

Dr. Shawn P. Young

102A Forestry Building
Dept of Forestry and Natural Resources
Purdue University
West Lafayette, IN 47907

Office: (765) 496 - 6266
Cell: (765) 427 - 3997
YOUNGSP@PURDUE.EDU

EDUCATION

- PhD** Fisheries Sciences. May 2005. Clemson University. Clemson, SC.
Dissertation: *Behavior and mortality of adult striped bass in J. Strom Thurmond Reservoir, South Carolina-Georgia*. Dr. Jeff Isely
- MS** Fisheries Sciences. August 2001. Clemson University. Clemson, SC.
Thesis: *Habitat utilization by striped bass in J. Strom Thurmond Reservoir, South Carolina-Georgia*. Dr. Jeff Isely
- BS** Environmental Studies. May 1996. Northland College. Ashland, WI.
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TEACHING EXPERIENCE

Visiting Assistant Professor of Fisheries Biology (Aug 2007 – May 2008)

Department of Forestry and Natural Resources; Purdue University, West Lafayette, IN

FNR 546 - Fish Ecology (Spring 2008): Lectures discuss various topics including adaptations to life in aquatic habitat, biogeography, environmental biology, reproduction, life history strategies/niche selection, behavior, and population dynamics. My goal is to increase understanding of life in aquatic habitats and develop appreciation for the diversity of fishes across the multitude of aquatic ecosystems.

FNR 501 - Limnology (Spring 2008): Lectures discuss the properties of water and the physical, chemical, and biological processes of inland waters. Examples of the interdisciplinary nature of limnology to other fields of study such as fisheries, forestry, agriculture, and water resource management will be introduced.

FNR 371 – Natural Resources Practicum (May 2008): Field exercises and seminar will discuss watershed hydrology. The topics will emphasize the inter-relationships between terrestrial, riparian and aquatic systems including water budgets, nutrient transport and cycling, and energy flow.

FNR 545 - Fisheries Management (Fall 2007): Lectures discussed principles, techniques and models to manage recreational and commercial fisheries. Topics included history and legislation, gear types, sampling methods, data acquisition and analysis, age and growth, population structure in terms of effort/catch/mortality/yield, and strategies for restoration of depleted fish populations.

FNR 103 - Introduction to Environmental Conservation (Fall 2007): Lectures encompassed ecological, political, and social aspects of environmental issues such as energy production and consumption, waste management, land use/agriculture, air pollution, toxicology, and water resources.

Lecturer – Fisheries and Aquatic Ecology (Fall 2005 – Spring 2007)

Department of Forestry and Natural Resources; Clemson University, Clemson, SC

WFB 840 Fish Ecology (Spring 2007; Team-taught course): My lectures discussed environmental biology, biotic interactions, trophic cascading, migrations/behavior, and fish community assemblages.

ENR 302 Natural Resource Measurements (Spring 2006; Team-taught course w/ lab): My lectures focused on aquatic survey methods and techniques. Lecture/Lab topics included bio-telemetry; water quality/environmental monitoring; capture and tagging methods for fish and aquatic invertebrates; population estimation of fish and aquatic invertebrates; and stream habitat surveying.

WFB 300 Wildlife and Fisheries Biology (Fall 2005; Team-taught course): My lectures focused on introductory fish taxonomy; marine and freshwater fish ecology; and fish physiology and environmental biology.

RESEARCH EXPERIENCE:**Post-Doctoral Researcher** (November 2006 – July 2007)

Department of Forestry and Natural Resources; Clemson University, Clemson, SC.

My research focused on fish ecology and behavior in altered river-systems. I conducted research on migratory anadromous and resident fish species in the Apalachicola River during Spring 2006, to determine spawning population size; behavior/movement during spawning migration and passage at lock-and-dam facilities; age and growth; and ecological description of catostomid species. I also conducted studies of freshwater mussels to evaluate tagging methods, movement after relocation, and behavior in fluctuating flow regimes. (*please refer to Publications*).

Adjunct Professor – Fisheries/Aquatic Ecology/Aquaculture (August 2005 – Present)

Department of Biological Sciences; Clemson University, Clemson, SC.

Committees:

- Age, growth, and fecundity of Alabama shad in the Apalachicola River. Thesis. T. Ingram. 2006.
- Population estimate of spawning Alabama shad in the Apalachicola River. Thesis. P. Ely. 2007.
- Genotype-specific spawning behavior of striped bass in the Apalachicola River. Thesis. M. Noad. 2007.
- Paleochannel delineation of the Neuse River, North Carolina. Thesis. B. Wrege. 2007.

Research Biologist/Facility Manager (June 2000 – May 2006)

Aquatic Animal Research Laboratory; Clemson University, Clemson, SC.

I conducted research and managed facilities at a leading fisheries/aquaculture research laboratory. Our research specialized in identifying factors that affect fish and aquatic invertebrate physiology, behavior, and population dynamics. I conducted research on habitat requirements of marine, estuarine, anadromous, and freshwater species at the larval, juvenile, and adult life-history stages. (*please refer to Publications and Presentations*). I also assisted with the research and preparation of the following:

- Using mixed-ion supplementation in Pacific white shrimp culture. 2007. Thesis. K. Parmenter.
- Multi-scale habitat associations of selected primary burrowing crayfish. 2006. Dissertation. S. M. Welch.
- Low-salinity resistance of juvenile cobia (*Rachycentron canadum*). 2006. Thesis. K. L. Burkey.
- Responses of Pacific white shrimp (*Litopenaeus vannamei*) to water containing low concentrations of total dissolved solids. 2005. Thesis. A. D. Sowers.

- Responses of hybrid striped bass exposed to waterborne and dietary copper in fresh- and saltwater. 2003. Dissertation. G. K. Bielmyer.
- Ecology and culture of *Procambarus acutus acutus*. 2003. Dissertation. Y. Mazlum.
- Effects of environmental and dietary factors on tolerance of Nile tilapia *Oreochromis niloticus* to low temperature. 2002. Dissertation. H. L. Atwood.
- Low-temperature tolerance of southern flounder *Paralichthys lethostigma*: effect of salinity. 2000. Thesis. W. E. Taylor.

Graduate Research Assistant (June 1999 – May 2005)

SC Cooperative Fish and Wildlife Research Unit; Clemson University, Clemson, SC.

My dissertation and thesis utilized several telemetry field studies to identify seasonal migration patterns, daily movement patterns, and seasonal habitat selection in relation to reservoir limnology/hydroelectric generation; sources and magnitude of mortality; temporal and spatial patterns of mortality; and, potential to successfully live-release striped bass angled during fishing tournaments. (*please refer to Publications and Presentations*). Through graduate coursework, I also acquired extensive knowledge of fisheries science and management; physiology, ecology and conservation of aquatic organisms; limnology and hydrology; and experimental statistics (*please see transcripts*). I also assisted with the following:

- Reproductive ecology and seasonal migrations of robust redhorse (*Moxostoma robustum*) in the Savannah River, Georgia and South Carolina. 2006. Dissertation. T. B. Grabowski.
- A behavioral comparison of hatchery-reared and wild shortnose sturgeon in the Savannah River, South Carolina-Georgia. 2003. Thesis. D. Trested.
- Diel movement of hatchery-reared and wild shortnose sturgeon in the Savannah River, South Carolina-Georgia. 2003. Thesis. T. E. Griggs.
- Movement of migrating American shad in response to flow near a low head lock and dam. 2003. Thesis. S. T. Finney.
- Population size and movement of American shad at New Savannah Bluff Lock and Dam. 2002. Thesis. M. M. Bailey.
- Seasonal and diel movement of largemouth bass in a South Carolina stream. 2001. Thesis. T. A. Jones.
- Habitat utilization by striped bass in Lake Murray, South Carolina. 2001. Thesis. J. J. Schaffler.

Fisheries Technician (April 1997 - May 1999) Idaho Dept of Fish & Game; Bonners Ferry, ID

I conducted research on the effects of hydroelectric generation on behavior and survival of salmonids (rainbow trout and bull trout), burbot, and white sturgeon in the Kootenai River, ID-MT. Major responsibility was to conduct large-scale radio-telemetry and trapping studies to acquire knowledge of seasonal movements, migratory behavior, and recruitment.

OTHER PROFESSIONAL EXPERIENCE:

Aquatic Ecology / Fisheries Expert

Southern Alliance for Clean Energy, Atlanta/Savannah, GA (Present): I provide expert review and affidavit opinion on the environmental impact pertaining to potential impacts of nuclear expansion on the Tennessee River, AL.

Turner Environmental Law Clinic, Emory University; Atlanta, GA. (November 2006 – Present): I provided review and affidavit opinion on the environmental impact pertaining to potential impacts of nuclear expansion on the middle Savannah River, GA/SC. Also, I provided review on draft petition to designate critical habitat for the endangered goldline darter and blue shiner.

Southern Environmental Law Center, Charlottesville, VA. (January 2005 – August 2006): I provided scientific review and affidavit opinion of environmental pertaining to potential impacts of nuclear expansion on the North

Anna/Pamunkey River, VA.

PUBLICATIONS:

Fish Ecology and Management:

1. Ely, P. and **Young, S. P.**, and J. J. Isely. (*in press*). Population size and relative abundance of Alabama shad reaching Jim Woodruff Lock and Dam, Apalachicola River, Florida. Submittal: North American Journal of Fisheries Management.
2. Ely, P. and **Young, S. P.**, and J. J. Isely. (*in revision*). Passage of spawning Alabama shad at Jim Woodruff Lock and Dam, Apalachicola River, Florida. Submittal: Transactions of the American Fisheries Society.
3. **Young, S. P.**, P. Ely, M. Noad, and J. J. Isely. (*in review*). Age, growth, and relative abundance of skipjack herring in the Apalachicola River, Florida.
4. **Young, S. P.**, P. Ely, T. Grabowski, and J. J. Isely. (*in review*). Age, growth, fecundity, and reproductive strategy of catostomids in the Apalachicola River, Florida. Submittal: Ecology of Freshwater Fish.
5. **Young, S. P.** and J. J. Isely. (*internal review*). Striped bass habitat selection strategies to maximize metabolic scope under different limnological conditions. Submittal: Transactions of the American Fisheries Society.
6. **Young, S.P.**, P. Ely, T. Grabowski, and J. J. Isely. (*in review*). Discovery of highfin carpsuckers in the Apalachicola River, Florida. Submittal: Southeastern Naturalist.
7. **Young, S.P.**, T. A. Ingram, J. J. Isely, and J. J. Schaffler. (*future work*). Use of otolith microchemistry to determine juvenile outmigration timing and adult repeat spawning of Alabama shad in the Apalachicola River, Florida.
8. **Young, S. P.**, and J. J. Isely. (*future work*). Comparison of size-selectivity of electrofishing and angling of riverine clupeids.
9. **Young, S. P.** and J.J. Isely. 2007. Summer diel behavior of striped bass using tailwater habitat as summer refuge. Transactions of the American Fisheries Society 136: 1104-1112.
10. **Young, S. P.**, and J.J. Isely. 2006. Post-tournament live-release survival, dispersal, and behavior of adult striped bass. North American Journal of Fisheries Management 26: 1030-1033.
11. **Young, S. P.**, and J.J. Isely. 2004. Temporal and spatial estimates of adult striped bass mortality from telemetry and transmitter return data. North American Journal of Fisheries Management 24: 1112-1119.
12. **Young, S. P.** and J.J. Isely. 2002. Striped bass annual site fidelity and habitat utilization in J. Strom Thurmond Reservoir, South Carolina-Georgia. Transactions of the American Fisheries Society. 131: 828-837.
13. Isely, J. J., **S. P. Young**, T. A. Jones, and J. J. Schaffler. 2002. Effects of antenna placement and antibiotic treatment on loss of simulated transmitters and mortality in hybrid striped bass. North American Journal of Fisheries Management. 22: 204-207.

Natural history of fishes:

14. Welch, S. M., **S. P. Young**, and N. T. Grzych. (*in review*). Historical inland migration of several diadromous fishes in South Carolina waters. Submittal: Southeastern Naturalist.
15. **Young, S. P.**, and J. J. Isely. (*in progress*). Estimating historical abundance of river clupeids using mortality rates derived from historical data.
16. **Young, S. P.**, and J. J. Isely. (*in progress*). Estimating historical abundance of sturgeon using historical catch data.

Fish physiology and aquaculture:

17. Burkey, K. B., **S. P. Young**, J. R. Tomasso, and T. I. J. Smith. 2007. Low-salinity resistance of juvenile cobia. North American Journal of Aquaculture 69: 271-274.
18. **Young, S. P.**, J.R. Tomasso, and T.I.J. Smith. 2007. Survival and water balance of black sea bass held in a range of

salinities and calcium-enhanced environments after abrupt salinity change. *Aquaculture* 258: 646-649.

19. Atwood, H.L.; **S.P. Young**, J.R. Tomasso, and T.I.J. Smith. 2004. Resistance of cobia, *Rachycentron canadum*, juveniles to low salinity, low temperature, and high environmental nitrite concentrations. *Journal of Applied Aquaculture* 15: 191-195.
20. Atwood, H.L.; **S.P. Young**, J.R. Tomasso, and T.I.J. Smith. 2004. Information on selected water quality characteristics for the production of black sea bass, *Centropristis striata*, juveniles. *Journal of Applied Aquaculture* 15: 183-190.
21. Atwood, H.L.; **S.P. Young**, J.R. Tomasso, and T.I.J. Smith. 2003. Effect of temperature and salinity on survival, growth, and condition of juvenile black sea bass. *Journal of the World Aquaculture Society* 34: 398-402.
22. Atwood, H. L.; **S. P. Young**, J. R. Tomasso, and T.I.J. Smith. 2001. Salinity and temperature tolerances of black sea bass juveniles. *North American Journal of Aquaculture* 63: 285-288.

Aquatic invertebrate conservation:

23. **Young, S. P.** and J. J. Isely. (*in revision*). Tag retention, relocation probability, and mortality of passive integrated transponder and dummy transmitter tagged *Elliptio complanata* in a South Carolina Piedmont stream. Submittal: *Journal of Molluscan Studies*.
24. **Young, S. P.** and J. J. Isely. (*in revision*). Behavioral response of the freshwater mussel *Elliptio complanata* to fluctuating water levels. Submittal: *Journal of North American Benthological Society*.
25. **Young, S. P.** and J. J. Isely. (*in progress*). Behavior of translocated freshwater mussels *Elliptio complanata* in a South Carolina piedmont stream.

Aquatic invertebrate physiology and aquaculture:

26. Parmenter, K. and Bisesi, J., **S. P. Young**, J. R. Tomasso, and C. L. Browdy. (*in press*). Survival and growth of pacific white shrimp, *Litopenaeus vannamei*, postlarvae in a variety of mixed-salt environments comprised of multiple ion ratios. Submittal: *Journal of the World Aquaculture Society*.
27. Sowers, A. D. and **Young, S. P.**, M. Grosell, C. L. Browdy, and J. R. Tomasso. 2006. Hemolymph osmolality and cation concentrations in *Litopenaeus vannamei* during exposure to low concentrations of dissolved solids: Relationship to potassium flux. *Comparative Biochemistry and Physiology* 145(2): 176-180.
28. Sowers, A. D., D. M. Gatlin, **S. P. Young**, J. J. Isely, C. L. Browdy, and J. R. Tomasso. 2005. Responses of *Litopenaeus vannamei* (Boone) in water containing low concentrations of total dissolved solids. *Aquaculture Research* 36: 819-823.
29. Sowers, A. D. and **Young, S. P.**, J. J. Isely, C. L. Browdy, and J. R. Tomasso. 2004. Nitrite toxicity to *Litopenaeus vannamei* in water containing low concentrations of sea salt or mixed salts. *Journal of the World Aquaculture Society* 35: 445-451.
30. Atwood, H.L.; **S.P. Young**, J.R. Tomasso, and C. L. Browdy. 2003. Survival and growth of pacific white shrimp, *Litopenaeus vannamei*, postlarvae in low salinity and mixed-salt environments. *Journal of the World Aquaculture Society* 24: 518-523.

SELECTED PRESENTATIONS:

- Young, S.P.** 2007. Thermal biology of fish. Penn State University. State College, PA.
- Young, S.P.** 2007. Population estimates and passage of Alabama shad at Jim Woodruff Lock and Dam, Apalachicola River - Florida. Purdue University. West Lafayette, IN.
- Young, S.P.** 2006. Behavioral thermoregulation and metabolic scope of striped bass in various aquatic environments. Austin Peay University. Clarksville, TN.

- Young, S.P.** 2006. Behavioral thermoregulation and metabolic scope – Lecture for comparative anatomy and physiology. Clemson University. Clemson, SC.
- Young, S.P.** and J.J. Isely. 2005. Post-tournament live-release survival, dispersal, and behavior of adult striped bass. American Fisheries Society annual meeting. Anchorage, AK.
- Young, S.P.** 2005. Behavioral thermoregulation by striped bass. Lake Superior State University. Sault-sainte Marie, MI.
- Young, S.P.** and J.J. Isely. 2005. Striped bass ecology and management. Clarks Hill Striped Bass Anglers Association. Augusta, GA.
- Young, S.P.** and J.J. Isely. 2005. Post-tournament live-release survival, dispersal, and behavior of adult striped bass. Trout Unlimited. Upstate South Carolina Chapter.
- Young, S.P.** and J.J. Isely. 2004. Temporal and spatial estimates of adult striped bass mortality from telemetry and transmitter return data. Annual meeting of the American Fisheries Society. Madison, WI.
- Atwood, H.L.; **S.P. Young**, J.R. Tomasso, and T.I.J. Smith. 2004. Effect of temperature and salinity on survival, growth, and condition of juvenile black sea bass. 28th Annual Larval Fish Conference, Early Life History Section, American Fisheries Society. Clemson, SC.
- Atwood, H.L.; **S.P. Young**, J.R. Tomasso, and T.I.J. Smith. 2004. Resistance of cobia juveniles to low salinity and low temperature. 28th Annual Larval Fish Conference, Early Life History Section, American Fisheries Society. Clemson, SC.
- Young, S.P.** 2004. Learning in Fishes: from three-second memory to culture. Department of Biological Sciences. Clemson University.
- Young, S.P.** 2003. Life skills training for hatchery fish: Social Learning and Survival. Department of Biological Sciences. Clemson University.
- Young, S.P.** 2003. Mechanisms for learning during early life stages of fish: Imprinting, Homing, and Con-specific Learning. Dept of Biological Sciences. Clemson University.
- Young, S.P.** 2002. Strain-specific characteristics to manage sub-populations of fish species. Department of Biological Sciences. Clemson University.

AWARDS:

- Animal Research Committee Excellence Award. 2004. Clemson University. \$2,000
- Animal Research Committee Excellence Award. 2003. Clemson University. \$2,000
- Outstanding Classified Employee Award. 2003. Clemson University. \$1,000
- Employee Performance Award. 2003. Clemson University. \$1,000

PROFESSIONAL MEMBERSHIP:

- American Fisheries Society
- North American Benthological Society
- World Aquaculture Society

REFERENCES:

Research and future potential:

Dr. Jeff Isely (Graduate Advisor)
Associate Professor
SC Cooperative Fish & Wildlife Research Unit
Clemson University, Clemson, SC
(864) 656-1265
(864) 506-6070
jisely@clemson.edu

Dr. Joe Tomasso (Past Supervisor)
Department Chair
Department of Biology
Texas State University – San Marcos, TX
(512) 245-4886
jt33@txstate.edu

Dr. Quenton Fontenot
Peer, Assistant Professor of Biology
Department of Biological Sciences
Nicholls State University, Thibodaux, LA
(985) 449-7062
Quenton.Fontenot@nicholls.edu

Dr. Tim Grabowski
Peer, Assistant Research Professor
Institute of Biology
University of Iceland
(011) -354-525-4280
tbg@hi.is

Teaching:

Dr. Robert Swihart
Department Chair and Professor
Dept of Forestry and Natural Resources
Purdue University, West Lafayette, IN
(765) 494-3590
rswihart@purdue.edu

Dr. Patricia Layton
Department Chair
Dept of Forestry and Natural Resources
Clemson University, Clemson, SC
(864) 656-4829
playton@clemson.edu