservation Biology* 14: 386-401.

Christman, M.C. and J.R. Pontius. 2000. Bootstrap Confidence Intervals for Adaptive Cluster Sampling. *Biometrics* 56:503-510.

Christman, M.C. and D. C. Culver. 2001. The Relationship Between Cave Biodiversity and Available Habitat. *Journal of Biogeography* 28: 367-380.

Christman, M.C. and F. Lan. 2001. Inverse Adaptive Cluster Sampling. *Biometrics* 57: 1096-1105

Salierno, J. D., Rebach, S., and Christman, M. C. 2002. The Effects Of Interspecific Competition And Prey Odor On Foraging Behavior In The Rock Crab, *Cancer irroratus* (Say). *Journal of Experimental Marine Biology and Ecology* 287: 249-260.

Christman, M.C. 2003. Adaptive Two-Stage One-per-Stratum Sampling. *Environmental and Ecological Statistics* 10(1): 43-60.

Culver, D.C., M. C. Christman, W. R. Elliott, H.H. Hobbs III, and J. R. Reddell. 2003. The North American Obligate Cave Fauna: Regional Patterns. *Biodiversity and Conservation* 12(3):441-468.

Culver, D. C., Christman, M. C., Sket, B., and Trontelj. 2004. Sampling Adequacy in an Extreme Environment—Species Richness Patterns in Caves. *Biodiversity and Conservation*, 13(6), 1209-1229.

Culver, D.C., M.C. Christman, M. C., Šereg, I., Trontelj, P. and Sket, B. 2004. The location of terrestrial species-rich caves in a cave-rich area. *Subterranean Biology* 2:27-32.

Tamim, N. T., Angel, R. and Christman, M. C. 2004. Utilization of Phytate Phosphorus as Influenced by Dietary Calcium and Phytase Addition in Broiler Diets. *Poultry Science*, 83, 1358-1367.

Raboy, B. E., Christman, M. C., and Dietz, J. M. 2004. The Use Of Degraded And Shade-Cocoa Forests By Golden-Headed Lion Tamarins. *Oryx* 38, 75-83.

*Toshik, P. C., Rattner, B. A., McGowan, P. C., Christman, M. C., Carter, D. B., Hale, R. C., Matson, C. W., and Ottinger, M. A. 2005. Effects of Contaminant Exposure on Reproductive Success of Ospreys (*Pandion haliaetus*) Nesting in Delaware River and Bay, USA. *Environmental Toxicology and Chemistry* 24(3), 617-628.

Angel, C. R., Powers, W. J., Applegate, T. J., Tamim, N. M., and Christman, M. C. 2005. Influence of Phytase on Water Soluble Phosphorus in Poultry And Swine Manure. *Journal of Environmental Quality* 34, 563-571.

Christman, M. C., Culver, D. C., Madden, M. K., and White, D. 2005. Patterns of Endemism of the Eastern North American Cave Fauna. *Journal of Biogeography* 32, 1441-1452.

Christman, M. C., and Lewis, D. 2005. The Spatial Distribution of Dominant Animals Within a Group: Comparison Of Four Tests. *Animal Behaviour* 70, 73-82.

Leone E, Estevez I, Christman M. 2005. Behavioral response of broilers to competition with different feeder sizes and locations. *Poultry Science* 84: 47-47.

Yan, F., Angel, R. A., Ashwell, C., Mitchell, A., and Christman, M. C. 2005. Evaluation of the Broiler's Ability to Adapt to an Early Moderate Deficiency in Phosphorus and Calcium. *Poultry Science* 84 (8), 1232-1241.

*Jensen, O. P., M. C. Christman, and T. J. Miller. 2006. Landscape-Based Geostatistics: A Case Study of the Distribution of Blue Crab in Chesapeake Bay. *Environmetrics*, 17(6), 605-621.

Estevez, I., and Christman, M. C. 2006. Analysis of the Movement and Use of Space by Animals in Confinement: The effect of sampling effort. *Applied Animal Behavior Science*, 97, 221-240.

*Potthoff, M. T. and Christman, M. C. 2006. Growth Depensation And Group Behavior In Juvenile Hybrid Striped Bass (*Morone saxatilis* X *M. chrysops*): Effects Of Group Membership, Feeding Method, Ration Size, And Size Disparity. *Journal of Fish Biology*, 69, 828-845.

Pipan, T., Christman, M. C., and Culver, D. C. 2006. Dynamics of Epikarstic Communities:

Microgeographic Pattern and Environmental Determinants of Epikarstic Copepods in Organ Cave, West Virginia. *American Midland Naturalist*, 156, 75-87.

*Toshik, P. C., Christman, M. C., Rattner, B. A., and Ottinger, M. A. 2006. Evaluation of Osprey Habitat Suitability and Interaction With Contaminant Exposure. *Journal of Wildlife Management*, 70(4): 977-988.

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Leone, E. H., Estevez, I. and Christman, M.C. 2007. Environmental Complexity and Group Size: Effects on the Use of Space by Domestic Fowl. *Applied Animal Behavior Science*, 102: 39-52.

Christman, M. C. and Leone, E. N. H. 2007. Statistical Aspects of the Analysis of Group Size Effects in Confined Animals. *Applied Animal Behavior Science*, 103(3-4): 265-283

*Walter, J., Christman, M. C., Hoenig, J., and R. Mann. 2007. Combining data from multiple years or areas to improve variogram estimation. *Environmetrics* 18:583-598.

Christman, M. C. 2007. Comment on *Model-assisted Estimation of Forest Resources with Generalized Additive Models* by J.D. Opsomer, F. Jay Breidt, G.G. Moisen and G. Kauermann. *Journal of the American Statistical Association* 102: 411-412.

Christman, M. C. 2008. Statistical modeling of observational data with spatial dependencies. *Journal of Wildlife Management* 72(1):23-33.

Reynolds, S. M., Christman, M. C., Uy, J. A. C., Patricelli, G. L., Braun, M. J., and Borgia, G. 2009. Lekking satin bowerbird males aggregate with relatives to mitigate aggression. *Behavioral Ecology* 20(2): 410-415.

Gibert, J., Culver, D. C., Dole-Olivier, J-C., Malard, F., Christman, M. C. and Deharveng, L. 2009. Assessing and conserving groundwater biodiversity: synthesis and perspective. *Freshwater Biology*. 54(4): 930-941.

Mallapur, A., Miller, C. P., Christman, M. C. and Estevez, I. 2009. Short-term and long-term movement patterns in confined environments by domestic fowl: Influence of group size and enclosure size. *Applied Animal Behaviour Science*. 117, 28-34

Checa, M. F., Barragán, A., Rodríguez, J. and Christman, M. C. 2009. Temporal abundance patterns of butterfly communities (Lepidoptera: Nymphalidae) in the Ecuadorian Amazonia and their relationship with climate. *Annales de la Societe Entomologique Francaise*. 45 (4), 470-486.

Estevez, I. , Mallapur, A., Miller, C. P., and Christman, M. C. 2010. Short- and long-term movement patterns in complex confined environments in broiler chickens: The effects of distribution of cover panels and food resources. *Poultry Science*, 89(4), 643-650.

Phlips, E. J., Badylak, S., Christman, M. C. and Lasi, M. A. 2010. Climatic trends and temporal patterns of phytoplankton composition, abundance and succession in the Indian River Lagoon, Florida, USA. *Estuaries and Coasts*, 33(2), 498-512.

Leone, E., Christman, M. C., Douglass, L., and Estevez, I. 2010. Separating the Impact of Group Size, Density, and Enclosure Size on Broiler Movement and Space Use at a Decreasing Perimeter to Area Ratio. *Behavioural Processes*, 83, 16-22.

Culver, D. C., Holsinger, J. R., Christman, M. C., Pipan, T. 2010. Morphological Differences Among Eyeless Amphipods in the Genus *Stygobromus* Dwelling in Different Subterranean Habitats. *Journal of Crustacean Biology*, 30(1), 68-74.

Wendland, L. D., Wooding, J., White, C. L., Demcovitz, D., Littell, R., Berish, J. D., Ozgul, A., Oli, M. K., Klein, P. A., Christman, M. C. and Brown, M. B. 2010. Social Behaviour Drives the Dynamics of Respiratory Disease in Threatened Tortoises. *Ecology*, 91, 1257-1262.

Brando, P. M., Goetz, S., Baccini, A., Nepstad, D. C., Beck, P. S. A., and Christman, M. C. 2010. Seasonal and Interannual Variability of Climate and Vegetation Indices across the Amazon. *Proceedings of the National Academy of Sciences of the United States of America*, 107, 14685-14690

Zagmajster, M., Culver, D. C., Christman, M. C., Sket, B. 2010. Evaluating the sampling bias in pattern of subterranean species richness: combining approaches, *Biodiversity and Conservation*, 19, 3035-3048.

Phlips, E. J., Badylak, S., Christman, M. C., Wolny, J., Brame, J., Garland, J., Hall, L., Hart, J., Landsberg, J., Lasi, M., Lockwood, J., Paperno, R., Scheidt, D., Staples, A., Steidinger, K. 2011. Scales of temporal and spatial variability in the distribution of harmful algae species in the Indian River Lagoon, Florida, USA. *Harmful Algae* 10, 277-290.

Schneider, K., Christman, M. C. and Fagan, W. F. 2011. How resource subsidies affect invertebrate communities in caves: Results from an ecosystem-level manipulation experiment. *Ecology*, 92(3), 765-776.

Mukherjee, A. Christman, M. C., Overholt, W. A., and Cuda, J. P. 2011. Prioritizing areas in the native range of *hygrophila* for surveys to collect biological control agents. *Biological Control*, 56(3), 254-262.

Shukla, S. Goswami, D., Graham, W. D., Hodges, A. and Christman, M. C. 2011. Water quality effectiveness of ditch fencing and culvert crossing in the Lake Okeechobee basin, southern Florida, USA. *Ecological Engineering*, 37, 1158-1163.

Hughes, C. Davoodi-Semiromi, Y., Colee, J. C., Culpepper, T., Dahl, W. J., Mai, V., Christman, M. C., and Langkamp-Henken, B. 2011. Galactooligosaccharide supplementation reduces stress-induced gastrointestinal dysfunction and days of cold or flu: a randomized, double-blind, controlled trial in healthy university students. *American Journal of Clinical Nutrition*, 93, 1305-1311.

Castellanos, I., Barbosa, P., Zuria, I., Tammaru, T. and Christman, M. C. 2011. Contact with caterpillar hairs triggers predator-specific defensive responses. *Behavioral Ecology*, 22, 1020-1025.

Main, M. B., Christman, M. C., Karim, A., and Hostetler, M. 2011. Species Richness and Diversity of Resident and Migratory Landbirds in Remnant Forest Patches and Residential Areas in the Florida Keys, USA. *International Journal of Ecology*, Article ID 364213, 12 pages doi:10.1155/2011/364213. Available at: <http://www.hindawi.com/journals/ijeco/2011/364213/>.

*Miller, C. P., Christman, M. C., and Estevez, I. 2011. Movement in a Confined Space; Estimating Path Tortuosity. *Applied Animal Behaviour Science*, 135, 13-23.

Kennedy, V. S., Breitburg, D. L., Christman, M. C., Luckenbach, M. C., Paynter, K., Kramer, J., Sellner, K. G., Dew-Baxter, J. R., Keller, C., and Mann, R. 2011. Lessons Learned from Efforts to Restore Native Oyster (*Crassostrea virginica*) Populations in Maryland and Virginia, 1990-2007. *Journal of Shellfish Research*, 30(3), 719-731

Brando, P. M., Nepstad, D. C., Balch, J. K., Bolker, B., Christman, M. C., Coe, M., and F. E. Putz. 2012. Fire-induced tree mortality in a neotropical forest: the roles of bark traits, tree size, wood density, and fire behavior. *Global Change Biology*, 18(2), 630-641.

*Bohrmann, T. F. and Christman, M. C. 2012. Evaluating Sampling Efficiency in Depletion Surveys Using Hierarchical Bayes. *Canadian Journal of Fisheries and Aquatic Sciences*. 69(6), 1080-1090.

Pineiro, S., Chauhan, A., Kulu Berhane, T., Athar, R., Zheng, G., Wang, C., Dickerson, T., Liang, X., Lymperopoulou, D. S., Chen, H., Christman, M. C., Louime, C., Babiker, W., Stine, O. C., and Williams, H. N. 2013. Niche Partition of Bacteriovorax Operational Taxonomic Units along Salinity and Temporal Gradients in the Chesapeake Bay Reveals Distinct Estuarine Strains. *Microbial Ecology*, 65(3), 652-660.

Langkamp-Henken, B., Nieves, Jr., C., Culpepper, T., Radford, A., Girard, S-A., Hughes, C., Christman, M. C., Mai, V., Dahl, W. J., Boileau, T., Jonnalagadda, S. S., and Thielecke, F. 2013. Fecal lactic acid bacteria increased in adolescents randomized to whole- versus refined-grain foods whereas inflammatory cytokine production decreased with both interventions. *Journal of Nutrition*, 142(11), 2025-2032

Hendricks, K. E. M., Donahoo, R. S., Roberts, P., and Christman, M. 2013. Effect of Copper on Growth Characteristics and Disease Control of the Recently Introduced *Guignardia citricarpa* on Citrus in Florida. *American Journal of Plant Sciences*, 4(2), 282-290.

*Bohrmann, T. F. and Christman, M. C. 2013. Optimal allocation of sampling effort in depletion surveys. *Jour. Agric., Biol., and Environ. Statistics*, 18(2), 218-233.

Weber, E., Volstad, J. H., Christman, M. C., Lewis, D., and Dew-Baxter, J. 2013. Application of a Demographic Model for Evaluating Proposed Oyster-Restoration Actions in Chesapeake Bay. *Human and Ecological Risk Assessment*, 19, 1187-1203.

Borges, S.L., Vyas, N. B., and Christman, M. C. 2014. The influence of study species selection on estimates of pesticide exposure in free-ranging birds. *Environmental Management*, 53(2), 416–428.

Dahl, W. J., Wright, A. R., Specht, G. J., Christman, M., Mathews, A., Meyer, D., Boileau, T., Willis, H. J., and Langkamp-Henken, B. 2014. Consuming foods with added oligofructose improves stool frequency: a randomised trial in healthy young adults. *Journal of Nutritional Science*, 3(e7), 1 – 8.

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Hanifi, A., Culpepper, T., Mai, V., Christman, M., Tompkins, T. A., and Dahl, W. J. 2014. Evaluation gastrointestinal transit viability and tolerance of *Bacillus subtilis* R0179: a randomized trial in healthy adults. *Beneficial Microbes*, 6(1):19-27.

Radford, A., Lankamp-Henken, B., Hughes, C., Christman, M. C., Jonnalagadda, S., Boileau, T. W., Thielecke, F., Dahl, W. J. 2014. Whole-grain intake in middle school students achieves dietary guidelines for Americans and MyPlate recommendations when provided as commercially available foods: a randomized trial. *Jour. Acad. Nutr. Dietetics*. 114(9): 1417 – 1423.

Langkamp-Henken, B., Rowe, C. C., Ford, A. L., Christman, M. C. Nieves, Jr., C., and Dahl, W. J. 2015. *Bifidobacteria bifidum* resulted in a greater proportion of healthy days and a lower percentage of academically stressed students reporting a day of cold/flu. *British Journal of Nutrition*, 113, 426 – 434.

Spaiser, S. J., Culpepper, T., Nieves, Jr., C., Ukhanova, M., Mai, V., Percival, S. S., Christman, M. C. and Langkamp-Henken, B. 2015. *Lactobacillus gasseri* KS-13, *Bifidobacterium bifidum* G9-1, and *Bifidobacterium longum* MM-2 ingestion induces a less inflammatory cytokine profile and a potentially beneficial shift in gut microbiota in older adults: a randomized, double-blind, placebo-controlled, crossover study. *J Amer College of Nutrition.*, Apr 24:1-11.

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Whaley, S. D., Christman, M. C. and Burd, Jr, J. J. To Appear. Spatial distribution-abundance relationships in juvenile (Age-0) red drum (*Sciaenops ocellatus*) and spotted seatrout (*Cynoscion nebulosus*). I: Influence of freshwater inflow. *Estuaries and Coasts*

Whaley, S. D., Christman, M. C. and Burd, Jr, J. J. To Appear. Spatial distribution-abundance relationships in juvenile (Age-0) red drum (*Sciaenops ocellatus*) and spotted seatrout (*Cynoscion nebulosus*). II: Influence of major disturbances. *Estuaries and Coasts*.

Dahl, W. J., Ford, A. L., Ukhanova, M., Ali, R., Radford, A., Christman, M. C., Waugh, S., and Mai, V. To Appear. Resistant potato starch (RS4) influences laxation with phylum level changes in microbiota: a randomized trial in young adults.

Peer-Review Articles In Preparation, Review or Revision

Lauretta, M. V., Walter, J. F., and Christman, M. C. In Review. Some considerations for CPUE standardization; variance estimation and distributional considerations.

Culpepper, T., Christman, M. C., Nieves, Jr., C., Specht, G. J., Rowe, C. C., Spaiser, S. J., Ford, A. L., Dahl, W. J., Girard, S. A., Langkamp-Henken, B. In Review. *Bifidobacterium bifidum* R0071 decreases stress-associated diarrhea-related symptoms and ultimately self-reported stress in a randomized, double-blind, placebo-controlled study.

Brush, J., Christman, M. C., and Nesbitt, S. In Preparation. Estimation of Abundance and Productivity of the Florida Bald Eagle Population Using a Stratified Rotating Panel Sampling Strategy.

Walter, J., Christman, M., Stumpf, R., Landsberg, J., Linton, B., Steidinger, K., and Tustison, J. In Preparation. Satellite derived index of red tide bloom severity for Eastern Gulf of Mexico.

Christman, M. C. In Preparation. Estimation Methods for Parameters of the Delta-Lognormal Distribution.

Christman, M. C., Bohrmann, T., and Lindberg, W. In Preparation. Negative Binomial Models of Gag Grouper Counts with Heterogeneous Scale Parameters.

Evans, M., Salewski, R. P., Christman, M., Girard, S. A. and Tompkins, T. A. In Review. Randomized clinical trial: Effectiveness of *Lactobacillus helveticus* and *lactobacillus rhamnosus* for the management of antibiotic-associated diarrhea in healthy adults.

Christman, M. C., Doctor, D. H., Niemiller, M. L., Weary, D. J., Young, J. A., Zigler, K. S., Culver, D. C. In Preparation. Predicting the Occurrence of Cave-Inhabiting Fauna Based on Features of the Surface Environment.

Burns, A., Zitt, M., Rowe, C., Langkamp-Henken, B., Mai, V., Nieves, Jr., C., Ukhanova, M., Christman, M. C., Dahl, W. J. In Review. Diet quality improves for parents and children when almonds are incorporated into their daily diet: a randomized, crossover study.

Gonçalves, C. S., Holt, R. D., Christman, M. C., Casatti, L. In Preparation. Environmental and spatial influences on stream fish metacommunities in the Atlantic rainforest: the role of altitudinal gradient.

Sauby, K., E., Kilmer, J., Christman, M. C., Holt, R. D., and Marsico, T. D. In Preparation. The Relative Importance of Herbivory and Abiotic Conditions to Demographic Rates of Two Species of *Opuntia* Cacti in Florida.

Dissertations and Theses.

Rosowski, M. C. 1979. Effect of temperature on the growth and dispersal of larvae of the red crab, *Geryon quinquedens* Smith (Brachyura; Geryonidae), Master's Thesis, University of Delaware. Advisor: Dr. Charles Epifanio

Christman, M.C. 1993. On Estimation of the Number of Classes in a Population, Doctoral Dissertation, George Washington University. Advisor: Dr. Tapan Nayak

Technical Reports

Christman, M.C. 1996. Efficiency of some sampling designs for spatially clustered populations. Stanford University, Department of Statistics Technical Report Series, Number 315, Stanford University, Palo Alto CA.

Christman, M.C. 1997. Peer review of Red Snapper (*Lutjanus campechanus*) Research and Management in the Gulf of Mexico: Statistics Review. Report to the Office of Science and Technology, Dept. of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service. September 1997.

Christman, M. C. 2004. Characterizing and Incorporating Uncertainty in Ecosystem-Based Fisheries Management. To appear in the report from the Fisheries Ecosystem Panel on Implementing Ecosystem-Based Fisheries Management. National Oceanic and Atmospheric Administration, National Fisheries Service, Chesapeake Bay Program Office.

Miller, C. P. and Christman, M. C. 2006. A Random Walk Model for Animal Movement in Confined Regions. University of Florida, Department of Statistics, Technical Report 2006-028.

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Vølstad, J. H., Christman, M. C., Lewis, D., Weber, E. D., and Dew, J. 2007. A demographic model of oyster populations in the Chesapeake Bay to evaluate proposed oyster-restoration alternatives. Appendix A in U.S. Army Corps of Engineers, Norfolk District. Final programmatic environmental impact statement for oyster restoration in Chesapeake Bay including the use of a native and/or nonnative oyster. Available at http://www.nao.usace.army.mil/oystereis/final_peis/homepage.asp.

Inter-American Tropical Tuna Commission. 2008. Workshop On Turtle Bycatch Mitigation For Longline Fisheries: Experimental Design And Data Analysis, 7-8 November 2007. Contributing

Authors: Christman, M. C., Daniel Hall, Martín Hall, Paul Kinas, Cleridy Lennert-Cody, Bryan Manly, Marti McCracken, Mihoko Minami, Michelle Sims, and Steven Thompson.

Christman, M. C., Volstad, J. H., Sharov, A. F., Davis, G. R. and Fegley, L. W. 2008. Statistical Analyses of Crab Dredge Efficiency. Final Report to Virginia Institute of Marine Science, July 2008. 42 pp.

Christman, M. C. and Colee, J. 2009. Statistical Analyses of Coral Reef Data Collected Between 1996 and 2007 in The Dry Tortugas and Florida Keys. A Report for the Florida Keys National Marine Sanctuary Coral Reef Evaluation and Monitoring Project (FKNMS CREMP). 610 pp.

Christman, M. C. and Holt, N. 2009. Report to the South Florida Water Management District on Comparability of the FHAP and DERM Sampling Designs. A Report to the South Florida Water Management District. 90 pp.

Christman, M. C. 2009. Final Report on the Sampling Design for Bald Eagle Nesting Project in Florida. Report to the Bald Eagle Monitoring Program FL FWRI. 36 pp.

Christman, M. C. and Colee, J. 2011. Statistical Analyses for Status and Trend of Coral Reef Data Collected Between 1996 and 2009 in The Dry Tortugas, Florida Keys and Biscayne Bay. A Report for the Florida Keys National Marine Sanctuary Coral Reef Evaluation and Monitoring Project (FKNMS CREMP). 550 pp.

Walter, J., Christman, M. C., Somerton, D., and Buckel, J. 2012. Review of fishery-independent Survey Programs In Southeastern U.S. Atlantic Waters. A Report to the Beaufort Laboratory National Oceanic and Atmospheric Administration (NOAA), Southeast Fisheries Science Center, Beaufort, North Carolina. 21 pp.

Christman, M. C. 2012. Proposed Sampling Designs for Assessing Accuracy of FL FWRI Current Land Use and Land Cover Map. A Report to the Fish and Wildlife Research Institute of the Florida Fish and Wildlife Conservation Commission, Tallahassee, FL. 12 pp.

Christman, M. C. 2012. A Comparison of Two Sampling Designs for Estimating Seagrass Cover: Stratified Random Sampling vs Transect Sampling. A Report to the Fish and Wildlife Research Institute of the Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL. 39 pp.

Christman, M. C. 2013. Report on Reef and Shark GOM Longline Fisheries. Interim Report to the Fisheries Statistics Division, NOAA/NMFS/SEFSC, Miami, FL, January 2013, 18 p.

Christman, M. C. 2013. A Review of Estimation Methods for Parameters of the Delta-Lognormal Distribution. Interim Report to the Fisheries Statistics Division, NOAA/NMFS/SEFSC, Miami, FL, January 2013, 51 p.

Christman, M. C. 2013. Comparison of Design-based vs Model-based Estimation for the Observer Longline Programs. Interim Report to the Fisheries Statistics Division, NOAA/NMFS/SEFSC, Miami, FL, March 2013, 60 p.

Christman, M. C. 2013. Methods for Rapid Assessment of Seagrass Cover. A Report to the Fish and Wildlife Research Institute of the Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL. 15 pp.

Christman, M. C. 2013. Sampling Strategies for Monitoring Sea Grass in Florida. A Report to the Fish and Wildlife Research Institute of the Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL. 15 pp.

Christman, M. C. 2013. Report on Nest Initiation as a Function of Locale and Survey Year for Bald Eagles in Florida. A report to the Wildlife Research Program of the Florida Fisheries and Wildlife Research Institute. 5 pg.

Lindberg, W. J., Christman, M. C., and Marcinek, D. M. 2013. Fishery-Independent Indices of Abundance of Gag (*Mycteroperca microlepis*) in the Northeastern Gulf of Mexico, with Intrinsic Habitat Quality Controlled and Contrasted. A Report for the SEDAR 33- Gulf of Mexico Gag and Greater Amberjack Data Workshop, Tampa, FL. 25 pp. + appendices.

Walter, J., Christman, M., Landsberg, J., Linton, B., Steidinger, K., Stumpf, R., and Tustison, J. 2013. Satellite derived indices of red tide severity for input for Gulf of Mexico gag grouper stock assessment. A Report for the SEDAR 33- Gulf of Mexico Gag and Greater Amberjack Data Workshop, Tampa, FL. 41 pp.

Christman, M. C. 2013. Incorporating Logbook Data in Estimation of Total Discards in the Pelagic Longline Observer Program. Interim Report to the Fisheries Statistics Division, NOAA/NMFS/SEFSC, Miami, FL, June 2013, 15 p.

Christman, M. C., 2014. Assessing Accuracy of Florida FWRI Current Land Use and Land Cover Map. A Report to the Fish and Wildlife Research Institute of the Florida Fish and Wildlife Conservation Commission, St. Petersburg, FL. 10 pp + 23 Tables.

Christman, M. C., 2014. AAD- Report on the Analyses of Biometrics. A report to KGK Synergize Inc, London, Ontario Canada. 10 pp + 2 appendices.

Christman, M. C., 2014. AAD- Report on the Analyses of Blood Parameters. A report to KGK Synergize Inc, London, Ontario Canada. 22 pp + 2 appendices.

Christman, M. C., 2014. AAD- Report on the Analyses of Compliance and Demographics. A report to KGK Synergize Inc, London, Ontario Canada. 6 pp + 3 appendices.

Christman, M. C., 2014. AAD- Report on the Analyses of Daily Bowel Diaries. A report to KGK Synergize Inc, London, Ontario Canada. 18 pp + 1 appendix.

Christman, M. C., 2014. AAD- Report on the Analyses of GSRS Syndromes. A report to KGK Synergize Inc, London, Ontario Canada. 27 pp + 1 appendix.

Christman, M. C. 2015. Inshore Bottom Longline Surveys Conducted By Alabama, Mississippi,

Louisiana, and Texas: Recommendations for Alternative Sampling Designs. A Report to the Gulf States Marine Fisheries Commission, Ocean Springs, MS. 54 pp + 1 appendix.

Culver, D. C. , Christman, M. C., Doctor, D. H., Niemiller, M. L., Weary, D. J., Young, J. A., Zigler, K. S. 2015. Cave/Karst Resources Across the Appalachian LCC: A Visual Guide to Results. A Report to the Appalachian Land Conservation Commission. 76 pp.

Christman, M. C. 2015. Inshore Bottom Longline Surveys Conducted By Alabama, Mississippi, Louisiana, and Texas: Recommendations for Alternative Sampling Designs. A report to the Gulf States Marine Fisheries Commission. 23 pg + addenda of 29 pg

Christman, M. C. 2015. Statistical Analysis of Sarasota Bay Seagrass Programs: Detecting and Quantifying Change. Report to the Sarasota Bay Estuary Program, Sep 2015. 28 pp + 40 pp of Figures + 71 pp of Tables.

Quinlan, J. A., Keller, C., Hanisko, D. McManus, C., Kunzleman, J., Foley, D., Trinanes, J., Hahn, D., and Christman, M. 2015. Examining the Scope of Spill impacts to Early Stage Fishes in the US Economic Exclusion Zone. Technical Report: Deepwater Horizon Natural Resources Damage Assessment, Water Column Technical Working Group. 68 pp.

Christman, M. C. 2015. Review of Sampling Design and Inferential Methods for Estimating Bycatch in the Hawaii Deep-Set Longline Fishery. A Technical Report to the Center for Independent Experts. 27 pp.

Christman, M. C. and Steidinger, K. A. 2015. Sampling Strategies for Harmful Algal Blooms in Coastal Waters. Draft chapter in a monograph on monitoring algal blooms. 27 pp.

Steidinger, K. A. and Christman, M. C. 2015. Post-sampling Treatment, Laboratory Methods and Approaches. Draft chapter in a monograph on monitoring algal blooms. 33 pp.

Talks, Invited Seminars, Workshops and Other Presentations

Invited Seminars/Talks

Estimation of the Number of Classes in a Population, George Washington University, Department of Statistics/Computer Information Systems, February 1993.

Sequential Unbiased Estimation of the Number of Classes in a Population, Stanford University, Department of Statistics, Stanford, CA, August 1995.

Comparisons of Adaptive Sampling Designs, University of Maryland, Baltimore County, Department of Mathematical Sciences, December 1996, Baltimore, MD.

Efficiency of Adaptive Sampling for Spatially Clustered Populations, Stanford University, Department of Statistics, Stanford, CA, July 1996.

Bootstrapping Confidence Intervals Based on Adaptive Sampling, The Correlated Data Conference held to celebrate the 50th Anniversary of the Department of Statistics, Iowa State University, Ames, IA, October, 1997.

Making Informed Decisions in Environmental Issues: The Chesapeake Bay as a Case Study, American University's Environmental Issues course, April 1997.

Spatial Correlation Models as Applied to Evolutionary Biology, Kansas State University, Department of Statistics, Manhattan, KS, February 1997.

Making Informed Decisions in Environmental Issues: The Chesapeake Bay as a Case Study, American University's Science Policy Seminar course, January 1997.

Spatial Correlation Models as Applied to Evolutionary Biology, Virginia Commonwealth University, Department of Biostatistics, April 1998, Richmond, VA.

Sequential Sampling Designs to Estimate the Population Total of a Segmented Population, Iowa State University, Department of Statistics, October 1998, Ames, IA.

Discussant for Session 34 Entitled Statistical Problems in the Assessment of Marine and Freshwater Resources, at the 1999 Joint Statistical Meetings, American Statistical Association, August 1999, Baltimore, MD.

Modeling Biodiversity in Obligate Subterranean Species in the United States, University of Maryland, BEES Program, March 2000, College Park, MD.

Environmental Modeling for Risk Assessment, University of Maryland, Environmental and Wildlife Management Course, April 2000, College Park, MD.

Estimating the Areal Extent of a Hotspot. Virginia Tech, Department of Statistics, October, 2000.

Spatial Prediction of Subterranean Biodiversity. Workshop on Mapping Subterranean Biodiversity, CNRS Laboratoire, Moulis, France. March 2001.

Spatial Modeling in Agriculture: Spatial Lattice Models. NCR-170 Workshop for Agricultural Statisticians, Springdale, AR, July, 2001.

Discussant for Session 4 Entitled Sampling Natural Environments to Detect Rare Plant and Animal Species, at the 2001 Joint Statistical Meetings, American Statistical Association, August 2001, Atlanta, GA.

Predicting the Areal Extent of a Spatial Hotspot. Department of Mathematics, Statistics Program, University of Maryland, March 2002, College Park, MD.

Estimating The Spatial Average Over An Irregularly-Shaped Study Region. Department of Mathematics, United States Naval Academy, January 2004, Annapolis, MD.

Estimating The Spatial Average Over An Irregularly-Shaped Study Region. Department of Statistics, University of Florida, January 2004, Gainesville, FL.

Discussant for Session 57 Entitled Combining Information Across Spatial Scales, at the 2005 International Biometric Society Eastern North American Region Spring Meeting, March Austin, TX .

Discussant for Invited Session 1: Statistics Band at the 8th Annual Forest Inventory and Analysis Symposium, October 2006, Monterey, CA.

Modeling population dynamics of *Crassostrea virginica* in Chesapeake Bay under climate change. (Invited) Annual Meeting of the Estuarine Research Federation, Norfolk, VA, October 2005.

Application and Comparison of Alternative Spatial Modeling Approaches of Zero Inflated Data, (Invited) Joint Statistical Meetings, August, 2006, Seattle, WA.

Effect of Model Misspecification on Estimating A Spatial Average. (Invited) Western North American Region Annual Meeting, June 2006, Flagstaff, AZ.

Model-Based Inference Using Data With Many Zeroes. (Invited) 8th Annual Forest Inventory and Analysis Symposium, October 2006, Monterey, CA.

Modelling Non-Linear Mixture Experiments in Stream Ecology (Invited), 2007 ENAR Meeting, March 11 - 14, 2007, Atlanta, GA.

Discussant/Moderator for the session on Statistical Priorities for Monitoring Coral Reef Fish in Southern Florida, at the Coral Reef Fish Monitoring Workshop, sponsored by the Florida Fish and Wildlife Conservation Commission, Florida Fish and Wildlife Research Institute, April 3-4, 2007.

Guest lecture (Invited) in WISC 6468 Spring 2007 on Geostatistics, Scale and Landscape Ecology, UF.

How to model zero-inflated distributions. (Invited) Department of Wildlife Ecology and Conservation, UF, March 2007.

Mathematical Modeling and Analysis of Use of Space (Invited). 2007 Joint ADSA-PSA-AMPA-ASAS Meeting, July 8-12, 2007, San Antonio, Texas.

Design-Based, Model-Based, and Model-Assisted Sampling and Inference in Natural Resources (Invited). 2007 Joint Statistical Meetings, July 28 – Aug 2, Salt Lake City, UT.

Modeling Non-Linear Mixture Experiments (Invited). 2007. Department of Statistics, Michigan State University, December 7, Lansing, MI.

Modeling Mixtures of Three States of a Count Process: Application to Estimating Species Richness (Invited) 2008. Joint Statistical Meetings, Aug 2 – 6, Denver, CO.

Discussant for Session 373 Entitled The Role of Statisticians in Understanding Climate Change, at the 2008 Joint Statistical Meetings, American Statistical Association, August 2008, Denver, CO.

A Demographic Population Model of Chesapeake Bay Oysters to Evaluate Potential Management and Restoration Strategies (Invited) 2008. Joint Statistical Meetings, Aug 2 – 6, Denver, CO. (Given by my student Thomas Bohrmann).

Modeling Scales of Variability of Harmful Algae Blooms in the Indian River Lagoon, Florida. (Invited) 2009. Joint Statistical Meetings, August 2 – 6, 2009, Washington, D.C.

A Stratified Panel Survey With Regression Imputation: Estimating the Bald Eagle Nesting Territories in FL. (Invited) 2012. Joint Statistical Meetings, July 30 - August 2, San Diego, CA

Review of Sea Grass Metrics in Sarasota Bay (Invited) 2015. Technical Advisory Committee of the Sarasota Bay Estuary Program. September 4, Sarasota, FL.

Workshops Presented

Full-day workshop on Linear and Non-Linear Models for Correlated Data. The Wildlife Society Meeting, sponsored by the Biometrics Working Group. September 18 2004, Calgary. Presented jointly with Larry Douglass.

Statistical Issues in Surveys of Invasive Species. USDA, APHIS, Riverdale, Maryland, March 16, 2005. Two and half hour presentation on sampling for rare species.

Statistical Spatial Data Analysis for GIS. UF, Department of Statistics, 2-day Spring Workshop, March 2006, Orlando, FL. Presented jointly with Linda Young.

Lattice Models with Spatial Dependencies - An Introduction. One hour presentation at a USDA-BARC Workshop on Spatial Modeling, March 16, 2006, Beltsville, MD. Workshop consisted of presentations by several statisticians and researchers on statistical spatial modeling.

Half-day workshop on Spatial Statistics in Agricultural Research. The Tri-Societies (ASA-CSSA-SSSA) Annual Meeting, November 2006, Indianapolis, IN. Presented jointly with Ed Gbur.

Two-day workshop on Incorporating Random Effects And Dependencies Into General Linear Models. The Florida Fish and Wildlife Research Institute, May 2007, St. Petersburg, FL.

Three-hour workshop on Too Many Zeroes? Methods For Analyzing Zero-Inflated Datasets. Environmental Science and Policy Program, Michigan State University, December 7, 2007, Lansing, MI.

Full day workshop on Statistical Spatial Data Analysis for GIS. January 2008, The Florida Fish and Wildlife Research Institute, St. Petersburg, FL. Presented jointly with Linda Young.

Two-hour workshop on Too Many Zeroes? Methods For Analyzing Zero-Inflated Datasets. Program in Environmental Statistics, Department of Statistics- IFAS, University Of Florida, 14 October 2008.

One day workshop on Introduction to SAS. August 2009. University of Florida, Gainesville, FL. Presented jointly with James Colee.

One day workshop on Introduction to Regression Using SAS. August 2009. University of Florida, Gainesville, FL. Presented jointly with James Colee.

Two-day workshop on Mixed Models. February 2010. The Florida Fish and Wildlife Research Institute, St. Petersburg, FL.

Two-day workshop on Modeling Presence/Absence, Presence only, and Count Data, April 2010. The Florida Fish and Wildlife Research Institute, St. Petersburg, FL.

Full day workshop on Generalized Linear Mixed Models, November 2010, 2010 ASA, CSSA, and SSSA Annual Meetings. Long Beach, CA. Presented jointly with Keven McCarter (Louisiana State University) and Walter Stroup (University of Nebraska – Lincoln).

Two-day workshop on Modeling Seagrass using JMP, March 2012, The Florida Fish and Wildlife Research Institute, St. Petersburg, FL.

Full day webinar/workshop on Sampling Designs and Statistical Analysis Tools for Seagrass Monitoring, July 2013, The Florida Fish and Wildlife Research Institute, St. Petersburg, FL.

Week-long training course on Design and Analysis of Statistically Sound Sampling Catch Programmes, sponsored by International Council for the Exploration of the Sea (ICES) to be held June 23 – 27, 2014 in Copenhagen, Denmark. Will be presented jointly with Dr. Jon Helge Volstad of IMR, Norway.

Contributed Talks:

In addition to invited talks and workshops, I have also given over 45 contributed talks or posters at annual meetings or special symposia held by various scientific societies, including the American Statistical Association, International Biometrics Society, The International Environmetrics Society, The Wildlife Society, The American Fisheries Society, The Coastal and Estuarine Research Federation, The Conservation Society, and The American Geophysical Union.

Other Creative and Scholarly Activities:

Grants and Contracts

While at university, I received 56 competitive Contracts and Grants totaling \$8.79M. Of these I was the lead principal investigator on 37. As an independent consultant I have continued working with researchers and currently have several contracts. Current and recent clients include researchers and scientists at the National Oceanic and Atmospheric Administration; Florida Fish and Wildlife Research Institute; University of Florida; University of Delaware; University of St. Andrews; and private firms.

Special Recognitions and Achievements.

Honors and Awards, Academic:

Graduate Student Fellowships (tuition and stipend), George Washington University, Graduate School of Arts and Sciences, 1987-1990.

Outstanding Graduate Student Award, Washington Statistical Society and George Washington University, 1991.

Young Researcher Award, Fall 1997. Competitive travel award given to present at the Iowa State University Department of Statistics 50th Anniversary Conference on Correlated Data, October, 1997, \$700.

Graduate Education Award from the Graduate Student Organization of the Marine, Estuarine and Environmental Studies Program, November, 2001.

Certificate of Appreciation from the NOAA Chesapeake Bay Office for outstanding contributions to the development of the Fisheries Ecosystem Planning document for the Chesapeake Bay, March, 2004.

Distinguished Achievement Award from the Section on Statistics and the Environment of the American Statistical Association, August, 2004.

Reviewing activities.

Associate Editor 2002-2004, *Journal of Agricultural, Biological, and Environmental Statistics*.

Associate Editor 2010-2011, *Environmetrics*.

Reviewer for manuscripts submitted to the following journals: *Biometrics*; *Environmetrics*; *Ecological and Environmental Statistics*; *Environmental Monitoring and Assessment*; *Biometrika*; *The Journal of the American Statistical Association*; *Forest Science*; *Canadian Journal of Forest Science*; *Fisheries Bulletin*; *Evolution*; *Animal Behaviour*; *Ecology*; *Journal of Agricultural, Biological, and Environmental Statistics*; *Proceedings of the Kansas State University Applied Statistics in Agriculture Conference*; *American Fisheries Society*; *Archiv Hydrobiologie*; *Journal of Freshwater Biology*; *Marine Biology*; *American Midland Naturalist*; *Remote Sensing of the Environment*; *Landscape Ecology*.

Invited Reviewer for textbooks including:

1. McClave, Benson, and Sincich, *Introduction to Statistics for Business and Economics*, 7th Edition.
2. Devore and Peck, *Statistics: The Exploration and Analysis of Data*, 3rd and 4th editions.
3. Bluman, *Elementary Statistics: A Brief Version*.
4. Piegorsch, *Environmental Statistics*.
5. Kaiser, A prospectus for a text on Spatial Statistics printed by Duxbury Press.
6. Freund and Wilson, *Statistical Methods in Research*, 2nd Edition.

Invited Reviewer for Federal Agencies, including:

1. Small Business Innovation Research Grant Applications submitted to the National Institutes of Health, Center for Scientific Review, Panels convened in 1999 and 2000.
2. The Methodology, Measurement and Statistics Program at the National Science Foundation, 2000.
3. The Division of Mathematical Sciences, National Science Foundation, 2002.
4. The Cooperative State Research, Education, and Extension Service, United States Department of Agriculture, 2005.
5. The United States Fish and Wildlife Service's (Service) Great Lakes Fish and Wildlife Restoration Act Grant Program, 2008.
6. Division of Environmental Biology, National Science Foundation, 2009.

Instruction:

Courses taught while at university include Introductory Statistics, Regression Analysis, Experimental Design, Introductory Business Statistics, Sampling Theory, Applied Sample Survey Methods, Mathematical Statistics, Spatial Data Analysis, Environmental Statistics, Biometrics, Multivariate Statistics, Modern regression Methods, Categorical Data Analysis, Statistics for Animal Movement, and Ecological Statistics and Design. I also ran journal clubs and reading courses on special interest topics including Animal Movement and Use of Space, Bayesian Data Analysis, and Introduction to Statistical Methods for Biologists.

Supervision of student research while at university included advising 15 students completing MS degrees in statistics and 4 students for PhD degrees (3 in statistics and 1 in interdisciplinary ecology with an emphasis in statistics). In addition, I was on the committees of 9 MS students and 24 PhD students. I currently am on the committee for 1 student, completing her PhD.

Supervision of Post-doctoral Associates while at university included mentoring 3 post-docs, each for 2 years, on 3 different research projects for which I was the Principal Investigator.

PROFESSIONAL SERVICES

Invited Participant in the workshop, *Statistical Issues for Ecological and Natural Resource Monitoring Programs in the United States*, sponsored by the American Statistical Association Committee on Environmental Monitoring and Assessment and the Environmental Protection

Agency, March 14-16, 1996.

Invited Participant in the workshop, *Integrated Analysis of Chesapeake Bay Monitoring Data*, sponsored by the Scientific and Technical Advisory Committee of the Chesapeake Bay Program, November 21-22, 1996, Solomons Island, MD.

Invited Participant in the Panel Review, *Statistics Panel Review of Red Snapper (Lutjanus campechanus) Research and Management in the Gulf of Mexico*, sponsored by the National Oceanic and Atmospheric Administration, National Marine Fisheries Service, July 20-25, 1997, New Orleans, LA.

Invited Member of the Technical Advisory Panel for Fisheries Ecosystems charged with developing a prototype Fisheries Ecosystem Plan for the Chesapeake Bay. The plan is to provide detailed information for fishery managers to perform ecosystem-based fisheries management. Coordinated by the Chesapeake Bay Program Office, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Dec 2000 – 2003.

Invited Participant in the Statistical Advisory Panel for the Scientific and Technical Advisory Committee of the Chesapeake Bay Program (CBP) to address the development of the Cumulative Frequency Distribution approach and the related spatial interpolation approach as assessment tools for the CBP water quality criteria attainment program. Sponsored by the Chesapeake Bay Program Office, Oct 2005 – May 2006.

Statistician under an Interagency Personnel Agreement with the United States Geological Service, to develop probabilistic models for hazard risk assessment, April 2000-April 2002.

Member, Regional Advisory Board, Eastern North American Region, International Biometrics Society, 1998-2000.

Secretary, Council of Sections Governing Board, American Statistical Association, 1998-2000.

Member, Education Advisory Committee, Eastern North American Region, International Biometrics Society, 2000-2001.

Eastern North American Region Chapter Representative to the Site Selection Committee for Meetings for the International Biometrics Society, 2002-2005.

Member, Program Committee for the 2003 Eastern North American Region, International Biometrics Society, Spring Meeting.

Treasurer (elected), Section on Statistics and the Environment, American Statistical Association, 2003-2004.

Secretary (elected), Section on Statistics and the Environment, American Statistical Association, 2004-2005.

Eastern North American Region Correspondent to the Biometric Bulletin, an International

newsletter of the International Biometrics Society, 2003-2004.

Chair, Search Committee, for the Editor of the Journal of Biological, Agricultural, and Ecological Statistics, 2003-2004.

Chair (elected), Section on Statistics and the Environment, American Statistical Association, 2007-2008.

Representative for the American Statistical Association on the Search Committee, for the Editor of the Journal of Biological, Agricultural, and Ecological Statistics, 2005-2007.

Representative for the Section on Statistics and the Environment to the Eastern North American Region of the International Biometrics Society 2011 Program Committee. 2010-2011.

Invited Participant in the workshop, *Coral Reef Fish Monitoring Workshop*, sponsored by the Florida Fish and Wildlife Conservation Commission, Florida Fish and Wildlife Research Institute, April 3-4, 2007.

Eastern North American Region Liaison to the American Association for the Advancement of Science Agricultural Working Group, 2009-2011.

Invited Participant in the Statistical Advisory Panel for the Scientific and Technical Advisory Committee of the Chesapeake Bay Program (CBP) to address the adequacy of the approach for development of measures of compliance of estuaries in the CBP water quality criteria attainment program. Sponsored by the Chesapeake Bay Program Office, August 2009.

Chair-elect of the American Statistical Association's Committee on Continuing Education. 2010-2011. *Chair* 2011-2012. *Past-Chair* 2012-2013.

Invited Participant in the Review of Fishery-Independent Survey Programs in Southeastern U.S., to address fishery-independent reef fishery survey programs, Sponsored by National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center, February 2012.

Invited Participant in the SEDAR Episodic Events Workshop to address approaches to incorporating aperiodic impacts into stock assessments. Sponsored by the Gulf of Mexico Fishery Management Council, November 2012.

Invited Participant in the SEDAR Data Workshop for Gag Grouper and Amberjack to evaluate proposed data indices to be incorporated into stock assessments. Sponsored by the Southeast Fishery Management Council, May 2013.

Invited Participant in the SEDAR Data Workshop for King Mackerel to evaluate proposed data indices to be incorporated into stock assessments. Sponsored by the Southeast Fishery Management Council, November 2013.

Invited Participant on the FIFRA Scientific Advisory Panel on Endocrine Disruptor Screening

Program (EDSP) Tier 2 Test Methods Validation, sponsored by the USEPA, Alexandria, VA, June 2013. Provided statistical expertise in reviewing proposed research on endocrine disruptors in animal studies.

Appointed Member - SEDAR Workshop Advisory Panel for 2013-2015 – members provide expert knowledge to development of stock assessments of commercially important fish stocks in the Gulf of Mexico and SE Atlantic region.

Invited Participant in the SEDAR Data Workshop for Red Grouper to evaluate proposed data indices to be incorporated into stock assessments. Sponsored by the Southeast Fishery Management Council, November 2014.

Invited Participant in the SEDAR Data and Assessment Workshop for Grey Triggerfish to evaluate proposed data indices and life history characteristics into stock assessments. Sponsored by the Southeast Fishery Management Council, April 2015.

Appointed Member – Gulf of Mexico Fishery Management Council Standing Scientific and Statistical Committee for 2015 – 2018. Members provide expert knowledge for development of stock assessments of commercially important fish stocks in the Gulf of Mexico and SE Atlantic region.

SOCIETY MEMBERSHIPS

American Statistical Association
The International Environmetrics Society
American Fisheries Society
American Geophysical Union
Coastal and Estuarine Research Federation
The Wildlife Society
American Association for the Advancement of Science

EXAMPLES OF PROFESSIONAL CONSULTING PROJECTS

Ongoing and recent projects conducted as principal in the MCC Statistical Consulting LLC

Clients: Researchers in the Fish and Wildlife Research Institute, Florida Fish and Wildlife Conservation Commission

- 1) Sampling design and estimation for assessing Florida's Bald Eagle Nesting Territories
- 2) Sampling design and estimation for assessing sea grass occurrence, abundance and cover
- 3) Sampling design and inferences for identifying harmful algal blooms in the Gulf of Mexico
- 4) Accuracy Assessment for the FL Land Use Land Cover Map
- 5) Modeling spatial and temporal distribution of larval fish species in FL inlets and bays

- 6) Training in use of statistical programs for analyses of sea grass abundance and occurrence on Florida Bay

Client: Faculty Researchers in the Department of Food Science and Human Nutrition, University of Florida

- 1) Statistical support for the effect of fiber snack foods on dietary intake in healthy adults
- 2) Experimental design and analyses for the effect of probiotics on immune function and digestive health in academically-stressed university students
- 3) Experimental design and analyses for the effects of probiotics on immune and intestinal health in healthy older adults
- 4) Statistical support for effects of dietary supplements on immune function in healthy adults
- 5) Statistical support for effects of Galactooligosaccharide on immune strength and digestive health in middle school children
- 6) Experimental design and statistical analyses of the effect of dietary supplements on deconjugated bile acids in overweight adults
- 7) Experimental design and statistical analyses of the effect of dietary supplements on health indicators and diet control for healthy parent-child pairs

Client: Researchers at the National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center

- 1) Review of the observer programs for longline fisheries in the Atlantic Ocean and Gulf of Mexico
- 2) Development of indices for the impact of harmful algal blooms on mortality of Gag Grouper in the Gulf of Mexico

Client: Researchers in the Department of Fisheries and Aquatic Sciences, University of Florida

- 1) Statistical support for development of fisheries independent, habitat-based indices of abundance for pre-reproductive gag grouper in the northeastern Gulf of Mexico
- 2) Model development for efficient mapping of rock substrata at reef morphology scales to improve fishery independent surveys of reef fishes in the Gulf of Mexico

Client: Faculty Researcher in the Department of Animal and Avian Sciences, University of Maryland

- 1) Training in use of statistical software programs for data analysis
- 2) Experimental design and analysis for effect of dietary supplements for bone development in poultry

Client: Faculty Researcher in the Department of Biology, The American University, Washington, DC

- 1) Drivers of the spatial distribution of biodiversity of obligate subterranean species in the eastern US

Client: Researchers and managers at private consulting firms

- 1) Statistical support for projects related to NOAA NRDA and similar
- 2) Review statistical analysis plans for proposed research on dietary supplements

- 3) Statistical support for effects of dietary supplements on reproduction in domesticated agricultural animals
- 4) Design of statically valid sampling strategies for monitoring natural resources
- 5) Review of proposed statistical analyses for diverse subjects ranging from development of biofuels, study of effects of treatments on irritable bowel syndrome-constipation (IBS-C), safety and tolerability of dietary supplements, and sampling strategies for estimating abundance of commercially important species in the Florida Keys