

## **DEREK P. CRANE**

Associate Professor, Department of Biology  
Coastal Carolina University  
Office: (843) 349-4065; dcrane@coastal.edu

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### **EDUCATION**

**Ph.D., Ecology**, State University of New York-College of Environmental Science and Forestry (SUNY-ESF, 2013). Dissertation: *Reproductive Ecology of Native Predatory Fishes and Body Condition Responses to Invasive Round Goby in the Lower Great Lakes and Connecting Channels*. Advisor: Dr. John Farrell. Committee: Dr. Edward Rutherford, Dr. Stephen Stehman

**M.S., Natural Resources and Environment**, University of Michigan (2008). Thesis: *Effects of Land Cover on Aquatic Communities and Food Webs: A Study of Second-Order Streams in Southeastern Michigan*. Advisors: Dr. Thomas Johengen, Dr. J. David Allan

**B.A., Biology and Criminal Justice**, Lycoming College (2006)

### **PROFESSIONAL EXPERIENCE**

Associate Professor – Coastal Carolina University (2021-present)

Assistant Professor – Coastal Carolina University (2015-2021)

Adjunct Assistant Professor – West Virginia University (2020-present)

Research Associate – Lake Superior State University (2014-2015)

Post-doctoral Associate – SUNY-ESF (2013-2014)

Research Assistant, Ph.D. Candidate – SUNY-ESF (2009-2013)

Fish Biologist – Federal Energy Regulatory Commission (2008-2009)

Research Assistant, M.S. Candidate – University of Michigan, Cooperative Institute for Limnology and Ecosystems Research (2006-2008)

### **TEACHING EXPERIENCE**

Coastal Carolina University

Biology and Ecology of Fishes (BIOL 598, Summer 2017; 4 credits)

Ichthyology (BIOL 426/526, Fall annually; 4 credits)

Ecology of Fishes (BIOL 466/566, Spring annually; 4 credits)

Principles of Ecology (BIOL 370, Spring annually; 3 credits)

Biological Science II (BIOL 122, Fall 2016, Spring 2017, Fall 2019; 3 credits)

Biological Science II Laboratory (BIOL 122L, Fall 2015, 2017, 2018, Spring 2016; 1 credit)

Independent Study (BIOL 399/499, Spring 2016-present; 1-3 credits)

SUNY-ESF

Senior Synthesis in Conservation Biology (EFB 414, Spring 2012; 3 credits)

Aquatics section of Ecological Monitoring and Biodiversity Assessment,

Cranberry Lake Biological Station (EFB 202, Summer 2012; 3 credits)

### **AWARDED FUNDING**

Use of oxytetracycline in fisheries science: we are still learning after nearly 60 years, Coastal Carolina University Professional Enhancement Grant (2021-2022, \$6,000, P.I.: **D. P. Crane**)  
Estimating population size and age distribution of Muskellunge in the French Broad River. North Carolina Wildlife Resources Commission (2020-2025, \$10,099, P.I.: **D.P. Crane**)

- Recruitment and Growth of Juvenile Atlantic and Shortnose Sturgeons in the Waccamaw/Pee Dee River System. South Carolina Department of Natural Resources (2019-2022, \$83,855, P.I.: **D.P. Crane**)
- Quantifying Catch-and-Release Mortality and Determining its Effect on Southern Muskellunge. Virginia Department of Inland Game and Fisheries, (2019-2021, \$139,203, P.I.: **D. P. Crane**, Co-PIs: S. Smith, D. B. Goetz, K. J. Hartman, J. L. Hansbarger)
- Quantifying Catch-and-Release Mortality and Determining its Effect on Southern Muskellunge Populations, Hugh C. Becker Foundation (2019-2021, \$8,000, P.I.: K. J. Hartman, Co-PIs: J. L. Hansbarger, **D. P. Crane**, S. Smith)
- Identification of environmental and biological factors limiting occurrence of the Sandhills Chub (*Semotilus lumbee*) in South Carolina, State Wildlife Grant (2019-2020, \$40,449, P.I.: **D. P. Crane**, Co-PIs: M. Scott, F. Rohde, D. Smith)
- Identification of environmental and biological factors limiting occurrence of the Sandhills Chub (*Semotilus lumbee*) in South Carolina, Coastal Carolina University Professional Enhancement Grant (2019, \$6,000, P.I.: **D. P. Crane**)
- Validation of back-calculation methods for juvenile Tarpon (*Megalops atlanticus*), and assessment of larval recruitment to South Carolina estuaries, Belle W. Baruch Foundation (2019, \$5,000, P.I.: **D. P. Crane**, Co-PIs: G. M. Elmo, M. E. Kimball)
- Use of fin rays for estimating age of Muskellunge, Coastal Carolina University Professional Enhancement Grant (2016, \$6,000, P.I.: **D. P. Crane**)
- Use of fin rays for estimating age of Muskellunge, Hugh C. Becker Foundation (2015-2017, \$5,000, P.I.: **D. P. Crane**, Co-P.I.'s: D. A. Isermann, J. M. Kampa, K. L. Kapuscinski, T. D. Simonson)
- Quantifying Relationships between Fish Assemblages and Nearshore Habitat Characteristics of the Niagara River, Niagara River Greenway Ecological Fund (2013-2016, \$801,436, P.I.: K. L. Kapuscinski, Co-P.I.: **D. P. Crane**).
- Evaluation of Nearshore Fish Assemblages, Habitat, and the Effects of Herbivorous Rudd (*Scardinius erythrophthalmus*): Facilitating Successful Fish Habitat Restoration Efforts in the Buffalo Harbor and Niagara River, Niagara River Ecological Standing Committee, Fish and Wildlife Habitat Enhancement and Restoration Fund (2012-2013, \$519,246, P.I.: K. L. Kapuscinski, Co-P.I.: J. M. Farrell, Co-author as Ph.D. candidate: **D. P. Crane\***).
- \*Contributed equally to preparation and management of the grant but could not serve as a co-PI due to student status.
- Evaluation of Nearshore Fish Assemblages, Habitat, and the Effects of Herbivorous Rudd (*Scardinius erythrophthalmus*): Determining the Efficacy of Fish Habitat Restoration Efforts in the Buffalo Harbor and Niagara River, Niagara River Greenway Ecological Fund (2011, \$188,881, P.I.: J. M. Farrell, Co-P.I.: K. L. Kapuscinski, Co-author as Ph.D. candidate: **D. P. Crane\***).
- \*Contributed equally in preparation and management of the grant but could not serve as a co-PI due to student status.

### **PEER-REVIEWED PUBLICATIONS**

\* Undergraduate student

+ Graduate student

+Herigan, G. M., **D. P. Crane**, and K. L. Kapuscinski. In Press. Nursery habitat characteristics of an invasive, omnivorous fish. *Hydrobiologia*.

- <sup>+</sup>Elmo, G. E., **D. P. Crane**, M. E. Kimball, K. L. Williams, and P. W. Stevens. In Press. Validity of daily and annual age estimation and back-calculation methods for early life stages of a subtropical-tropical species, the tarpon (*Megalops atlanticus*). Fisheries Research.
- <sup>+</sup>Herigan, G. M., **D. P. Crane**, M. C. Scott, F. C. Rohde, and D. W. Smith. In Press. Comparison of two fish sampling techniques for low-conductivity, lowland headwater streams. North American Journal of Fisheries Management.
- <sup>+</sup>Bauerlien, C. J., **D. P. Crane**, S. Smith, G. Palmer, T. Young, and D. B. Goetz. In Press. Estimates of Abundance and Extreme Catch-and-Release Exploitation in a Southern Riverine Muskellunge Fishery. North American Journal of Fisheries Management.
- \*Baltasar, R. Q., **D. P. Crane**, and E. J. Burge. In Press. Effects of frozen storage on fish wet weight, percent dry weight, and length revisited. North American Journal of Fisheries Management.
- Stevens, P. W., M. E. Kimball, <sup>+</sup>G. M. Elmo, K. L. Williams, J. L. Ritch, and **D. P. Crane**. 2021. Investigation into the occurrence of juvenile Common Snook *Centropomus undecimalis*, a subtropical estuarine sport fish, in saltmarshes beyond their established range. Estuaries and Coasts 44:1477–1483.
- Crane, D. P.**, K. L. Kapuscinski, and J. J. Hutchens, Jr. 2020. Use of a novel richness-weighted abundance index of age-0 fishes to identify key features for habitat conservation and restoration. Ecological Indicators 117:106713.
- Crane, D. P.**, D. H. Ogle, and D. E. Shoup. 2020. Use and misuse of a common growth metric: guidance for appropriately calculating and reporting specific growth rate. Reviews in Aquaculture 12:1542–1547.
- Larsen, M. E., D. C. Abel, **D. P. Crane**, and R. D. Grubbs. 2020. Differences in relative heart mass among deep-sea and coastal sharks with increasing depth. Marine Biology 167: Article number 169.
- \*Molina, J. T., **D. P. Crane**, and L. Bell. 2020. Accuracy of concert versus independent age estimates made from anal fin rays of Muskellunge. North American Journal of Fisheries Management.
- Mace III, M. M., M. E. Kimball, <sup>+</sup>G. E. Elmo, and **D. P. Crane**. 2020. Overwinter survival, age, and growth of juvenile tarpon (*Megalops atlanticus*) in a shallow, tidally-restricted habitat in South Carolina. Environmental Biology of Fishes 103:965-972.
- Crane, D. P.**, \*C. J. Bauerlien, \*M. R. Cornett, \*M. L. Hawkins, J. L. Hansbarger, D. A. Isermann, J. M. Kampa, K. L. Kapuscinski, J. R. Meerbeek, M. P. Rennie, and T. D. Simonson. 2020. Validity of age estimates from muskellunge *Esox masquinongy* fin rays and associated effects on estimates of growth. Canadian Journal of Fisheries and Aquatic Sciences 77:69-80.
- <sup>+</sup>Novak, M. V., **D. P. Crane**, L. Bell, L. Keiner, C. R. Gatto, C. T. McNabb, and S. L. Parker. 2020. Spatial Ecology of the Southern Copperhead (*Agkistrodon contortrix*) in a Fragmented and Non-fragmented Habitats. Journal of Herpetology 54:97-106.
- <sup>+</sup>Larsen, M. E., D. C. Abel, **D. P. Crane**, S. L. Parker, P. H. Yancey, B. A. Keller, and R. D. Grubbs. 2019. Unique Osmoregulatory Morphology in Primitive Sharks: An Intermediate State Between Holocephalan and Derived Shark Secretory Morphology. Journal of Fish Biology 95:1331-1341.
- <sup>+</sup>Martin, K. L., D. C. Abel, **D. P. Crane**, N. Hammerschlag, and E. J. Burge. 2019. Blacktip shark *Carcharhinus limbatus* presence at fishing piers in South Carolina: association and environmental drivers. Journal of Fish Biology 94:469-480.

- \*Bauerlien, C. J., \*M. R. Cornett, \*E. A. Zielonka, **D. P. Crane**, and J. S. Bulak. 2018. Precision of calcified structures used for estimating age of Chain Pickerel *Esox niger*. North American Journal of Fisheries Management 38:930-939.
- Crane, D. P.**, and K. L. Kapuscinski. 2018. Capture efficiency of a fine mesh seine in a large river: Implications for abundance, richness, and diversity analyses. Fisheries Research 205:149-157.
- Meerbeek, J. R. and **D. P. Crane**. 2017. A comparison of Muskellunge weight estimation equations to a modified length-girth technique. Pages 539-554 in Kapuscinski, K. L., Crane, D. P., Diana, J. S., Farrell, J. M., Kerr, S. J., Pallo, S., Simonson, T. D. editors. Muskellunge Management: Fifty Years of Cooperation Among Anglers, Scientists, and Fisheries Biologists. American Fisheries Society, Bethesda, Maryland.
- Crane, D. P.**, and K. L. Kapuscinski. 2017. Habitat use by age-0 muskellunge in the upper Niagara River. Pages 227-240 in Kapuscinski, K. L., Crane, D. P., Diana, J. S., Farrell, J. M., Kerr, S. J., Pallo, S., Simonson, T. D. editors. Muskellunge Management: Fifty Years of Cooperation Among Anglers, Scientists, and Fisheries Biologists. American Fisheries Society, Bethesda, Maryland.
- Crane, D. P.**, and J. M. Farrell. 2017. Trends in body condition of smallmouth bass and northern pike (1982–2013) following multiple ecological perturbations in the St. Lawrence River. Canadian Journal of Fisheries and Aquatic Sciences 74:1158-1172.
- \*Forzono, E. M., **D. P. Crane**, K. L. Kapuscinski, and M. D. Clapsadl. 2017. Dry-weight energy density of prey fishes from nearshore waters of the upper Niagara River and Buffalo Harbor, New York. Journal of Great Lakes Research 43:215-220.
- +Buzuleciu, S. A., **D. P. Crane**, and S. L. Parker. 2016. Scent of Disinterred Soil as an Olfactory Cue used by Raccoons to Locate Nests of Diamond-backed Terrapins (*Malaclemys terrapin*). Herpetological Conservation and Biology 11: 539-551.
- +Gunderson, M. D., K. L. Kapuscinski, **D. P. Crane**, and J. M. Farrell. 2016. Habitats colonized by non-native flowering rush *Butomus umbellatus* (Linnaeus, 1753) in the Niagara River. Aquatic Invasions. 11:369-380.
- Killourhy, C. C., **D. P. Crane**, and S. V. Stehman. 2016. Precision and accuracy of visual aquatic habitat estimates. Freshwater Science 35:1062-1072.
- Crane, D. P.**, and D. W. Einhouse. 2016. Changes in growth and diet of smallmouth bass following invasion of Lake Erie by the round goby. Journal of Great Lakes Research. 42:405-412.
- Crane, D. P.**, C. C. Killourhy, and M. D. Clapsadl. 2016. Effects of three frozen storage methods on wet weight of fish. Fisheries Research 175:142-147.
- Crane, D. P.** and J. M. Farrell. 2015. Muskellunge egg incubation habitat in the upper Niagara River, New York. Journal of Great Lakes Research 41:448-453.
- Crane, D. P.**, L. M. Miller, J. S. Diana., J. M. Casselman, J. M. Farrell, K. L. Kapuscinski, and J. K. Nohner. 2015. Muskellunge and Northern Pike Ecology and Management: Important Issues and Research Needs. Fisheries 40:258-267.
- Crane, D. P.**, J. M. Farrell, D. W. Einhouse, J. R. Lantry, and J. L. Markham. 2015. Trends in body condition of native piscivores following invasion of Lakes Erie and Ontario by the round goby. Freshwater Biology 60:111–124.
- Crane, D. P.**, J. M. Farrell, and K. L. Kapuscinski. 2014. Identifying important micro-habitat characteristics of muskellunge spawning locations in the upper Niagara River. Journal of Great Lakes Research 40:325-335.

- Crane, D. P.**, and J. M. Farrell. 2013. Walleye spawning substrate size, shape, and condition influence egg retention. *North American Journal of Fisheries Management* 33:329-337.
- Crane, D. P.**, T. H. Johengen, and J. D. Allan. 2011. Assessment of quantitative food web metrics for investigating the influence of land use on warm water fish diets. *Hydrobiologia* 664:1-15.

### **BOOK**

- Kapuscinski, K. L., T. D. Simonson, **D. P. Crane**, S. J. Kerr, J. S. Diana, and J. M. Farrell, editors. 2017. Muskellunge management: fifty years of cooperation among anglers, scientists, and fisheries biologists. American Fisheries Society, Symposium 85, Bethesda, Maryland

### **INVITED SYMPOSIUM SUMMARY**

- Crane, D. P.**, K. L. Kapuscinski, and J. K. Nohner. 2013. Biology, ecology, and management of Muskellunge and Northern Pike: New science to meet current and future challenges. Pages 556-557 in Schaeffer, J. 143rd Annual Meeting Wrap Up: Thank You Little Rock. *Fisheries* 38:553-567.

### **CONTRIBUTED PRESENTATIONS**

- \* Undergraduate student, + Graduate student, <sup>1</sup>Best student oral presentation, <sup>2</sup>Best professional presentation, <sup>3</sup>Best student poster presentation
- <sup>+</sup>Herigan, G. M., **D. P. Crane**, and M. C. Scott. 2021. Habitat and biological characteristics associated with the presence of Sandhill Chub (*Semotilus lumbee*). Annual Meeting of the Southern Division of the American Fisheries Society, Virtual.
- <sup>1+</sup>Herigan, G. M., **D. P. Crane**, and K. L. Kapuscinski. 2021. Habitat characteristics influencing presence of age-0 rudd (*Scardinius erythrophthalmus*) in nearshore habitats of the upper Niagara River. Annual Meeting of the Pennsylvania Chapter of the American Fisheries Society, Virtual.
- <sup>+</sup>Takacs, M. K., **D. P. Crane**, W. C. Post, and E. Waldrop. 2021. Population estimates of juvenile Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Edisto River, SC. Annual Meeting of the Southern Division of the American Fisheries Society, Virtual.
- <sup>1+</sup>Takacs, M. K., **D. P. Crane**, W. C. Post, and E. Waldrop. 2021. Population estimates of juvenile Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Edisto River, SC. Annual Meeting of the South Carolina Chapter of the American Fisheries Society, Virtual.
- <sup>+</sup>Bauerlien, C. J., **D. P. Crane**, S. Smith, G. Palmer, T. Young, and D. B. Goetz. 2021. Documentation of extreme catch-and-release exploitation and abundance in a southern riverine Muskellunge population from a 4-year tagging study. Annual Meeting of the Southern Division of the American Fisheries Society, Virtual.
- <sup>+</sup>Elmo, G. M., **D. P. Crane**, M. E. Kimball, K. L. Williams, and P. W. Stevens. 2021. Validity of daily and annual age estimation and back-calculation methods for juveniles of a subtropical-tropical species, the Atlantic tarpon (*Megalops atlanticus*). Annual Meeting of the Southern Division of the American Fisheries Society, Virtual.
- <sup>+</sup>Elmo, G. M., **D. P. Crane**, and M. E. Kimball. 2020. A comparison of early life stage recruitment of two sympatric Elopiformes in the North Inlet Estuary. Annual Meeting of the American Fisheries Society, Virtual.
- <sup>+</sup>Elmo, G. M., **D. P. Crane**, and M. E. Kimball. 2020. A comparison of early life stage recruitment of two sympatric Elopiformes in the North Inlet Estuary. Hobcaw Research Symposium, Georgetown, SC.

- <sup>+</sup>Bauerlien, C. J., **D. P. Crane**, S. Smith, G. Palmer, T. Young, and D. B. Goetz. 2020. Angler catch and exploitation of a southern Muskellunge population based on a 4-year tagging study. 150th Annual Meeting of the American Fisheries Society, Virtual.
- <sup>+</sup>Herigan, G. M., **D. P. Crane**, and K. L. Kapuscinski. 2020. Habitat characteristics influencing presence of age-0 rudd (*Scardinius erythrophthalmus*) in nearshore habitats of the upper Niagara River. 150th Annual Meeting of the American Fisheries Society, Virtual.
- <sup>+</sup>Bauerlien, C. J., D. P. Crane, S. Smith, G. Palmer, J. Young, D. B. Goetz, K. J. Hartman, and J. L. Hansbarger. 2020. Quantifying catch-and-release mortality of Muskellunge in a southern Muskellunge fishery. Annual Meeting of the Virginia Chapter of the American Fisheries Society, Lexington, VA.
- <sup>+</sup>G. E. Elmo, **D. P. Crane**, and M. E. Kimball. 2020. Assessment of leptocephali recruitment to three locations along the South Carolina coast. Annual Meeting of the South Carolina Chapter of the American Fisheries Society, Santee, SC.
- <sup>+</sup>Herigan, G. M., **D. P. Crane**, M. C. Scott, F. C. Rohde, and D. Smith. 2020. Comparison of two stream fish sampling techniques in low conductivity conditions: Three-pass electrofishing versus one-pass with minnow kick. Annual Meeting of the South Carolina Chapter of the American Fisheries Society, Santee, SC.
- \*McNabb, J. C., **D. P. Crane**, M. E. Kimball, and J. M. Harding. 2020. Diets of juvenile Tarpon from coastal habitats in SC. Annual Meeting of the South Carolina Chapter of the American Fisheries Society, Santee, SC.
- \*Baltasar, R. Q., **D. P. Crane**, and E. J. Burge. 2020. Effects of frozen storage on fish wet weight and dry weight revisited. Annual Meeting of the South Carolina Chapter of the American Fisheries Society, Santee, SC.
- \*Molina, J. T., **D. P. Crane**, and L. Bell. 2020. Accuracy of concert versus independent age estimates for Muskellunge. Annual Meeting of the South Carolina Chapter of the American Fisheries Society, Santee, SC.
- Crane, D. P.**, K.L. Kapuscinski, and J.J. Hutchens, Jr. 2020. Use of a novel richness-weighted relative abundance index of age-0 fishes to identify key features for habitat conservation and restoration. Annual Meeting of the South Carolina Chapter of the American Fisheries Society, Santee, SC.
- <sup>+</sup>Martin, K. L., D. C. Abel, **D. P. Crane**, N. Hammerschlag, and E. J. Burge. 2019. Blacktip shark *Carcharhinus limbatus* presence at fishing piers in South Carolina: association and environmental drivers. Annual Joint Meeting of Ichthyologists and Herpetologists. Snowbird, UT.
- <sup>+</sup>Larsen, M. E., D. C. Abel, **D. P. Crane**, B. A. Keller, and R. D. Grubbs. 2019. Evidence of Reduced Metabolic Activity in Bathypelagic Sharks Determined by Ventricular Mass. Annual Joint Meeting of Ichthyologists and Herpetologists. Snowbird, UT.
- <sup>+</sup>Larsen, M. E., D. C. Abel, **D. P. Crane**, S. L. Parker, B. A. Keller, and R. D. Grubbs. 2019. Negative Allometric Growth in the Digitiform Rectal Gland Morphology: Mitigating NaCl Influx in Small Sharks. Poster Presentation. Annual Joint Meeting of Ichthyologists and Herpetologists. Snowbird, UT.
- \*Molina, J.T., \*A. Elmadolar, \*J. Miller, \*S. Thomas, \*N. Workman, and **D. P. Crane**. 2019. Consensus versus independent age estimation for Muskellunge. Poster presented at: Coastal Carolina University Undergraduate Research Competition. Conway, SC.
- Crane, D. P.**, K.L. Kapuscinski, and J.J. Hutchens, Jr. 2019. Use of a novel richness-weighted relative abundance index of age-0 fishes to identify key features for habitat conservation and

- restoration. International Association of Great Lakes Research. Brockport, NY
- Crane, D. P.**, K.L. Kapuscinski, and J.J. Hutchens, Jr. 2019. Use of a novel richness-weighted relative abundance index of age-0 fishes to identify key features for habitat conservation and restoration. Michigan Fish and Wildlife Conference.
- <sup>†</sup>Elmo, G. E., Mace, M. M., Kimball, M. E., and **Crane, D. P.** 2019. Overwinter survival, age, and growth of juvenile tarpon (*Megalops atlanticus*) near a distributional limit in coastal South Carolina. Annual Meeting of the South Carolina Chapter of the American Fisheries Society, Clemson, SC.
- \*Bauerlien, C. J., \*M. R. Cornett, \*E. A. Zielonka, **D. P. Crane**, and J. S. Bulak. 2019. Precision of calcified structures used for estimating age of Chain Pickerel *Esox niger*. Annual Meeting of the South Carolina Chapter of the American Fisheries Society. Clemson, SC.
- <sup>†</sup>Larsen, M., D. C. Abel, **D. P. Crane**, S. L. Parker, D. Grubbs, and B. Keller. 2018. Comparative Morphology of Rectal Glands of Deep-Sea, Epipelagic, and Coastal Sharks Based on a Serendipitous Observation in the Atlantic Sixgill Shark, *Hexanchus vitulus*. 148<sup>th</sup> Annual Meeting of the American Fisheries Society. Atlantic City, N.J.
- Crane, D. P.**, \*C. J. Bauerlien, \*M. R. Cornett, \*M. L. Hawkins, J. L. Hansbarger, D. A. Isermann, J. M. Kampa, K. L. Kapuscinski, J. R. Meerbeek, M. P. Renniecke, and T. D. Simonson. 2018. Accuracy and precision of ray-based estimates of Muskellunge age. 78<sup>th</sup> Annual Midwest Fish and Wildlife Conference, Milwaukee, WI
- Crane, D. P.** and K. L. Kapuscinski. 2018. Capture efficiency of a fine-mesh seine in littoral areas of a river. 78<sup>th</sup> Annual Midwest Fish and Wildlife Conference, Milwaukee, WI.
- Crane, D. P.** and K. L. Kapuscinski. 2017. Capture efficiency of a fine-mesh seine in littoral areas of a river. Annual Meeting of the South Carolina Chapter of the American Fisheries Society and the South Carolina Fisheries Worker's Association, McCormick, SC.
- <sup>†</sup>Spencer, K., D. C. Abel, and **D. P. Crane**. 2017. Pier Pressure: Composition and Movement of Sharks Near Fishing Structures Along the NE Coast of South Carolina. Annual Meeting of the South Carolina Chapter of the American Fisheries Society and the South Carolina Fisheries Worker's Association, McCormick, SC.
- Crane, D. P.**, J. L. Hansbarger, \*M. L. Hawkins, D. A. Isermann, J. M. Kampa, K. L. Kapuscinski, J. R. Meerbeek, M. P. Renniecke, and T. D. Simonson. 2017. Development of a standardized protocol for use of fin rays in estimating age of Muskellunge. 77<sup>th</sup> Annual Midwest Fish and Wildlife Conference, Lincoln, NE.
- <sup>2</sup>**Crane, D. P.**, C. C. Killourhy, and M. D. Clapsadl. 2016. Effects of three frozen storage methods on wet weight of fish. Annual Meeting of the South Carolina Chapter of the American Fisheries Society and the South Carolina Fisheries Worker's Association, Seabrook Island, SC.
- Crane, D. P.**, and K. L. Kapuscinski. 2016. Habitat use by age-0 muskellunge in the upper Niagara River. 2016 Hugh C. Becker Muskie Symposium, Minneapolis, MN.
- Crane, D. P.**, and J. M. Farrell. 2015. Muskellunge egg incubation habitat in the upper Niagara River. Minnesota Chapter of the American Fisheries Society Annual Meeting, Baxter, MN.
- Crane, D. P.**, J. M. Farrell, D. W. Einhouse, and J. R. Lantry. 2014. Trends in body conditions of native piscivores following round goby invasion in Lakes Erie and Ontario. Minnesota Chapter of the American Fisheries Society Annual Meeting, Mankato, MN.
- Crane, D. P.** and J. M. Farrell. 2014. Future directions for muskellunge conservation and restoration. The International Muskellunge Research Symposium, Ottawa, ON.
- <sup>3+</sup>Gunderson, M.D., K. L. Kapuscinski, **D. P. Crane**, and J. M. Farrell. 2014. Habitat assemblage

- modeling of aquatic macrophytes as a guide for enhancement of fish habitat. New York Chapter of the American Fisheries Society Annual Meeting, Geneva, NY.
- Kapuscinski, K. L., **D. P. Crane**, M. D. Clapsadl, J. M. Farrell, and D. W. Einhouse. 2014. Quantifying and comparing energy densities of native and invasive nearshore forage fishes of the Great Lakes. Meeting of the Great Lakes Fishery Commission Board of Technical Experts, Ann Arbor, MI.
- Crane, D. P.**, J. M. Farrell, and K. L. Kapuscinski. 2013. Predictive modeling of Muskellunge spawning habitat in US waters of the upper Niagara River. 143<sup>rd</sup> Annual Meeting of the American Fisheries Society, Little Rock, AR.
- Crane, D. P.**, J. M. Farrell, and K. L. Kapuscinski. 2012. Spatially explicit modeling of upper Niagara River muskellunge spawning habitat. Meeting of the St. Lawrence River Esocid Working Group, Clayton, NY.
- Crane, D. P.** and J. M. Farrell. 2012. Fine sediment deposition decreases walleye egg adhesion to spawning substrates. 142<sup>nd</sup> Annual Meeting of the American Fisheries Society, Minneapolis – St. Paul, MN.
- Crane, D. P.** and J. M. Farrell. 2012. Walleye spawning habitat restoration in streams and the influence of substrate size and shape on egg retention. 68<sup>th</sup> Annual Northeast Fish and Wildlife Conference, Charleston, WV.
- Crane, D. P.** and J. M. Farrell. 2011. Walleye spawning habitat restoration: substrate size and shape influence egg retention. American Fisheries Society 141<sup>st</sup> Annual Meeting, Seattle, WA.
- Crane, D. P.** and J. M. Farrell. 2011. Walleye spawning habitat restoration in streams and the influence of substrate size, shape, and condition on egg retention. New York Chapter of the American Fisheries Society Annual Meeting, Canandaigua, NY.
- Crane, D. P.** 2007. Examination of suburban and agricultural land use effects on aquatic food webs of small streams in southeastern Michigan. Hooper Seminar for School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI.
- Crane, D. P.**, Johengen, T. H., and J. D. Allan. 2007. Influences of urban and agricultural development on aquatic food webs of second order streams in southeastern Michigan. 68<sup>th</sup> Annual Midwest Fish and Wildlife Conference, Madison, WI.
- Crane, D. P.** 2007. Overview of wild brook trout restoration in the upper Kettle Creek basin, Potter County, Pennsylvania. Senior Biology Colloquium for the Department of Biology, Lycoming College, Williamsport, PA.

#### **PROFESSIONAL AWARDS AND HONORS**

- SUNY-ESF, Department of Environmental and Forest Biology, Robert L. Burgess Graduate Scholarship in Ecology (2013)
- Lycoming College, Biology Departmental Scholarship (2001-2006, \$10,000/year)

#### **ADDITIONAL HONORS**

- 2006 ESPN The Magazine/CoSIDA Academic All-American
- 2005, 2006 National Wrestling Coaches Association Academic All-American
- 2006 Middle Atlantic Conference Wrestling Scholar Athlete of the Year
- 2006 Middle Atlantic Conference 174lbs. champion and NCAA Division III qualifier
- 2005-2006 season Lycoming College wrestling team captain
- 2005- 2006 season Lycoming College Wrestling, Andy Bergesen Award for Dedication and Progress in Career



2005- 2006 season Lycoming College Wrestling, Budd Whitehill Award for Leadership Both On and Off the Mat

2004- 2005 season Lycoming College Wrestling, Most Valuable Team Player

### **PROFESSIONAL AFFILIATIONS AND CERTIFICATIONS**

Associate Fisheries Professional, American Fisheries Society (awarded 2013)

American Fisheries Society (2008-present)

Minnesota Chapter of the American Fisheries Society (2013-2015)

New York Chapter of the American Fisheries Society (2009-2015)

South Carolina Chapter of the American Fisheries Society (2015-present)

### **SERVICE**

Associate Editor, *North American Journal of Fisheries Management*

Co-editor, *Muskellunge Management: Fifty Years of Cooperation Among Anglers, Scientists, and Fisheries Biologists*. American Fisheries Society Bethesda, Maryland.

Manuscript Reviewer for *The North American Journal of Fisheries Management*, *Ecology of Freshwater Fish*, *International Journal of Tropical Biology and Conservation*, *Journal of Great Lakes Research*, *Journal of Freshwater Ecology*, *Estuaries and Coasts*, *Transactions of the American Fisheries Society*, *Fisheries Management and Ecology*, *Limnology and Oceanography*, *Canadian Journal of Zoology*

Technical committee member for *Hugh C. Becker International Muskie Symposium* (2016), Minneapolis, MN

Co-chair of symposium entitled: *Biology, ecology, and management of muskellunge and northern pike: new science to meet current and future challenges* at the 143<sup>rd</sup> (2013) Annual Meeting of the American Fisheries Society, Little Rock, AR

Faculty advisor – Coastal Carolina University student subunit of the American Fisheries Society

Gupta College of Science Technical Funds Committee – Biology Department representative

Gupta College of Science Graduate Committee – Coastal Wetland and Marine Studies program representative

### **GRADUATE ADVISOR**

#### *Earned Degree*

Garrett Herigan: Coastal Carolina University (MS) – Identification of environmental and biological factors limiting occurrence of the Sandhills Chub in South Carolina. May 2021.

Garrett Elmo: Coastal Carolina University (MS) – Age and growth of Tarpon at the northern extreme of their distribution. December 2021.

\*Kelsey Martin (Spencer): Coastal Carolina University (MS) – Pier pressure: composition and movement of sharks near fishing structures along the northeast coast of South Carolina. December 2017. \*Co-advised with D. C. Abel

#### *Current students*

Meredith Pfennig: Coastal Carolina University (MS) – Chemical marking of calcified structures in fishes. Started Fall 2021.

Molly Takacs: Coastal Carolina University (MS) – Recruitment and growth of juvenile Atlantic and Shortnose Sturgeons in the Waccamaw-Pee Dee River system. Started Fall 2019.

Cory Bauerlien: Coastal Carolina University (MS) – Quantifying catch-and-release mortality and determining its effect on southern Muskellunge. Started Fall 2019.

**GRADUATE COMMITTEE MEMBER**

*Earned Degree*

- Danielle Capella: Coastal Carolina University (MS) – Movement and habitat use of Diamondback Terrapins (*Malaclemys terrapin*) in North Inlet South Carolina. August 2021.
- Collen Nager: Coastal Carolina University (MS) – Conservation of Diamondback Terrapin (*Malaclemys terrapin*) Nesting Sites in North Inlet, South Carolina: Using Predator Vocalizations to Deter Raccoon Nest Predation. August 2021.
- Jeremy Arnt: Coastal Carolina University (MS) – Residency, diel movement, and tidal patterns of Bull Sharks (*Carcharinus leucas*) in Winyah Bay, SC. May 2020.
- Matthew Larsen: Coastal Carolina University (MS) – Rectal gland anatomy and blood chemistry of deep-water sharks with special reference to *Hexanchidae*. August 2018.
- Megan Novak: Coastal Carolina University (MS) – The spatial ecology of the Southern Copperhead in fragmented and non-fragmented habitats in Horry County, SC. August 2017.
- Jonathan Suggs: Coastal Carolina University (MS) – Planning and zoning of commercial and residential properties in Horry County: an internship with Horry County Planning and Zoning May 2017.

*Current students*

- Ryan Lowndes: Coastal Carolina University (MS) – The deterrence effects of the original Select Magnetic and Repellant Treated (SMART™) Hooks and the next generation SMARTER Hooks on elasmobranchs in recreational hook-and-line and longline trials. Summer 2021–present.
- Katie Maddox: Coastal Carolina University (MS) – Effects of Urbanization on Loggerhead Shrike (*Lanius ludovicianus*) Foraging Behavior and Nest Predation in South Carolina. Fall 2020 –present.
- Michelle Krauser: Coastal Carolina University (MS) – Identifying important characteristics associated with loggerhead shrike occupancy in urban habitat in South Carolina. Spring 2020 – present.
- Ian Booth: West Virginia University (MS) – Effects of water temperature, body size, and fight duration on mortality of angled Muskellunge. Fall 2019 – present.
- Meredith Langford: Coastal Carolina University (MS) – Estuarine use by the Spiny Dogfish *Squalus acanthias*, and a survey of wintering elasmobranch fauna in Winyah Bay SC. Spring 2018-present.