

## CURRICULUM VITAE: JAY A. NELSON

Professor Emeritus, Towson University, Department of Biological Sciences  
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### Education

Ph.D., Zoology; minor Biochemistry. University of Wisconsin-Madison. 12/88.  
M.S., Zoology. University of Wisconsin-Madison. 12/84.  
B.S. with Distinction, Chemistry. University of Washington. 6/81.  
B.A., Zoology. University of Washington. 6/81.

### Scientific Research Positions

**5-11/17 Visiting Professor.** Hólar University College, Iceland. Fulbright supported research position.  
**3-7/09 Visiting Professor** Université de Bretagne Occidentale Brest, France. French supported research  
**7-8/07 Visiting scientist** Institut des Sciences de l'Evolution de Montpellier; Station Méditerranéenne de l'Environnement Littoral. Sete' France. French supported research  
**8-11/ 01; 1/04.; 6/05 Visiting scientist** CNRS CREMA L' Houmeau, Fr. French supported research  
**5-7/ 02. Visiting scientist** CNRS CREMA L' Houmeau, France. Fulbright supported research  
**2/01-3/01. Visiting scientist.** Universidade Federal de São Carlos, Brazil. NSF sponsored research  
**9/93-present. Professor** (promoted 8/99; 8/05). Towson Univ., Dept. of Biol. Sci. (2nd largest school in U. of Maryland system; 1000+ majors, 45 full-time faculty). Dr. Petra Tsuji, Chair  
**12/91-8/93. Research Associate;** Ocean Production Enhancement Network (OPEN). Dalhousie University, Dept. of Biol. Halifax, Nova Scotia, B3H 4J1 Canada. Dr. R.G. Boutilier supervisor.  
**9/90-12/91. North Atlantic Treaty Organization International Research Fellow.** Dalhousie University, Dept. of Biology, Halifax, Nova Scotia, B3H 4J1 Canada. Dr. R.G. Boutilier advisor.  
**9/88-8/90. Alexander von Humboldt Foundation Fellow.** Max Planck Institut für Experimentelle Medizin, D-3400 Göttingen, Germany. Dr. N. Heisler advisor.  
**9/85-9/87. Research Assistant.** Univ. of Wisconsin-Madison, Dept. of Zoology, Madison, WI, 53706. Dr. J.J. Magnuson supervisor.  
**9/82-9/83. Wisconsin Alumni Research Foundation Fellow.** Univ. of Wisconsin-Madison, Dept. of Zoology, Madison WI, 53706. Dr. J.J. Magnuson advisor.  
**8/81-8/82. Research Technologist I & II** (promoted 3/82). Univ of Washington, Sch. of Medicine, Dept. of Pathology SM-30, Seattle WA. 98195. Dr. G. Striker, employer.  
**9/78-6/81. Undergraduate Research Assistant.** Univ of Washington, Dept. of Zoology, Seattle WA. Drs. Raymond B. Huey and James G. Kenagy supervisors.

### Teaching Positions

**7-8/10 Professor-Summer School in Physiology** course. Joint graduate course between Towson University and Université de Bretagne Occidentale Brest, France  
**6-7/09 Professor-Marine Animal Adaptation** course. Univ. de Bretagne Occidentale Brest, France  
**9/93-present. Professor** (promoted 8/99; 8/05) Towson University, Dept. of Biol. Sci.  
**Undergraduate courses:** *Animal Phys.*; *Human A& P*; *Mammalian Phys*; *Advanced Phys.*; *Senior Seminar*; *Fish Biology*; *Humans, Sci. & Ches. Bay*; *Marine Biol.*; Supervise undergraduate research students (50).  
**Graduate courses:** *Evolutionary Physiology*; *Mechanisms in Physiology*; *Physiology of the microbiome*; *Humans and the Marine Environment*; Supervise Master's Thesis students (20)  
**1991. Assistant Professor** (replacement): *Animal Physiology*; *Fish Biology*. Dalhousie University.  
**1991-93. Undergraduate Honors Supervisor and Masters Supervisor** (3 students): Dalhousie University.**1984, 1986-88** (4 students): University of Wisconsin-Madison.  
**1983-84; 1988. Teaching Assistant:** *Introductory Zoology*; *Fish Ecology and Ichthyology*. (University of Wisconsin-Madison).

**1984-88: Workshop Leader:** Aquatic Biology. College for Kids Program; Minority Enrichment Program (4 years, ten courses). Both administered by: U. of Wis.-Mad. Extension, Madison WI

### Selected Competitive Awards

Fulbright U.S. Scholar grant to conduct research in Iceland. \$20,000. 2017.  
National Science Foundation IOS program. Invited full proposal. 2014;2015;2016.  
National Science Foundation IOS program. Student travel grant. **PI.** \$14,000. 2012.  
Maryland Sea Grant Program Development Award. \$ 8700. 2011  
Company of Biologists: International Congress Biology Fishes support. **Co-PI.** €1,000. 2010.  
National Science Foundation : MIPS program, **PI.** \$317,000. 2009-2012.  
Université de Bretagne Occidentale Brest, France. **Visiting Professorship.** €15,000. 2009  
NSF. Research Experience for Undergraduates. **Faculty Mentor.** 2007-2010. 3 students.  
American Fisheries Society, Physiology Section. **Distinguished Service Award.** 2006.  
United States Department of Agriculture. Student and Post-doc travel grant. **PI.** \$10,000. 2006.  
National Science Foundation. Student and Post-doc travel grant. **PI.** \$14,700. 2006.  
National Science Foundation CRUI grant **Co-PI.** \$286,132. 2002-2006  
Amer. Fish. Soc., International Congress on the Biology of Fish. **Legion of Honor:** 2002.  
U.S. State Department. Council for International Exchange of Scholars: **Fulbright Senior Specialist.**  
**PI.** \$8,869. 2002.  
Government of France. MECENA Grant. **Co-PI.** ~\$50,000. 2001-2003.  
National Science Foundation International Grant (Brazil) **PI.** \$12,431. 2001-2002.  
National Sci. & Engineering Res. Council, Can. Strategic Grant. **Co-PI.** \$295, 635 (Can.) 1999-2002.  
American Fisheries Society. **Certificate of Merit,** 1998.  
NSF. Research Experience for Undergraduates. **Faculty Mentor.** 1998-2003. 6 students.  
Govn't of Quebec, Canada. FCAR. Research grant. **Co-PI.** \$60,000 (Can.). 1998-2001.  
NSF. Instrumentation and Laboratory Improvement Award. **PI.** \$130,000. 1994-96.  
Department of Fisheries and Oceans / National Science and Engineering  
Research Council Canada. Science Subvention Grant **PI.** \$36,000 (Can.). 1992-1995.  
North Atlantic Treaty Organization. International Research Fellowship. **PI.** \$50,000. 1990-91.  
Alexander von Humboldt Foundation. International Research Fellowship. **PI.** \$35,000. 1988-90.  
Wisconsin Alumni Research Foundation. **Graduate Fellowship.** \$15,000. 1982-83.  
U. of Wash. Grad. School. **Undergraduate Award for Excellence in Experimental Biology.** 1980.  
American Assoc. for the Advancement of Science, Pacific Division. **Award for Excellence.** 1980.

### Administrative Work (selected)

University Senate. Towson University 1/2026-present.  
Chair. Promotion and Tenure Committee, Department of Biological Sciences; 2022-present  
Member: Biol. Syst. & Funct. Eval. Group Nat. Sci.& Eng. Res. Council (Canada) 2019-2020.  
Panelist. U.S. NOAA. Sea Grant program. 2015;2017;2019  
Towson University Promotion & Tenure Committee (University-wide election). 2015-2018.  
Panelist. U.S. National Science Foundation Division of Integrative and Organismal Systems. 2013.  
Promotion & Tenure Committee (College-Wide election). Jess and Mildred Fisher College of Science and Mathematics. 2010-2014 (Chair 2011-2012; 2012-2013 Academic years).  
Chair, Physiologist Search Committee (4 positions), Dept. of Biol. Sci., Towson Univ. 2011-2012; 2004-2005; 1999-2000.  
Chair. Travel Grant committee; American Fisheries Society, Physiology Section. 2006; 2010; 2012.  
Electronic Services Advisory Board. American Fisheries Society. 2007-2010.  
Publications Oversight Committee. American Fisheries Society. 2006-2009.  
Chair, Editorial Search Committee. Marine and Coastal Fisheries. 2007.  
Associate Editor: Transactions of the American Fisheries Society. 2002-2008.

Panelist. U.S. National Science Foundation International Program. 2002.  
 President American Fisheries Society, Physiology Section. 2001-2002.  
 Faculty Senate Towson University (at large member; University-wide election). 2000-2003.  
 Local Host. International Congress on the Biology of Fish. 1998.  
 College Council: Towson University College of Science and Mathematics. 1997-2006.  
 Chair, 1999-2000  
 Corresponding Secretary 1998-99.  
 Symposium Organizer & co-Organizer. Int. Congress Biology of Fishes (12 total). 1996-2022.  
 Member, Institutional Review Board. Towson University. 1994-2000.

### **Scientific Referee**

Journal of Experimental Biology (26X)	Physiol. & Biochem. Zoology (20X)
Canadian Journal of Fisheries and Aquatic Sciences (7X)	U.S. National Science Foundation (6X)
Canadian J. of Zoology (5 X)	Trans. of the Amer. Fish. Soc. (6X)
American Journal of Physiology	Ecological Applications
Marine Behavior & Physiology	Comparative Biochem. & Physiol. (7X)
Evolution (2x)	Brazilian Government (INPA)
Journal of Fish Biology (20 X)	Government. of Nova Scotia (Canada)
U.S. Dept. of Commerce (Sea Grant)	North Amer. J. of Aquaculture
Israeli Science Foundation	Virginia Institute of Marine Science(3X)
National Geographic Society	Govt. of Canada (NSERC) (7X)
Acta Zoologica	Govt. of Netherlands (NWO)
Journal of Visualized Experiments	J. Comp. Physiol (4X)
Aquaculture	Oikos
Environmental Pollution	Blue Ocean Institute
Ecology of Freshwater Fish	Journal of Thermal Biology (5X)
Aquatic Toxicology (3X)	Environmental Biology of Fishes
Biology Letters	Conservation Physiology (4X)
Marine Ecology Progress Series	Proc. Royal. Soc. B.
Fish Physiology & Biochemistry	Aquatic Biology
Frontiers of Ecology & Evolution (2X)	Public Library of Science (2X)
Integrative and Comparative Biology (2X)	Frontiers in Fish Science

### **Peer-reviewed Scientific Publications \*= graduate student; # undergraduate**

- 49- **Nelson Jay A.** and Helgi Thor Thorarensen (2025) The effects of ontogeny in variable temperature and flow environments and domestication on the locomotor physiology and morphology of Icelandic Arctic char (*Salvelinus alpinus*) submitted to **Journal of Thermal Biology** 12/2025.
- 48- **Nelson Jay A.** and Helgi Thor Thorarensen (2024) Thermal tolerance of cultured and wild Icelandic Arctic charr (*Salvelinus alpinus*) at self-selected flow rates. **Journal of Thermal Biology** 04/16/2024.
- 47- **Nelson J.A.** and Chabot D. (2023) General Energy Metabolism. In: Farrell A.P., (ed.), Encyclopedia of Fish Physiology: From Genome to Environment, volume 3, pp. 1566–1572. San Diego: Academic Press. 3rd Edition.
- 46- **Nelson, J. A.**, K. J. Rieger\*, D. Gruber\*, M. Cutler#, B. Buckner# and C. E. Oufiero (2021). Thermal tolerance of cyprinids along an urban-rural gradient: Plasticity, repeatability and effects of swimming and temperature shock. **Journal of Thermal Biology** 100 (2021) 103047.

- 45- Oufiero C. E., K. Kraskura\*, R. Bennington<sup>#</sup> and **J. A. Nelson (2021)**. Individual repeatability of locomotor kinematics and swimming performance in a gymnotiform swimmer. **Physiological and Biochemical Zoology** **94(1):22–34**.
- 44- Kraskura, K\* and **J.A. Nelson (2020)** Hypoxia tolerance and swimming metabolism of wild, juvenile striped bass (*Morone saxatilis*). **Journal of Experimental Biology** **223**: 1-10. jeb217125. doi:10.1242/jeb.217125
- 43- **Nelson, J.A.** K. Kraskura\* & G. K. Lipkey\* (2019). Repeatability of hypoxia tolerance of individual juvenile striped bass *Morone saxatilis* and effects of social status. **Physiological and Biochemical Zoology** **92(4):396–407**. 1522-2152/2019/9204-8132 DOI: 10.1086/704010
- 42- Kraskura, K\* and **J.A. Nelson (2018)**. Hypoxia and sprint swimming performance of juvenile striped bass, *Morone saxatilis*. **Physiological and Biochemical Zoology**. **91(1)** 682-690. <https://doi.org/10.1086/694933>; PMID: 29120695
- 41- **Nelson J.A.** and Chabot D. (2016) General Energy Metabolism. In: Farrell A.P., (ed.), Encyclopedia of Fish Physiology: From Genome to Environment, volume 3, pp. 1566–1572. San Diego: Academic Press. 2nd Edition.
- 40- **Nelson, J.A.** and Val, A. (2016). From the equator to the poles, a physiology section perspective on climate change. **Fisheries**, 41(7): 409-411.
- 39- **Nelson, J.A.** (2016). Oxygen Consumption Rate versus Rate of Energy Utilisation of Fishes: A comparison and brief history of the two measurements. **J. of Fish Biol.** 88:10–25. DOI: 10.1111/jfb.12824
- 38- **Nelson, J.A.** & G. K. Lipkey\* (2015). Hypoxia tolerance variance between swimming and resting striped bass *Morone saxatilis*. **J. of Fish Biology**, 87(2): 510-518. doi:10.1111/jfb.12735
- 37- **Nelson, J.A.** (2015) Pickled fish anyone? The physiological ecology of fish from naturally acidic waters. Pp. 193-216. in: **Extremophile Fishes - Ecology and Evolution of Teleosts in Extreme Environments**. (R. Riesch, M. Tobler and M. Plath eds.) Springer-Verlag, Heidelberg.
- 36- **Nelson, J.A.**, F. Atzori, K. R. Gastrich\*. (2015). Repeatability and phenotypic plasticity of fish swimming performance across a gradient of urbanization. **Environmental Biology of Fishes** 98:1431-1447.
- 35- **Nelson, J.A.** 2013. Breaking wind to survive: Fish that breathe air with their gut. **Journal of Fish Biology**.doi:10.1111/jfb.12323.
- 34- Vandamm, J.<sup>#</sup>, S. Marras, G. Claireaux, C. A. Handelsman\* & **J. A. Nelson**. 2012. Acceleration performance of individual European sea bass, *Dicentrarchus labrax* measured with a sprint performance chamber: comparison with high-speed cinematography and correlates with ecological performance. **Physiological and Biochemical Zoology** 85: 704-717.
- 33- Williamson<sup>#</sup> Nicole E., Joseph J. Cech Jr. and **Jay A. Nelson**. 2012. Flow preferences of individual blacknose dace (*Rhinichthys atratulus*); Influence of swimming ability and environmental history. **Environmental Biology of Fishes** 95: 407-414.

- 32-Nelson J.A. and Chabot D. (2011) General Energy Metabolism. In: Farrell A.P., (ed.), Encyclopedia of Fish Physiology: From Genome to Environment, volume 3, pp. 1566–1572. San Diego: Academic Press.
- 31-Nelson J.A. (2011) Energetics: An Introduction. In: Farrell A.P., (ed.), Encyclopedia of Fish Physiology: From Genome to Environment, volume 3, pp. 1563–1565. San Diego: Acad. Press.
- 30-NELSON, J. A. AND A. M. DEHN\*. (2011). The GI tract in air breathing. Pp. 395-433 In: **Fish Physiology (v. 30): The Multifunctional Gut of Fish**. (A. P. Farrell, C. J. Brauner, and M. Grossell eds.) Elsevier, London.
- 29-Handelsman\*, C. A. , **J. A. Nelson** and G. Claireaux. 2010. Swimming ability and ecological performance of cultured and wild European sea bass in coastal tidal ponds. **Physiological and Biochemical Zoology**. 83(3): 435-445.
- 28-Marras,S., G. Claireaux, D. J. McKenzie and **J.A. Nelson**. 2010. Individual variation and repeatability in aerobic and anaerobic swimming performance of European sea bass, *Dicentrarchus labrax*. **Journal of Experimental Biology**. 213:26-32.
- 27-Nelson, Jay A., Portia S. Gotwalt\*, Christopher A. Simonetti<sup>#</sup> and Joel W. Snodgrass. 2008. Environmental correlates, plasticity and repeatability of differences in performance among blacknose dace (*Rhinichthys atratulus*) populations across a gradient of urbanization. **Physiological and Biochemical Zoology** 81(1): 25-42
- 26-Claireaux, G. C. Handelsman\*, E. Standen and **J. A. Nelson**. 2007. Thermal and temporal stability of swimming performances in the European sea bass. **Physiological and Biochemical Zoology**. 80(2):186-196.
- 25-Nonogaki\*, H., **J.A Nelson**. & W.P. Patterson 2007. Dietary histories of herbivorous loriciid catfishes: evidence from  $\delta^{13}\text{C}$  values of otoliths. **Environmental Biol. of Fishes**. 78 (1): 13-21.
- 24-Nelson, J. A., F. S. A. Rios\*, J. R. Sanches, M. N. Fernandes and F. T. Rantin, 2007. Environmental influences on the respiratory physiology and gut chemistry of a facultatively air-breathing, tropical herbivorous fish *Hypostomus regani* (Ihering, 1905). pp 191-218 in **Fish Respiration and the Environment**. Science Publisher Inc. Editors: *M. N. Fernandes, F. T. Rantin, M. Glass & B.G. Kapoor*: ISBN 978-1-57808-357-2; July 2007; c.386 pages.
- 23-Nelson, J.A. and G. Claireaux. 2005. sprint swimming performance of juvenile European sea bass. **Transactions of the American Fisheries Society**. 134:1274-1284.
- 22-Nelson, J.A. P. S. Gotwalt\* and J.W. Snodgrass. 2003. Swimming Performance of Blacknose Dace (*Rhinichthys atratulus*) mirrors home-stream current velocity. **Can. J. of Fish. Aquat. Sci.** 60(3): 301-308
- 21-Nelson, J.A. 2002. Metabolism of three species of herbivorous Loricariid catfishes: influence of size and diet. **J. of Fish Biology**.61:1586-1599.
- 20-Nelson, J.A., P. S. Gotwalt\* , D.W. Webber and S. Reidy\*. 2002. Beyond  $U_{crit}$ : Matching swimming performance tests to the physiological ecology of the animal, including a fish “drag

strip". **Comparative Biochemistry & Physiology**. 133/2 pp 289-302

- 19-Martinez\*, M., Guderley, H., **Nelson, J.A.**, Webber D., Dutil, J.D., 2002. Once a fast cod, always a fast cod: maintenance of performance hierarchies despite changing food availability in cod (*Gadus morhua*) **Physiological and Biochemical Zoology**. 75: 90-100.
- 18-Reidy\*, S., S.R. Kerr and **J. A. Nelson**. 2000. Aerobic and anaerobic swimming performance of individual Atlantic cod. **Journal of Experimental Biology**. 203: 347-357.
- 17-**Nelson, J.A.**1999. Comparison of metabolism in two species of *Panaque* (Loricariidae). pp. 207-216 in A.L. Val, V.M.F. Almeida-Val (eds.) **Biology of Tropical Fishes**. INPA. Manaus.
- 16-**Nelson, J.A.**, M.E. Whitmer, E.A. Johnson, D. Wubah and D.J. Stewart. 1999. Wood-eating Catfishes of the genus *Panaque* (Eigenmann and Eigenmann): Gut microflora and Enzyme Activities. **Journal of Fish Biology** 54: 1069-1082.
- 15-Williams, M.A., **J.A. Nelson** and N. Heisler. 1997. Cardio-respiratory function in carp exposed to environmental nitrite. **J. of Fish Biology** 50: 137-149.
- 14-**Nelson, J.A.**, Y. Tang and R.G. Boutilier. 1996. The effects of salinity change on the exercise performance of two Atlantic cod (*Gadus morhua*) populations inhabiting different environments. **Journal of Experimental Biology**. 199:1295-1309.
- 13-Reidy,\* S.P., **J.A. Nelson**, Y. Tang and S.R. Kerr. 1995. Post-exercise metabolic rate in Atlantic cod is and its dependence upon the method of exhaustion. **Journal of Fish Biology** 47: 377-386.
- 12-**Nelson, J.A.**, Y. Tang, and R.G. Boutilier. 1994. Differences in exercise physiology between two Atlantic cod (*Gadus morhua*) populations from different environments: **Phys. Zool.** 67: 330-354.
- 11-Tang, Y., **J.A. Nelson**, S. Reidy\*, S.R. Kerr, and R.G. Boutilier. 1994. A reappraisal of activity metabolism in the Atlantic cod (*Gadus morhua*): **Journal of Fish Biology** 44: 1-10.
- 10-**Nelson, J.A.** and J.J. Magnuson. 1992. Metabolic stores of yellow perch (*Perca flavescens*): Comparison of a population from an acidic, dystrophic lake with one from circumneutral waters. **Canadian Journal of Fisheries and Aquatic Sciences** 49: 2474-2482.
- 9-**Nelson, J.A.** and G.S. Mitchell. 1992. Blood chemistry response to acid exposure in yellow perch *Perca flavescens*: Comparison of populations from naturally acidic and neutral environments. **Phys. Zool.** 65: 493-514.
- 8-**Nelson, J.A.** 1990. Muscle metabolite response to exercise and recovery in yellow perch :Comparison of populations from naturally acidic and neutral waters. **Phys. Zool.** 63: 886-908.
- 7-**Nelson, J.A.** 1989. Critical swimming speeds of yellow perch *Perca flavescens*: comparison of populations from a naturally acidic lake and a circumneutral lake in acid and neutral water. **Journal of Experimental Biology** 145: 239-254.
- 6-Chulakasem\*, W., **J.A. Nelson**, and J.J. Magnuson. 1989. Separation of low pH and low ion effects on mortality during development of medaka *Oryzias latipes*. **Can. J. of Zoology** 67: 2158-2168.

- 5-Nelson\*, J.A. 1988. Physiological compensation to the environment in a population of perch from a naturally acidic lake. Ph.D. thesis, University of Wisconsin-Madison. 302 pages
- 4-Nelson\*, J.A., J.J. Magnuson, and W. Chulakasem\*. 1988. Blood oxygen capacity differences in yellow perch (*Perca flavescens*) from northern Wisconsin lakes differing in pH. **Canadian Journal of Fisheries and Aquatic Sciences** 45: 1699-1704.
- 3-Nelson\*, J.A. and J.J. Magnuson. 1987. Seasonal, reproductive, and nutritional influences on the white-muscle buffering capacity of yellow perch (*Perca flavescens*). **Fish Physiol. Biochem.** 3: 7-16.
- 2-Tracy, C.R., F. van Berkum\*, J. Tsuji\*, R.D. Stevenson\*, J.A. Nelson#, B. Barnes, and R.B. Huey. 1984. Errors resulting from linear approximations in energy balance equations. **J. Therm Biol.** 9: 261-264.
- 1-Nelson#, J.A. 1982. Physiological observations on developing rainbow trout *Salmo gairdneri* (Richardson) exposed to low pH and varied calcium ion concentrations. **J. Fish Biol.** 20: 352-372.

#### **Editorial Work:**

Section Editor. 2009-2011. Bioenergetics Section (14 articles) Encyclopedia of Fish Physiology: From Genome to Environment, volume 3, Farrell A.P., (ed.), San Diego: Academic Press.

Associate Editor: Transactions of the American Fisheries Society. 2002-2008.

Coeditor: J.A. Nelson and D. MacKinlay. 2004. Fitness Physiology. Symposium Proceedings. International Congress on the Biology of Fishes. AFS.

Coeditor: J.A. Nelson and D. MacKinlay. 2000 Herbivorous Fishes. Symposium Proceedings. International Congress on the Biology of Fishes. AFS.

Coeditor: J.A. Nelson and D. MacKinlay. 1998. Special Adaptations of Tropical Fishes. Symposium Proceedings. International Congress on the Biology of Fishes. AFS.

Coeditor: MacKinlay, D. and J.A. Nelson. 1996. High Performance Fish II Symposium Proceedings. International Congress on the Biology of Fishes. American Fisheries Society (AFS).

#### **Published Abstracts**

- 21-Nelson, J. A. C. A. Handelsman, C. S. Sinclair and G. Claireaux. 2008. Intraspecific variation in genotype, morphology and performance: contribution to ecological performance and mortality selection in cultured and wild (European sea bass) *Dicentrarchus labrax*. Comparative Biochemistry and Physiology A 150 S206. SETE.15.
- 20-Nelson, J.A , 2005. Another Boutilier legacy: Structuring of animal physiology by the environment and experimental design. Comparative Biochemistry and Physiology A 141 S179. A10.14.
- 19-Nelson, J.A , P. S. Gotwalt and K. R. Gastrich 2004. Plasticity of locomotor performance in populations of a stream cyprinid across a gradient of urbanization. 6th International Congress on the Biology of Fishes Abstracts, Manaus, Brazil.

- 18-**Nelson J.A.**, Handelsman, C. A and Claireaux G 2004. Selection on morphology and swimming performance of European sea bass (*Dicentrarchus labrax*) in an experimental estuary. 6th International Congress on the Biology of Fishes Abstracts, Manaus, Brazil.
- 17-Nonogaki, H., **J.A Nelson.** and W.P. Patterson 2004. Dietary histories of herbivorous loriciid catfishes: evidence from  $\delta^{13}\text{C}$  values of otoliths). 6th International Congress on the Biology of Fishes Abstracts, Manaus, Brazil.
- 16-**Nelson, Jay. A.** Flavia Sant'Anna Rios, José Roberto Sanches , Marisa Narciso Fernandes & Francisco Tadeu Rantin. 2002. To breathe or not to breathe, that is the question: air breathing behavior and physiology of hypoxic *Hypostomus* . 5th International Congress on the Biology of Fishes Abstracts, Vancouver, Canada.
- 15-**Nelson, J.A.** Daniel Wubah and Abram Geisendorfer 2000. Cellulolytic enzymes produced by aerobic fungi isolated from the gut of *Panaque maccus* . 3rd International Congress on the Biology of Fishes Abstracts, Aberdeen Scotland.
- 14-Niazi, T. and **Nelson, J.A.** 2000. Energy Extraction and Fiber Degradation of *Panaque maccus* on Three Diets Varying in Digestibility. 3rd International Congress on the Biology of Fishes Abstracts, Aberdeen Scotland.
- 13-**Nelson, J.A.** 1998. Metabolism of wood-eating *Panaque* (Loricariidae): comparison with *Hypostomus* (Loricariidae). 2nd International Congress on the Biology of Fishes Abstracts, Towson, MD. USA.
- 12-Vota, M.A., D.M. Bornmann and **J.A. Nelson.** 1998. Utilization of available fiber in the tropical wood-eating catfish *Panaque*. 2nd International Congress on the Biology of Fishes Abstracts, Towson, MD. USA.
- 11-Tang, Y. and **J.A. Nelson.** 1996. Effects of temperature and salinity on aerobic and anaerobic capacities of Atlantic cod. p. 112-113 in "High Performance Fish II Symposium Proceedings. International Congress on the Biology of Fishes". American Fish. Soc.
- 10-**Nelson, J.A.** and D. Bornmann.1996. Energy extraction and utilization in wood-eating catfish of the genus *Panaque*. In Biology of Tropical Fishes ; International Congress on the Biology of Fishes American Fish. Soc.
- 9-**Nelson, J.A.**, S. Reidy and G. Pogson. 1996. Swimming capacity and its correlates measured with performance tests of varying duration in Atlantic cod. p. 105-112 in "High Performance Fish II Symposium Proceedings. International Congress on the Biology of Fishes". American Fish. Soc.
- 8-**Nelson, J.A.**, S. Reidy, D. Webber, and S. Kerr 1994. Is one performance measurement enough ? Alternatives to Ucrit procedures for evaluating fish locomotor performance. *Physiol.* 37: A-73, 39.3.
- 7-**Nelson, J.A.**, Y. Tang, & R.G. Boutilier 1992. Physiological and morphological constraints on locomotor capacity in Atlantic cod. *Bull. Can. Soc. Zool.* 23 (2).
- 6-Tang, Y., **J.A. Nelson,** & R.G. Boutilier 1992. Effects of environmental factors on the energy

metabolism and swimming performance of Atlantic cod. Bull. Can. Soc Zool. 23 (2).

5-Nelson, J.A., A. Pinder, C. Schorer, and N. Heisler 1990. Net ion fluxes in the semi-terrestrial crab *Cardisoma guanhumi* during hypercapnia at two salinities. *Physiologist* 33: A-68.

4-Nelson, J.A. 1990. Adaptations of perch (*Perca flavescens*) to naturally acidic waters. *British Ecological Society Bulletin* p.60.

3-Pinder A., J.A. Nelson, C. Schorer, and N. Heisler 1989. Acid-base balance in a crab that is naturally exposed to extreme hypercapnia. *American Zoologist* 29:21A.

2-Nelson, J.A. 1987. Hematology and glycogen storage patterns in yellow perch from a naturally acidic lake. *Physiologist* 30: 74.5.

1-Nelson, J.A. and K.M. Sullivan 1984. Environmental determinants of the buffering of white muscle in yellow perch (*Perca flavescens*). *American Zoologist* 24:8a.

### Abstracts

71- DeLong, A. and Jay A. Nelson. Phenotypic plasticity of thermal tolerance and swimming performance of an invasive fish species, the Northern Snakehead (*Channa argus*). *American Physiological Society Annual Summit*. Baltimore MD, 04/26/2025. Poster.

70- NELSON, JA\*; THORARENSEN, H. : Is Our Preference For Fish Species Handicapping Them in the Climate Change Contest? The Case of Arctic Char. 15th International Congress on the Biology of Fish (ICBF), Ann Arbor MI. 06/30/24. Oral.

69- Nelson, J.A., Thorarensen, H and Gruber, D. Can extended thermal acclimation prepare temperate fishes for climate change? *Ecological Society of America Mid-Atlantic Chapter Meeting*. Newark, DE 4/1/2023.

68- Sitler, A and Nelson, J.A. Comparison of behavioral responses of the blacknose dace, *Rhinichthys atratulus*, in urban and rural populations. *Ecological Society of America Mid-Atlantic Chapter Meeting*. Newark, DE 4/1/2023.

67- Honea, J and Nelson, J.A. Long-Term Effects of Urbanization on Blacknose Dace Swimming Performance. *Ecological Society of America Mid-Atlantic Chapter Meeting*. Newark, DE 4/1/2023.

66- Branstad, K. and Nelson, J.A. Does ectoparasite load in blacknose dace depend upon stream urbanization or personality? *Ecological Society of America Mid-Atlantic Chapter Meeting*. Newark, DE 4/1/2023.

65- Honea, J and Nelson, J.A.. LONG-TERM EFFECTS OF URBANIZATION ON BLACKNOSE DACE SWIMMING PERFORMANCE. *Maryland Water Monitoring Council 28th Annual Conference –What are you Drinking?* Baltimore MD. 12/15/ 2022.

64- Branstad, K., Sitler, A. and Nelson, J.A. DOES ECTOPARASITE LOAD IN BND DEPEND UPON STREAM URBANIZATION OR PERSONALITY? *Maryland Water Monitoring Council 28th Annual Conference –What are you Drinking?* Baltimore MD. 12/15/ 2022.

- 63- NELSON, JA\*; THORARENSEN, H. : Thermal Tolerance of swimming wild and cultured Arctic Charr from Iceland: Are we breeding out climate resiliency? 14th International Congress on the Biology of Fish (ICBF), Montpellier, France 06/28/22. Oral.
- 62- Saliger, O. Hartke, C., Nelson, J.A. and Oufiero, C. Effect of Urban Sedimentation on Eastern Blacknose Dace Sprint Performance. 25th annual Maryland Water Monitoring Council Conference Baltimore MD 12/5/2019 ( 2nd prize and (\$100) in the best student poster competition).
- 61- Gruber, D. and Nelson, J.A. The Effect of Runoff Induced Rapid Temperature Change on the Temperature Tolerance, Swimming Performance and Oxygen Consumption of Urban and Rural Blacknose Dace (*Rhinichthys atratulus*) 25th annual Maryland Water Monitoring Council Conference Baltimore MD 12/5/2019
- 60- NELSON, JA\*; THORARENSEN, H. : ICELANDIC CHAR: WHAT CAN THEY TELL US ABOUT THE FUTURE OF FISHES FACED WITH CLIMATE DISRUPTION? 13th International Congress on the Biology of Fish (ICBF), 07/25/2018 Calgary, Alberta, Canada. Oral.
- 59- - NELSON, JA\*; THORARENSEN, H. Using extant fishes to predict the future of freshwater fishes facing climate disruption Presentation at the Society for Integrative and Comparative Biology, 01/05/2018, San Francisco, California. SCH7
- 58-KRASKURA, K\*; NELSON, J; Univ. of California, Santa Barbara, Towson University; krista.kraskura@lifesci.ucsb.edu Fitness components of individual fish that experience hypoxic dead zones under normoxia and hypoxia – Student’s presentation at the Society for Integrative and Comparative Biology, 01/05/2018, San Francisco, California
- 57-Kraskura, K. \* and J. A. Nelson. OUFIERO, CE; Sprint, fast start and prey capture performance of juvenile striped bass under levels of hypoxia encountered in nature. Society of Integrative and Comparative Biology (SICB) Annual Meeting New Orleans, Louisiana. 2017. Oral presentation.
- 56-NELSON, JA\*; RIEGER, KJ: Urban Fish: can their physiology tell us about the future of fishes faced with climate change? (SICB) Annual Meeting New Orleans, Louisiana. 2017. Oral presentation
- 55- Owens, C.E., Dize, H., Fisher, M.E., Nelson, J.A. ENVIRONMENTAL INFLUENCES ON THE AIR BREATHING BEHAVIOR OF A FACULTATIVE AIR BREATHER, PANAQUE MACCUS 12th International Congress on the Biology of Fish (ICBF), San Marcos, Texas. 2016. Poster.
- 54- **Nelson, J. A.**, Rieger, K.J., and Fish, C.M. THERMAL TOLERANCE OF SWIMMING FISHES: WHAT CAN IT TELL US ABOUT ADAPTATION TO CLIMATE DISRUPTION AND OXYGEN-AND CAPACITY-LIMITED THERMAL TOLERANCE? 12th International Congress on the Biology of Fish (ICBF), San Marcos, Texas. 2016.Oral.
- 53- Kraskura, K.\* & **J. A. Nelson**. Hypoxia diminishes sprint swimming performance in juvenile striped bass. 12th International Congress on the Biology of Fish (ICBF), San Marcos, Texas. 2016. Oral.

- 52-Bennington, R., K. Kraskura\*, **J. A. Nelson**, C. E. Oufiero, and K. Ricci. Repeatability and kinematics of gymnotiform swimming performance in the black ghost knifefish. International Congress on the Biology of Fish (ICBF), San Marcos, Texas. 2016. Poster.
- 51-Kraskura, K., **J. A. Nelson**, C. E. Oufiero, and K. Ricci. 2016. Allometry and repeatability of gymnotiform swimming performance in black ghost knifefish (*Apteronotus albifrons*). Society of Integrative and Comparative Biology (SICB) Annual Meeting Portland, Oregon. Poster
- 50- **Nelson, J.A.**, Claireaux, G. and Mark, F. C. 2014. INTRASPECIFIC VARIATION IN LOCOMOTOR EFFICIENCY, HYPOXIA TOLERANCE AND ECOLOGICAL PERFORMANCE IN EUROPEAN SEA BASS: IMPLICATIONS FOR AN INCREASINGLY HYPOXIC WORLD.? International Congress on the Biology of Fish (ICBF) 2014, Edinburgh, Scotland.
- 49- Owens, C.E., Fisher, M.E. and Nelson, J.A. (2014). Do social status or predation threat influence air-breathing behavior of a facultative air breather *Panaque maccus*? ICBF 2014, Scotland.
- 48- Fish, C. & Nelson, J.A. Swimming improves high temperature tolerance in striped bass (*Morone saxatilis*). American Fisheries Society Annual Meeting 2013. Little Rock, Arkansas USA.
- 47- **Nelson**<sup>#</sup>, **J.A.**, Claireaux\*, G.,Mark<sup>@</sup>, F. C. and Lipkey<sup>#</sup>, G. K. Intraspecific variation in hypoxia tolerance and physiology of two marine, moronid fishes: implications for an increasingly hypoxic world. Society for Experimental Biology 2013 Annual Meeting Abstracts. Valencia, Spain.
- 46-**Nelson, J.A.**, Claireaux, G and G. Lipkey. "INTRASPECIFIC VARIATION IN HYPOXIA TOLERANCE: COMPARISONS BETWEEN CO-FAMILIARS DICENTRARCHUS LABRAX AND MORONE SAXITILIS" International Congress on the Biology of Fish, July 2012, Madison WI.
- 45- **Nelson, J.A.**, K. McHenry and D. Richards. "INTESTINAL FREE FATTY ACID PRODUCTION BY WATER BREATHING VERSUS AIR-BREATHING PANAQUE NIGROLINEATUS (LORICARIIDAE), A TROPICAL WOOD-EATING CATFISH" Int. Congress on the Biology of Fish, July 2012, Madison WI.
- 44-Lipkey, G. & **J. A. Nelson** "SWIMMING DECREASES HYPOXIA TOLERANCE OF JUVENILE STRIPED BASS (MORONE SAXATILIS)" International Congress on the Biology of Fish, July 2012, Madison WI.
- 43-McDonald, R. C., H. J. Schreier, **J. A. Nelson**, and J. E. M. Watts. Analysis of 16S rRNA genes from a catfish (*Panaque nigrolineatus*) gastrointestinal tract reveals highly specialized xylan-degrading microbial populations indicative of a xylophagic dietary strategy. 111<sup>th</sup> Meeting of the American Society for Microbiology, May 5-11, 2011, New Orleans, LA.
- 42-McDonald, R. C., H. J. Schreier, **J. A. Nelson**, and J. E. M. Watts. Analysis of 16S rRNA genes from the alimentary tract of the wood-eating catfish *Panaque nigrolineatus* reveals xylan-degrading microbial populations consistent with a xylophagic dietary strategy. Society for General Microbiology, April 11-14, 2011, North Yorkshire, UK.
- 41-Mark, F.C., Strobel, A., Papetti, C., Lucassen, M., Poertner, H.O., Oellermann, M., Hickey, A., **Nelson, J.A.**, Amerand, A., and Claireaux, G. 2010. MITOCHONDRIAL PLASTICITY AND ENVIRONMENTAL CHANGE IN ANTARCTIC, AUSTRAL AND TEMPERATE FISH. 9th International Congress on the Biology of Fishes Abstracts. Barcelona, Spain.

- 40-**Nelson, J.A.** G. Claireaux, C. Beuvar and F. Mark. 2010 Intraspecific variation in hypoxia tolerance, aerobic and anaerobic swimming performance: contributions to ecological performance and mortality selection in cultured (European sea bass) *Dicentrarchus labrax*. 9th International Congress on the Biology of Fishes Abstracts. Barcelona, Spain.
- 39-Nelson, J.A. 2010. Climate change and fishes: What are the issues? 9th International Congress on the Biology of Fishes Abstracts. Barcelona, Spain. 7/5-9/10
- 38-**Nelson, J.A.** K.J.Taylor and K. Gastrich. 2010. Phenotypic plasticity of performance capacity and thermal tolerance in blacknose dace (Cyprinidae) from different populations. Society for Experimental Biology 2010 Annual Meeting Abstracts. Prague, Czech Republic.
- 37-Dehn, A. M. and **J.A. Nelson.** (2010). Ever eat a palm tree? Growth, histology, and digestive physiology of a wood-eating catfish, *Panaque nigrolineatus*. 2010 Joint Meeting of Ichthyologists and Herpetologists, Providence RI.
- 36-Williamson, N. and **J.A. Nelson.** 2009. Is flow preference of individual Blacknose dace (*Rhinichthys atratulus*) dependent upon performance ability or environmental history? American Fisheries Society Annual Meeting, Nashville, TN.
- 35-Taylor, K.J & **J.A. Nelson.** 2009. Thermal tolerance of blacknose dace (*Rhinichthys atratulus*) across an urban-rural gradient measured in an ecologically realistic manner. American Fisheries Society Annual Meeting, Nashville, TN.
- 34-**Nelson, J.A.** 2009. *Scaling in lower vertebrates: bioenergetic implications*. Federação de Sociedades de Biologia Experimental Annual meeting in Aguas de Lindao, Brazil.
- 33-D. Smoot, R. Kulp, **J. A. Nelson** and J. E. M. Watts. Microbial diversity in the gastrointestinal tract of wood-eating catfish. National Conf. on Undergraduate Res. April.10-12<sup>th</sup>, 2008 Salisbury University.
- 32-R. Kulp, D. Smoot, **J. A. Nelson** and J. E. M. Watts. Production of cellulolytic enzymes by a microbial community isolated from a wood-eating catfish gastro-intestinal tract. National Conference on Undergraduate Research. April.10-12<sup>th</sup>, 2008 Salisbury University.
- 31-D. Smoot, R. Kulp, **J. A. Nelson** and J. E. M. Watts. Microbial diversity in the gastrointestinal tract of wood-eating catfish. Minorities in research Science Conference. Sept.14-15<sup>th</sup>, 2007 Baltimore Convention Center.
- 30-K.D. Nguyen, **J. A. Nelson** and J. E. M. Watts. RFLP analysis of microbial diversity in the gastrointestinal tract of wood-eating catfish. Towson University ASM MD Branch Meeting June 2007 University Baltimore.
- 29-Smoot, D., N. M. Mohamed, **J. A. Nelson**, H. J. Schreier, and J. E. M. Watts. Investigating the Microbial Communities Associated with Xylophagy in the Gastrointestinal Tract of *Panaque nigrolineatus*. American Society for Microbiology, General Meeting, Abstract N-174, 2008.
- 28-Smoot, D., R. Kulp, N. Mohamed, **J. A. Nelson**, H. J. Schreier, and J. E. M. Watts. Microbial communities associated with different regions the gastrointestinal tract of *Panaque nigrolineatus*, a

- xylophagous catfish. Twelfth International Symposium on Microbial Ecology, August 17-22, 2008.
- 27-Vandamm J.P., C. A. Handelsman, G. Claireaux and **J.A. Nelson**. 2008. "The use of fish drag strip to measure acceleration performance in a cohort of European sea bass (*Dicentrarchus labrax*)" 8th International Congress on the Biology of Fishes Abstracts, Portland, Oregon
- 26-**Nelson, J.A** , K. R. Gastrich & C. A. Handelsman 2008. Plasticity of differences in performance among blacknose dace (*Rhinichthys atratulus*) populations across a gradient of urbanization; the role of morphology. 8th International Congress on the Biology of Fishes Abstracts. Portland, OR.
- 25-HANDELSMAN, C.A.; **NELSON, J.A.**; CLAIREAUX, G. 2007. Do morphology and swimming performance predict ecological performance in wild and cultured European sea bass(*Dicentrarchus labrax*)? Society of Integrative and Comparative Biology. Annual Meeting. [SEP]Jan. 3-7, 2007[SEP]. Phoenix, AZ.
- 24-Kulp, R., D. Smoot, J. E. M. Watts and **J. A. Nelson**. (2007, October). Production of cellulolytic enzymes by a GI microbial community isolated from a wood-eating catfish. Poster session presented at the 8th Annual UMBC Undergraduate Research Symposium, Baltimore.
- 23-**Nelson J.A.**, C. A. Handelsman, and G. Claireaux. 2006. WHAT IS IT ABOUT BEING WILD? SWIMMING PERFORMANCE AND MORPHOLOGICAL DIFFERENCES BETWEEN WILD AND CULTURED EUROPEAN SEA BASS AND ASSOCIATED SURVIVAL ADVANTAGE IN A MESOCOSM SETTING. American Physiol. Soc. Oct. 8-11, 2006. Virginia Beach, VA.
- 22-**Nelson J. A** , P. S. Gotwalt and C. A. Simonetti. 2006. POPULATION LEVEL DIFFERENCES IN ENDURANCE BUT NOT SPRINT PERFORMANCE ARE DUE TO PHENOTYPIC PLASTICITY IN A CYPRINID. 7th International Congress on the Biology of Fishes Abstracts, St. John's Newfoundland, Canada.
- 21-Handelsman, C.A., **J. A. Nelson** and G. Claireaux 2006. THE ROLE OF MORPHOLOGY AND SWIMMING PERFORMANCE IN THE ECOLOGICAL SUCCESS OF WILD AND CULTURED EUROPEAN SEA BASS. 7th International Congress on the Biology of Fishes Abstracts, St. John's Newfoundland, Canada.
- 20-Handelsman, C. A., Claireaux G. and **J.A. Nelson**. 2005, Sprint performance and morphology as indicators of survival in European sea bass (*Dicentrarchus labrax*) under simulated natural conditions. Abstracts of the 135th Annual Meeting of the American Fisheries Society. Anchorage AK.
- 19-**Jay A. Nelson** and Portia Gotwalt. 2005. Enhanced swimming performance of blacknose dace from urban streams. Ecological Society of America, Eastern division Annual Mtg. Abstracts. UMBC.
- 18-Gastrich K.R.. & **Nelson, J.A.** 2003.Are there performance tradeoffs between blacknose dace. (*Rhinichthys atratulus*) from urban and rural streams. 6<sup>th</sup> annual Undergraduate Research Symposium in the Chemical and Biological Sciences Univ. Maryland Baltimore Co.
- 17-Handelsman, C. A., Claireaux G. and **J.A. Nelson** 2003 Repeat swimming performance of European sea bass (*Dicentrarchus labrax*) after time in an estuary: Implications for pelagic fish

- management. American Fisheries Society 133<sup>rd</sup> Annual Meeting. Quebec, Canada.
- 16-**Nelson, J.A.**, P. S. Gotwalt , D.W. Webber and S. Reidy. 2001. Beyond  $U_{crit}$ : Matching swimming performance tests to the physiological ecology of the animal, including a fish “drag strip”.Invited presentation at Society for Experimental Biology 2001 Annual Meeting Abstracts.
- 15-Gotwalt, P.S. & **Nelson, J.A.** 2000. Watershed Urbanization: Effects on Swimming Performance of Blacknose Dace. (*Rhinichthys atratulus*). 3<sup>rd</sup> annual Undergraduate Research Symposium in the Chemical and Biological Sciences Univ. Maryland Baltimore Co.
- 14-Niazi, T. and **Nelson, J.A.** 2000. Fiber Degradation and Energy use in loricariid catfish. 14<sup>th</sup> Annual National Conference on Undergraduate Research Abstracts. Missoula, Montana. USA.
- 13-Lichaa, M. and **Nelson, J.A.** 2000. Feeding preferences of a wood-eating loricariid catfish. 14<sup>th</sup> Annual National Conference on Undergraduate Research Abstracts. Missoula, Montana. USA.
- 12-Ninh, J. and **J.A. Nelson** 1999. Influence of fin dimensions and muscle fiber type on the locomotor performance of individual Atlantic cod (*Gadus morhua*). . 13<sup>th</sup> Annual National Conference on Undergraduate Research Abstracts. Rochester, NY. USA.
- 11-**Nelson, J.A.** 1997. Comparison of metabolism in two species of *Panaque* (Loricariidae). 2<sup>nd</sup> International Congress on the Biology of Tropical Fishes. Manaus. AZ. Brasil.
- 10-Smoes, R., **J.A. Nelson** and G.D. Robinson. 1996. Increasing math competency in human anatomy & physiology students. Seminar and Workshop Abstracts 10th Annual International Human Anatomy & Physiology Society Conference. June 8-13, Vancouver, WA.
- 9-Lasher, A.E. and **J.A. Nelson** 1995. Determination of facultative air breathing in wood-eating catfishes of the Loricariid genus *Panaque*. Assoc. of S.E. Biologists Bulletin. 42(2):163, # 249.
- 8-**Nelson, J.A.**, Y. Tang, G. Pogson, S. Kerr, and R.G. Boutilier 1992. Population differences in exercise physiology of Atlantic cod. Int. Joint Mtg. of SEB, APS, CSZ, and ASZ abstracts.
- 7-**Nelson, J.A.**, Y. Tang, and R. G. Boutilier 1992. Effects of environmental factors on the energy metabolism and swimming performance of fish. Can. Conf. for Fisheries Research Abstracts.
- 6-**Nelson, J.A.**, T.B. Bentley, and N. Heisler 1990. Ethyl m-amino benzoate methanesulfonate salt (MS-222) anaesthesia: effects on arterial and venous blood chemistry and cardiorespiratory parameters in chronically cannulated carp. Soc. Exp. Biol. Warwick Meet. Abst. p.A9-1.
- 5-**Nelson, J.A.** 1989. Extracellular compartment response to critical swimming and recovery in yellow perch: comparison of populations from naturally acidic and neutral habitats. Int. Union of Physiol. Sci. Copenhagen Sattelite Symposium Abstracts. p.8.
- 4-**Nelson, J.A.** 1989. Metabolic response to critical swimming and recovery in yellow perch: comparison of populations from naturally acidic and circumneutral habitats, in acid and neutral water. Soc. Experimental Biology Edinburgh Meeting Abstracts. p.77 A4.2
- 3-Stewart, D.J. and **J.A. Nelson** 1987. Wood eating catfish of the genus *Panaque* and their aerobic, cellulolytic bacteria. American Soc. of Ichthyology & Herpetology Annual Mtg. Abst.

2-**Nelson, J.A.** 1986. Seasonal, reproductive, and nutritional influences on muscle 'buffering capacity' in yellow perch. Int. Union of Physiol. Sciences Banff Sattelite Symposium Abstracts. p.42.

1-**Nelson, J.A.** 1980. The effects of depressed pH and varying calcium ion concentration on rainbow trout (*Salmo gairdneri*) development. AAAS Pacific Division. 61st Annual Meeting Abstracts p.34.

#### **Other Publications:**

**Nelson, Jay A.** 1982. "Acid rain: no longer someone else's problem. Cascade Crest (Olympia WA). Vol. 4, #2.

**Nelson, Jay A.** and J.J. Magnuson 1987. "Perch from acid lakes under study". The Lakeland Times (Minocqua WI). January 1987 issue.

**Nelson, Jay A.** 1992. " The boom and bust of raising cod at low salinities". Ocean Production Enhancement Network Channels. Vol. 2, #2 pp.4-5.

**Nelson, Jay A.** 1996. The "Ultsch". The mini-Annals of Improbable Research. 1996-12.

**Nelson, J.A.** and G.D. Robinson. 1996. Adventures in Human Physiology. Kendall-Hunt. 70p.

**J.A. Nelson.** 2002. Randall to be feted. American Fisheries Society Physiology Section Annual Newsletter. p.1-2.

**J.A. Nelson.** 2002. 5th International Congress on the Biology of Fish Returns Home. American Fisheries Society Physiology Section Annual Newsletter. p.2-5.

**J.A. Nelson.** 2004. Obituary; Robert G. Boutilier. Journal of Experimental Biology 207.

**J.A. Nelson.** 2010. Oiled up. American Fisheries Society Physiology Section Annual Newsletter. p.8.

**J.A. Nelson.** 2013. Distinguished Service Award: Don MacKinlay. American Fisheries Society Physiology Section Annual Newsletter. p.3-4.

**Nelson J.A.** and Chabot D. (2011) General Energy Metabolism. In: Farrell A.P., (ed.), Encyclopedia of Fish Physiology: From Genome to Environment. San Diego: Academic Press. Encyclopedia entry update not peer-reviewed. Original peer-reviewed in 2011.

#### **Recent Invited Presentations:**

-National Aquarium in Baltimore: Keynote address for "Love at the Aquarium" event. 02/14/19

- Icelandic char: can their physiology tell us anything about the future of fishes faced with climate disruption ? Presentation at the Arctic Circle Conference, Reykjavik, Iceland. 10/14/2017

- Icelandic char: can their physiology tell us anything about the future of fishes faced with climate disruption? Presentation at the Fulbright Commission, Reykjavik, Iceland. 11/19/2017

**Háskólinn á Hólum (University of Holar, Iceland); Seminar 7/2/2017: Tough city fish: can their**

physiology tell us anything about the future of fishes faced with climate disruption ?“

**Institute of Marine and Environmental Technology University of Maryland Center for Environmental Science Seminar** 9/14/16: *Urban Fish: Sure they are tough, but can they tell us anything about the future of fishes faced with climate disruption?*

**Society for Experimental Biology.** 2013 Annual Meeting, Valencia, Spain. *Intraspecific variation in hypoxia tolerance and physiology of two marine, moronid fishes: implications for an increasingly hypoxic world.*

**Salisbury University.** Departments of Biological Sciences and Chemistry Seminar Series. 4/2011. *Intraspecific Physiological Variation, Does it Matter? Ecological Performance of European Sea Bass (Dicentrarchus labrax)*

**Society for Experimental Biology.** 2010 Annual Meeting. Prague, Czech Republic. *“Phenotypic plasticity of performance capacity and thermal tolerance in blacknose dace (Cyprinidae) from different populations”*