

CURRICULUM VITAE

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EDUCATION:

Doctor of Philosophy – 1996 – *The role of olfaction in migrations of the American eel (*Anguilla rostrata*): Behavior and physiology*. University of Maine. Advisor: Dr. James D. McCleave

Master of Science – 1992 – *An experimental study of the swimming behavior of American eel, *Anguilla rostrata* (LeSueur), elvers from the Annaquatucket River, Rhode Island*. University of Rhode Island. Advisor: Dr. William Krueger

Bachelor of Science – Summa Cum Laude - 1990
Major: Marine Biology and Biology
Institution: Southeastern Massachusetts University

CURRENT PROFESSIONAL POSITIONS:

2016 on	Graduate Coordinator – Marine Biology Program, School of Marine Sciences
2016 on	Associate Professor with tenure – University of Maine
2014 on	Maine Agricultural and Forest Experiment Station (+Research Council)
2014 on	Marine Bioresources Program Committee
2013 on	Blue Sky Faculty Fellow
2013 on	School of Marine Sciences Graduate Admissions Committee
2006 on	Cooperating Member of Wildlife, Fisheries & Conservation Biology
2006 on	Ecology and Environmental Sciences Program

PAST PROFESSIONAL POSITIONS:

2013 – 2015	Chair School of Marine Sciences Graduate Curriculum Committee
2013 – 2015	Associate Professor (un-tenured) of Marine Sciences
2012 – 2014	School of Marine Sciences Seminar Coordinator
2012 – 2013	Research Associate Professor of Marine Sciences
2013	Guest Editor – <i>Estuaries and Coasts</i> Special Issue
2004 – 2012	Research Assistant Professor of Marine Sciences
2003 – 2004	Supervisory Fishery Biologist, US Fish and Wildlife Service, Abernathy Fish Technology Center
2002 – 2005	Adjunct Faculty, Department of Environmental Sciences, Washington State University
1997 - 1999	Postdoctoral Research Associate, National Research Council, US Geological Survey, Conte Anadromous Fish Research Center, Mentor: Stephen D. McCormick

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- 1999 Instructor, Department of Wildlife and Fisheries Conservation, University of Massachusetts, Amherst, MA.
- 1996-1997 Postdoctoral Research Associate, University of Maine, School of Marine Sciences, Orono, ME

ACADEMIC HONORS:

Post-Graduate:

- 2016 Nominated for University of Maine College of Natural Sciences Forestry and Agriculture Mentor of the Year
- 2013 University of Maine College of Natural Sciences Forestry and Agriculture Mentor of the Year
- 2010 The Weatherbee School (Hampden Maine) Above and Beyond Award

PROFESSIONAL SOCIETIES:

American Fisheries Society
World Sturgeon Conservation Society

TEACHING EXPERIENCE (*not including assistantships*)

Marine Vertebrate Biology (U-Maine) – 2011, 2013-2015

- Undergraduate course: SMS 322
- Developed course on the phylogeny, biology and conservation of marine vertebrates.
- Coordination of lectures, exams, hands-on in-class experiences, discussion

Fisheries Oceanography (UMaine) – Spring 2012, Spring 2015

- Graduate course: SMS550
- Team-taught course 1st time and substantially re-constructed in Spring 2015.
- Introduction to the field, assessment of its role in fisheries management, observing its multidisciplinary nature and applying oceanography to describe fisheries

Marine Renewable Energy: Engineering, Oceanography, Biology, and Human Dimensions (UMaine) – Summer 2014

- Undergraduate and graduate course: SMS491
- Developed interdisciplinary course based on research around marine renewable energy in Maine
- Coordination of course instructors, instructor of the Biology sections with field work component

MANUSCRIPTS IN PEER-REVIEWED JOURNALS (SUBMITTED):

1. Viehman H, Zydlewski GB, Halteman W, Degan D (submitted) Behavior of fish near a static tidal energy device. PLoS ONE.
2. Viehman H, Zydlewski GB (submitted) Multi-scale temporal patterns in fish passage in a high-velocity tidal channel. PLoS ONE.
3. Johnston, C., G.B. Zydlewski, S. Smith, J. Zydlewski, M. Kinnison. Submitted. River reach restored by dam removal offers suitable spawning habitat for endangered Shortnose Sturgeon. River Research Applications.

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4. Altenritter, M., G.B. Zydlewski, M. Kinnison, J. Zydlewski, G. Wippelhauser. Submitted. Understanding the basis of shortnose sturgeon (*Acipenser brevirostrum*) partial migration in the Gulf of Maine. Canadian Journal of Fisheries and Aquatic Sciences.
5. Altenritter, M.N., Zydlewski, G.B., Kinnison, M.T., Wippelhauser, G.S. submitted. Atlantic sturgeon use of the Penobscot River and marine movements in and outside of the Gulf of Maine. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science.
6. Wippelhauser, G.S., Sulikowski, J., Zydlewski, G.B., Altenritter, M.N., Kieffer, M., Kinnison, M.T. submitted. Movements of Atlantic Sturgeon of the Gulf of Maine inside and outside the geographically defined DPS. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science.

MANUSCRIPTS IN PEER-REVIEWED JOURNALS (PUBLISHED):

1. Shen, H., Zydlewski, G.B., Viehman, H.A., Staines, G. 2016. Estimating the probability of fish encountering a marine hydrokinetic device. Renewable Energy 97: 746-756.
2. Jensen, A., Zydlewski, G.B., Barker, S., Pietrak, M. 2016. Sea lice infestations of a wild fish assemblage in the Northwest Atlantic Ocean. Transactions of the American Fisheries Society. 145(1): 7-16.
3. Stich, D.S., Zydlewski, G.B., Zydlewski, J.D. 2015. Physiological preparedness and performance of *Salmo salar* smolts in relation to behavioural salinity preferences and thresholds. Journal of Fish Biology. 88(2): 595-617.
4. Altenritter, M.E., Kinnison, M.T., Zydlewski, G.B., Secor, D., Zydlewski, J.D. 2015. Assessing dorsal scute microchemistry for reconstruction of shortnose sturgeon life histories. Environmental Biology of Fishes. 98(12): 2321- 2335.
5. Wippelhauser, G.S., Zydlewski G.B., Kieffer, M., Sulikowski, J., Kinnison, M.T. 2015. Shortnose Sturgeon in the Gulf of Maine: Use of spawning habitat in the Kennebec system and response to dam removal. Transactions of the American Fisheries Society. 144(4): 742-752.
6. Stich, D.S., Zydlewski, G.B., Kocik, J.F., Zydlewski, J.D. 2015. Linking behavior, physiology, and survival of Atlantic Salmon smolts during estuary migration. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science. 7: 68-86.
7. Viehman, H., Zydlewski, G.B. 2015. Fish interaction with a commercial-scale tidal energy device in a field setting. Estuaries and Coasts. 38(S1): 241-252.
8. Viehman, H., Zydlewski, G.B., McCleave, J., Staines, G. 2015. Using acoustics to understand fish presence and vertical distribution in a tidally dynamic region targeted for energy extraction. Estuaries and Coasts. 38(S1): 215-226.
9. Staines, G., Zydlewski, G.B., Viehman, H., Shen, H., McCleave, J. 2015. Changes in vertical fish distributions near a hydrokinetic device in Cobscook Bay, Maine, USA. Proceedings of the 11st European Wave and Tidal Energy Conference, 6-11 September, Nantes, France.
10. Viehman, H., Zydlewski, G.B. 2015. Using temporal analysis techniques to optimize hydroacoustic surveys of fish at MHK devices. Proceedings of the 11st European Wave and Tidal Energy Conference, 6-11 September, Nantes, France.

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11. Shen, H., Zydlewski, G.B., Viehman, H., Staines, G. 2015. Estimating the probability of fish encountering a marine hydrokinetic device. Proceedings of the 3rd Marine Energy Technology Symposium. April 27-29, Washington, DC.
12. Johnson, T.R., Jansujwicz, J., & Zydlewski, G. 2015. Tidal power development in Maine:
13. Stakeholder identification and perceptions of engagement. *Estuaries and Coasts*, 38(S1): S266-S278.
14. Goulette, G.S., Hawkes, J.P., Kocik, J.F., Manning, J.P., Music, P.A., Wallinga, J.P., Zydlewski G.B. 2014. Use and Development of Non-Traditional Acoustic Telemetry Platforms: Lessons from the Gulf of Maine. *Fisheries*. 39(10): 441-450.
15. Zydlewski, G.B., Stich, D.S., McCormick, S.D. 2014. Photoperiod control of downstream movements of Atlantic salmon *Salmo salar* smolts. *Journal of Fish Biology*. 85: 1023-1041.
16. Zydlewski, J., Zydlewski, G.B., Kennedy, B., Gale, W. 2014. Smolting in coastal cutthroat trout *Onchorhynchus clarkii clarkii*. *Journal of Fish Biology*. 85: 1111-1130
17. Little, C.E., Kieffer, M., Wippelhauser, G., Zydlewski, G.B., Kinnison, M., Sulikowski, J. 2013. First documented occurrences of the shortnose sturgeon (*Acipenser brevirostrum*) in the Saco River, ME. *Journal of Applied Ichthyology*. 29(4): 709-712.
18. Dionne, P.E., Zydlewski, G.B., Kinnison, M.T., Zydlewski, J., Wippelhauser, G.S. 2013. Reconsidering residency: Characterization and conservation implications of complex migratory patterns. *Canadian Journal of Fisheries and Aquatic Sciences*. 70: 119-127.
19. Zydlewski, G.B., Zydlewski, J. 2012. Gill Na⁺,K⁺-ATPase of Atlantic salmon smolts in freshwater is not a predictor of longterm growth in seawater, *Aquaculture*, Volumes 362–363: 121–126.
20. Zydlewski, G.B., Kinnison, M.T. , Dionne, P.E. , Zydlewski, J., Wippelhauser, G.S. 2011. Understanding habitat connectivity for shortnose sturgeon: the importance of small coastal rivers. *Journal of Applied Ichthyology*. 27 (Issue s2): 41-44.
21. Ostrand, K. G., Zydlewski, G. B., Gale, W. L., J. D. Zydlewski. 2011. Long term retention, survival, growth, and physiological indicators of salmonids marked with passive integrated transponder tags. In J. McKenzie, Q. Phelps, R. Kopf, M. Mesa, B. Parsons, and A. Seitz, editors. *Advances in fish tagging and marking technology*. American Fisheries Society, Symposium 76, Bethesda, Maryland.
22. Fernandes, S.J., Zydlewski, G.B., Kinnison, M.T., Zydlewski, J.D., Wippelhauser, G.S. 2010. Seasonal distribution and movements of Atlantic and shortnose sturgeon in the Penobscot River estuary, Maine. *Transactions of the American Fisheries Society*. 139: 1436–1449.
23. Spencer, R., Zydlewski, J.D., Zydlewski G.B. 2010. Migratory urge and gill Na⁺, K⁺ -ATPase activity of hatchery reared Atlantic salmon smolts from Dennys and Penobscot River stocks, Maine. *Transactions of the American Fisheries Society*. 139: 947–956.
24. Zydlewski, J., Zydlewski, G.B., Danner, R. 2010. Descaling injury impairs the osmoregulatory ability of Atlantic salmon smolts entering seawater. *Transactions of the American Fisheries Society*. 138: 129-136.
25. Zydlewski, G.B., Zydlewski, J.D., Johnson, J. 2009. Patterns of migration and residency in coastal cutthroat trout (*Oncorhynchus clarki clarki*) from two tributaries of the Lower Columbia River. *Journal of Fish Biology*. 75(1): 203-222. doi:10.1111/j.1095-8649.2009.02280.x.
26. Rose, B.P., Mesa, M.G., Zydlewski, G.B. 2008. Field-based evaluations of horizontal flat-plate fish screens. *North American Journal of Fisheries Management*. 28:1702–1713.

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27. Zydlewski, G.B., Gale, W.S., Johnson, J., Holmes, J., Thornton, W., Brigham, T. 2008. Use of electroshock for euthanizing and immobilizing adult spring Chinook salmon in a hatchery. *North American Journal of Aquaculture*. 70:415–424.
28. Zydlewski, G.B., Horton, G., Dubreuil, T., Zydlewski, J., Letcher, B., Casey, S. 2006. Remote monitoring of fish in small streams: A unified approach using PIT tags. *Fisheries*. 31(10): 492-502.
29. Hill, M.S., Zydlewski, G.B., Gale, W.S. 2006. Comparisons between hatchery and wild steelhead trout (*Oncorhynchus mykiss*) smolts: physiology and habitat use. *Canadian Journal of Fisheries and Aquatic Sciences*. 63: 1627-1638.
30. Hill, M.S., Zydlewski, G.B., Zydlewski, J.D., Gasvoda, J.M. 2006. Development and evaluation of PIT tag detection units: PITpacks. *Fisheries Research*. 77: 102-109.
31. Zydlewski, G.B., McCormick, S.D., Haro, A.J. 2005. The role of temperature in downstream migratory behavior of Atlantic salmon smolts. *Canadian Journal of Fisheries and Aquatic Sciences*. 62: 68-78.
32. Mesa, M.G., Weiland, L.K., Zydlewski, G.B. 2004. Critical swimming speeds of wild bull trout. *Northwest Science*. 78: 59-65.
33. Zydlewski, G.B., Foott, S., Nichols, K., Hamelberg, S., Zydlewski, J., Björnsson B. Th. 2003. Enhanced smolt characteristics of steelhead trout exposed to alternative hatchery conditions during the final months of rearing. *Aquaculture*. 222: 101-117.
34. Zydlewski, G.B., Johnson, J. R. 2002. Response of bull trout fry to four types of water diversion screens. *North American Journal of Fisheries Management*. 22: 1276-1282.
35. Zydlewski, G.B., Haro, A.J., Whalen, K.G., McCormick, S.D. 2001. Performance of stationary and portable Passive Transponder detection systems for monitoring of fish movements. *Journal of Fish Biology*. 58(5): 1471-1475.
36. Barbin, G.P., Parker, S.J., McCleave, J.D. 1998. Olfactory clues play a critical role in the estuarine migration of silver-phase American eels. *Environmental Biology of Fishes*. 53: 283-291.
37. Barbin, G.P. 1998. The role of olfaction in homing and estuarine migratory behavior of yellow-phase American eels. *Canadian Journal of Fisheries and Aquatic Sciences*. 55: 564-575.
38. Barbin, G.P., McCleave, J.D. 1997. Fecundity of the American eel at 45°N in Maine, U.S.A. *Journal of Fish Biology*. 51(4): 840-847.
39. Pettigrew, N.R., Kistner, D.A., Barbin, G.P., Laursen, A.K., Townsend, D.W., Christensen, J. 1997. Somes Sound: fjord or well-mixed estuary? *Northeastern Naturalist*. 4(1): 35-44.
40. Barbin, G.P., Krueger, W.H. 1994. Behaviour and swimming performance of elvers of the American eel, *Anguilla rostrata*, in an experimental flume. *Journal of Fish Biology*. 45: 111-121.

OTHER PUBLICATIONS:

1. Zydlewski, G.B., Copping, A., Redden. 2015. Special Issue: Renewable Ocean Energy Development and the Environment. *Estuaries and Coasts*. 38 (Suppl 1): S156-S158.
2. Zydlewski, G.B., Viehman, H.S., Staines, G.S., Shen, H., McCleave, J.D. 2014. Fish interactions with marine renewable devices: Lessons learned, from ecological design to improving cost effectiveness. *Proceedings of the 2nd International Conference on Environmental Interactions of Marine Renewable Energy Technologies (EIMR2014)*, 28 April – 02 May 2014, Stornoway, Isle of Lewis, Outer Hebrides, Scotland. www.eimr.org.

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3. Johnson, T., Zydlewski, G.B. 2012. Research for the Sustainable Development of Tidal Power in Maine. *Maine Policy Review*. 21(1): 58-65.
4. Zydlewski, G.B. 2011. Book Review: *Eels at the Edge: Science, Status, and Conservation Concerns*. *Transactions of the American Fisheries Society*. 140(2): 526-527.
5. Zydlewski, G.B. 2008. Finding the Right Balance, Personal and Professional, as a Mother in Science. Pages 135-139. In: Emily Monoson, editor. *Motherhood, the Elephant in the Laboratory: Women Scientists Speak Out*. Cornell University Press, Ithaca, NY.

MAJOR TECHNICAL REPORTS:

1. Zydlewski, G.B., G. Staines, H. Viehman, H. Shen, M. Altenritter. 2016. Interactions of aquatic animals with the ORPC OCGen® in Cobscook Bay, Maine: Monitoring behaviour change and assessing the probability of encounter with a deployed MHK device. US Department of Energy Final Report for Award Number: DE-EE0006384. 168 pp.
2. Zydlewski, G.B., G. Staines. 2015. State of the Science: Collision Risk of Fish with Tidal Turbines. Prepared for Pacific Northwest National Laboratory for the International Energy Agency Ocean Energy Systems, Annex IV.
3. Staines, G., G.B. Zydlewski. 2015. Environmental Effects Monitoring Program for fish at the Fundy Ocean Research Center for Energy (FORCE). Prepared for SLR consultants for the Fundy Energy Research Network.
4. Viehman, H., G. Staines, G. B. Zydlewski. 2013. Fisheries and Marine Life Interaction Monitoring Plans Annual Report. Prepared for Ocean Renewable Power Company.
5. Zydlewski, G.B., McCleave, J.D., Viehman, H., Harmon, K. 2010. An initial assessment of fish presence and vertical distribution at two sites (control and proposed tidal power site) in Cobscook Bay. Prepared for Ocean Renewable Power Company.
6. Zydlewski, G.B. 2009. Penobscot River Operations, Brewer, Maine: Shortnose Sturgeon monitoring July 2008 – October 2008. Prepared for Cianbro, LLC.
7. Zydlewski, G.B. 2008. Penobscot River Operations, Brewer, Maine December 2007 – February 2008. Prepared for Cianbro, LLC.
8. Lilieholm, R.J., Hart, D.D., Bell, K.P., Sader, S.A., Zydlewski, G.B., Cronan, C.S., Briggs N.A. 2007. Alternative futures for the lower Penobscot River watershed: A collaborative vision for sustainable resource use. USDA Forest Service GTR.
9. Zydlewski, G. B., Hill, M.S. 2004. Pre-restoration habitat use of steelhead trout: habitat and hatchery considerations in the Columbia River estuary and beyond. U.S. Fish & Wildlife Service, Abernathy Fish Technology Center, Technical Information Leaflet No. AB-04-01, Longview, WA.
10. Whitesel, T.A. and 7 coauthors. 2004. Bull Trout Recovery Planning: A review of the science associated with population structure and size. Science Team Report # 2004-01, U.S. Fish and Wildlife Service, Region 1, Portland, Oregon, USA.
11. Zydlewski, G.B., Winter, C., McClanahan, D., Johnson, J., Zydlewski, J. Casey, S. 2003. Evaluation of fish movements, migration patterns, and population abundance with streamwidth PIT tag interrogation systems, Project No. 2001-01200, 72 pages (BPA Report DOE/BP-00005464-1).
12. Zydlewski, G.B., Johnson, J., Stow, J., Burger C. 2000. Validation of existing screen criteria for juvenile bull trout (*Salvelinus confluentus*). U.S. Fish and Wildlife Service, Abernathy Fish Technology Center, Technical Information Leaflet No. AB-00-01, Longview, WA.

INVITED PRESENTATIONS:

1. Zydlewski, G.B. 2015. Environmental Effects of Marine Energy Development: State of the Science on MHK monitoring technology - Collision and Fish. Annex IV Plenary Session at European Wave and Tidal Energy Conference, Nantes, FRANCE, 8 September.

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2. Zydlewski, G.B., Staines, G. 2015. Learning By Doing – Best Laid Plans: Side-Looking Hydroacoustics in a Large Tidal River Prior to Restoration Activities. 145th meeting of the American Fisheries Society in Portland, Oregon. Given in the Symposium: Barrier Removal in the 21st Century: Context, Generalities, and Potential Trade Offs, 20 August.
3. Altenritter, M.E.L., Kinnison, M., Zydlewski, G.B., Secor, D.H., Zydlewski, J. 2015. Dorsal Scutes: An Otolith Alternative to Infer the Origins and Life Histories of Shortnose Sturgeon (*Acipenser brevirostrum*). 145th meeting of the American Fisheries Society in Portland, Oregon. Given in the Symposium: Frontiers in Otolith Chemistry: Insights, Advances and Future Directions Part 2, 18 August.
4. Goulette, G. S., Kocik, J.F., Kreuger, C., Holbrook, C., Hawkes, J.P., Zydlewski, G.B. 2015. Working at the Divide: Lessons from Fish in the Gulf of Maine and Great Lakes. 145th meeting of the American Fisheries Society in Portland, Oregon. Given in the Symposium: Crossing the Divide: Promoting Cross-Disciplinary Discussion Between Inland and Marine Fisheries for Improved Sustainability Part 2, 18 August.
5. Jensen, A., Pietrak, M., Barker, S., Zydlewski, G.B. 2015. Temporal Trends in Sea Lice Infestation Pressure on Wild Fish. 145th meeting of the American Fisheries Society in Portland, Oregon. Given in the Symposium: Parasites and Diseases of Salmonoids, 19 August.
6. Johnston, C., Zydlewski, G.B., Zydlewski J., Kinnison, M., Smith, S. 2015. What Is the Spawning Potential for Shortnose Sturgeon (*Acipenser brevirostrum*) in the Penobscot River after Dam Removal? An Acoustic Telemetry and Habitat Suitability Study. 145th meeting of the American Fisheries Society in Portland, Oregon. Given in the Symposium: Dam Removals: Fishery and Habitat Response, 19 August.
7. Scherelis, C., Staines, G., Zydlewski G.B. 2015. Improving Hydroacoustic Data Collection and Processing Methods to Estimate Fish Abundance before and after Dam Removal. 145th meeting of the American Fisheries Society in Portland, Oregon. Poster. Given in the Symposium: Barrier Removal in the 21st Century, 17 August.
8. Zydlewski, G.B. 2015. State of the Science on MHK monitoring technology. Presented at the 2015 NOAA National Hydropower Meeting. Greater Atlantic Regional Fisheries Office, Gloucester, MA, 9 July.
9. Zydlewski, G.B., M.T. Kinnison. 2015. Shortnose sturgeon in the Gulf of Maine with comment on use of spawning and wintering habitat in the Kennebec System and response to dam removal. NOAA National Hydropower Meeting. Greater Atlantic Regional Fisheries Office, Gloucester, MA, 9 July.
10. Zydlewski, G.B. 2015. School of Marine Sciences Signature Program at the University of Maine. To the University of Maine Administration Partners Group. Orono, ME, 20 May.
11. Zydlewski, G.B. 2015. School of Marine Sciences Signature Program at the University of Maine. To the University of Maine Rochester Alumni Group. Rochester, NY, 24 April.
12. Zydlewski, G.B. 2015. Sturgeon of the Penobscot River. Maine Science Festival. Bangor, ME, 21 March.
13. Zydlewski, G.B. 2015. Photoperiod control of downstream migration in Atlantic salmon smolts: with some mention of other research – Sturgeon of the Gulf of Maine. To Faculty of Environmental Science and Center for Sustainability Science, Hokkaido University, JAPAN, 12 January.
14. Viehman, H.S., G.B. Zydlewski. 2015. A unique approach to developing alternative energy from the ocean. To University Administrators, Engineering and Biology Faculty, Hirosaki University, JAPAN, 7 January.
15. Zydlewski, G.B. 2014. Effects monitoring of fish at/near an ORPC turbine. Given by Webinar at the Environmental Monitoring, Regulatory Needs & Scientific Capabilities workshop in Wolfville, Nova Scotia, CANADA – sponsored by Annex IV, Acadia University and NS Energy. 1 November.
16. Zydlewski, G.B. 2014. The other Zydlewski lab – linkages to the marine environment. Given to the American Fisheries Society Student Subunit, UMaine, Orono, ME. 7 October.

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17. Altenritter, M.E.L., Kinnison, M.T., Zydlewski, G.B., Zydlewski, J.D., Yates, M. 2014. Microchemical Analysis of Dorsal Scutes to Infer the Origins and Life Histories of Shortnose Sturgeon. Oral Presentation at the 144th meeting of the American Fisheries Society in Quebec, Canada. Given in the Symposium: Practical Applications of Sturgeon Research, 20 August.
18. Altenritter, M., Zydlewski, G.B., Kinnison, M.T., Dzaugis, M., Zydlewski J.G., Altenritter, M.E.L. 2014. Atlantic Sturgeon Movements and Habitat Use in the Penobscot River, with Implications of Dam Removal. Oral Presentation at the 144th meeting of the American Fisheries Society in Quebec, Canada. Given in the Symposium: Practical Applications of Sturgeon Research, 20 August.
19. Staines, G.S., Zydlewski, G.B., Hartman, K. 2014. Difficult similarities: Sampling with Fisheries Acoustics in Cobscook Bay, Maine and the Ugashik Lakes, Alaska. 144th meeting of the American Fisheries Society in Quebec, Canada. Given in the Symposium: Understanding Fish and their Ecosystems in Challenging Environments, 20 August.
20. Vieser, J., Zydlewski, G.B., McCleave, J.D. 2014. Assessing Fish Community Structure in a Tidally Dynamic Region. 144th meeting of the American Fisheries Society in Quebec, Canada. Given in the Symposium: Understanding Fish and their Ecosystems in Challenging Environments, 20 August.
21. Shen, H., Zydlewski, G.B., Staines, G.S., Viehman, H. 2014. Modeling the Probability of Fish Encounter with a Tidal Energy Turbine. 144th meeting of the American Fisheries Society in Quebec, Canada. Given in the Symposium: Understanding Fish and their Ecosystems in Challenging Environments, 20 August.
22. Viehman, H., Zydlewski, G.B. 2014. Optimizing Sampling Based on Temporal Variation in Fish Abundance at a Tidal Energy Site in Cobscook Bay, Maine. 144th meeting of the American Fisheries Society in Quebec, Canada. Given in the Symposium: Understanding Fish and their Ecosystems in Challenging Environments, 20 August.
23. Zydlewski, G.B., Viehman, H., Staines, G., Shen, H., McCleave, J.D., Vieser, J. 2014. Decreasing uncertainty concerning fish and marine hydrokinetic devices in tidally energetic regions. Invited presentation at the Nova Scotia Offshore Energy Research Association 2014 Research and Development conference. Halifax, NS, CANADA, 21 May.
24. Zydlewski, G.B., Viehman, H., Staines, G., Shen, H., McCleave, J.D., Vieser, J. 2014. Fish interactions with marine renewable devices: Lessons learned, from ecological design to cost-effectiveness. Invited presentation at the 2nd Environmental Interactions of Marine Renewable Energy Technologies Conference. Stornoway SCOTLAND, 30 April.
25. Zydlewski, G.B., Wippelhauser, G.S., Kinnison, M.T., Sulikowski, J.S., Kieffer, M. 2014. The Impact of Dams on Gulf of Maine Atlantic Sturgeon. Invited presentation at the Southern Division of the American Fisheries Society Meeting, Charlotte, SC. 25 January.
26. Zydlewski, G.B. Considerations for fish and Tidal Power in Maine. 2013. Penobscot Marine Museum History Conference. Invited presentation for the Penobscot Museum 2013 History Conference: Fish, Wind and Tide: Renewable or Finite Resources? Belfast, ME. 2 November.
27. Zydlewski, G.B. 2013. The Maine Tidal Power Initiative & Quantifying nearfield and farfield effects of the ORPC turbine on fishes of Cobscook Bay. School of Marine Sciences Marine Science Club. 28 October.
28. Staines, G.S. and Zydlewski, G.B. 2013. Stationary hydroacoustics to understand fish presence in the Penobscot River. NOAA-DMR Assessments of the demographic benchmarks of the Gulf of Maine Distinct Population Segment of Atlantic Salmon of Mutual Interest to Maine DMR and NOAA. Orono, ME. 24 October.
29. Zydlewski, G.B. 2013. Quantifying nearfield and farfield effects of the ORPC turbine on fishes of Cobscook Bay. 2nd Marine Energy International Symposium. Orono, ME. 16 September.
30. Zydlewski, G.B., Stich, D., McCormick, S.D. 2013. The role of photoperiod in downstream migration of Atlantic salmon smolts. Invited presentation at the 9th International Workshop on Salmonid Smoltification. Reykjavík-Hólar, ICELAND. 12-17 August.

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31. Zydlewski, G.B. 2013. Fish interactions with ORPC TidGen® in Cobscook Bay. Invited Plenary Presentation for US DOE funded workshop on Instrumentation for Monitoring around Marine Renewable Energy Devices. Seattle, WA. 25 June.
32. Zydlewski, G.B. 2013. Maine Tidal Power Initiative. Panelist at the Global Marine Renewable Energy Conference IV. New England: Wave and Tidal Energy. Washington, DC. 10 April.
33. Zydlewski, G.B. 2012. Ocean Energy. Plenary speech for 'Nor'Easter Bowl 2012 Regional Ocean Sciences Competition, Orono, ME. 3 February.
34. Zydlewski, G.B., Zydlewski, J.D. 2012. Visions of Restoration. Invited by and presented to the Penobscot Fly Fishers, Veazie, ME. 1 February.
35. Zydlewski, G.B. 2012. Shortnose sturgeon of the Gulf of Maine: including the Passy! Invited by and presented to the Belfast Bay Watershed Coalition, Belfast, ME. 19 January.
36. Zydlewski, G.B., Viehman, H.A., Staines, G., McCleave, J.D. 2011. Maine Tidal Power Initiative: Fish interactions with a commercial-scale marine hydrokinetic device. Paper presented in the Symposium: Environmental Effects of Ocean Energy Development in Estuarine and Coastal Waters at the Annual meeting of the Coastal and Estuarine Research Federation, Daytona Beach, FL. 9 November.
37. Zydlewski, G.B., Altenritter, M., Kinnison, M., Zydlewski, J. 2011. Shortnose sturgeon of the Gulf of Maine: a metapopulation perspective. Invited Seminar for University of Massachusetts Dartmouth School of Marine Sciences. 2 November.
38. Zydlewski, G.B., Altenritter, M., Kinnison, M., Zydlewski, J. 2011. Shortnose sturgeon of the Gulf of Maine: a metapopulation perspective. Invited Seminar for University of Maine Department of Wildlife Ecology. 31 October.
39. Zydlewski, G.B. 2011. The Maine Tidal Power Initiative: tidal resources, seafloors, turbines, fish, and people. NSF-sponsored workshop: Research at the intersection of marine/hydrokinetic energy and the environment, St. Anthony Falls Laboratory, MN. 5 - 7 October.
40. Zydlewski, G.B., Viehman, H.A., Staines, G., McCleave, J.D. 2011. Acoustic monitoring of fish and their interactions with the Ocean Renewable Power Company (ORPC) device. US DOE Webinar Series, Webinar #3: Monitoring Technologies and Strategies Webinar. 14 September.
41. Viehman, H.A., Zydlewski, G.B., Staines, G., McCleave, J.D. 2011. Field evaluation of fish interactions with a commercial-scale marine hydrokinetic device. Paper presented in the Symposium: Exploring the nascent industry of marine hydrokinetics (MHK) at the Annual meeting of the American Fisheries Society, Seattle, WA. 4-8 September.
42. Erbland, P.J., Zydlewski, G.B., Zydlewski, J.D., Hightower, J.E. 2011. Fixed, side-aspect acoustic sampling of a diverse diadromous fish community in a tidal river. Paper presented in the Symposium: Recent advances in hydroacoustic assessment of fish populations using "fixed" hydroacoustic technologies at the Annual meeting of the American Fisheries Society, Seattle, WA. 4-8 September.
43. Zydlewski, G.B. 2011. Using acoustics to monitor sturgeon and other migratory fishes of the Penobscot River. Presented to University of Vermont's Rubenstein School of Environment and Natural Resources and Vermont Cooperative Fish and Wildlife Research Unit. 31 March.
44. Johnson, T.R., Zydlewski, G.B. 2011. Maine Tidal Power Initiative: Linking knowledge to action for the responsible development of tidal power in Maine. Presented to University of Maine Sustainability Solutions Initiative Team Meeting. 24 March.
45. Zydlewski, G.B., Dionne, P.E. 2011. Shortnose sturgeon of the Gulf of Maine: the importance of coastal movements and social networks. Presented to the Ocean Tracking Network. 6 February.
46. Zydlewski, G.B., Viehman, H., McCleave, J., Harmon, K. 2011. Tidal power in Maine and beyond: the fish side of the equation. Presented at Maine Maritime Academy, 31 January.
47. Zydlewski, G.B., Viehman, H., McCleave, J.D., Harmon, K. 2010. Report and fisheries plan update & discussion: Assessing effects of tidal power development on fishes using hydroacoustics. Ocean Renewable Power Company Workshop for Regulatory Agencies, Eastport, ME, 5 October.

CURRICULUM VITAE

48. Viehman, H., Zydlewski, G., McCleave, J. 2010. Assessing the effects of tidal power development on fishes using hydroacoustics. Oral Presentation in the Hydrokinetic Electric Generation and Fish Symposium at the Annual meeting of the American Fisheries Society, Pittsburg, PA, 12-16 September.
49. Zydlewski, G.B., Kinnison, M.T., Dionne, P., Wegener, M., Zydlewski, J., Wippelhauser G.S. 2010. Understanding habitat connectivity for shortnose sturgeon: from ocean to historic freshwater habitat in Maine. The 9th International Congress on the Biology of Fishes. Barcelona, SPAIN, 5-9 July.
50. McCleave, J., Zydlewski, G., Xue, H., Peterson, M. 2010. Physical habitats and natural resources—coastal Maine. Plenary Presentation at “Environmental Effects of Tidal Energy” Workshop. Seattle, Washington, 22-24 March. (Invited Keynote)
51. Zydlewski, J., Zydlewski, G.B. 2009. Long-term seawater performance of Atlantic salmon smolts. International Smolt Workshop, Corvallis, OR, 25 August.
52. Dionne, P.E., Kinnison, M.T., Zydlewski, G.B., Fernandes, S. 2008. Contemporary research of shortnose sturgeon in the Penobscot River. Eddington Salmon Club, Eddington, ME.
53. Zydlewski, G.B., Zydlewski, J.D., Kinnison, M.T., Kocik, J., Wippelhauser, G., Hawkes, J. 2008. The Gulf of Maine Telemetry Group. Data Management Committee of the Ocean Tracking Network, Halifax, NS.
54. Zydlewski, G.B., Kinnison, M. T., Fernandes, S., Dionne, P., Zydlewski, J. D., King, T.L., Lipsky, C., Kocik, J., Wippelhauser, G. S. 2008. Assessment of endangered shortnose sturgeon in Maine Rivers, International Council for the Exploration of the Sea Annual Science Conference, Halifax, NS; Symposium: Problems and solutions for the assessment, conservation, and restoration of rare, threatened, and endangered fish species. <http://www.ices.dk/iceswork/asc/2008/welcome.asp>.
55. Zydlewski, G.B., Horton, G., Al-Chokhachy, R. 2007. Data considerations of using continuous remote PIT tag interrogation systems in streams. Presented at the Annual meeting of the American Fisheries Society. Symposium: Recent advances in uses of PIT tag technology in fisheries, 1-5 September.
56. Zydlewski, J., Zydlewski, G.B., Danner, G.R. 2006. What happens when an Atlantic salmon smolt loses its scales? Maine Council – Atlantic Salmon Federation, Eddington, ME, 14 October.
57. Zydlewski, G.B., Hill, M., Gale, W., Zydlewski, J. 2006. West coast steelhead: A lower Columbia River tributary. Presented at the Annual Meeting of the American Fisheries Society. Symposium: Comparisons of Steelhead Populations and Management Across the Great Lakes & West Coast, 10-14 September.
58. Zydlewski, G.B., Gale, W., Foott, S., Nichols, K., Hamelberg, S., Zydlewski, J., Björnsson, B.T. 2004. Natural rearing systems for salmonid restoration: Lessons from the Pacific Northwest. Northeast Fish and Wildlife Conference, Ocean City, MD, 25-28 April.
59. Gale, W., Zydlewski, G.B., Holmes, J., Johnson, J., Brigham, T., Thorson, W. 2003. An evaluation of electro-anesthesia techniques using adult spring Chinook salmon at Carson National Fish Hatchery. Northwest Fish Culture Conference, Portland, OR, 2-4 December.
60. Zydlewski, G.B., McClanahan, D., Winter, C. 2003. Size and growth effects of tagging salmonids with 3 different sized PIT tags. Abernathy Fish Technology Center, US Fish and Wildlife Service, Longview, WA. Presented at the 24th Smolt Workshop, Moscow, ID, 10-11 February.
61. Zydlewski, G.B., Foott, S., Nichols, K., Hamelberg, S., Zydlewski, J., Björnsson, B.T. 2001. Enhanced smolt characteristics of steelhead trout exposed to alternative hatchery conditions during the final months of rearing. Sixth International Smolt Workshop, Westport, IRELAND, 3-7 September.
62. Zydlewski, G.B., McCormick, S.D. 2001. Monitoring migratory behavior and physiology of Atlantic salmon smolts. Luso American Fish Migration Workshop, Porto, PORTUGAL, 29-30 March.
63. Zydlewski, G.B., McCormick, S.D. 1999. Integration of the physiology and behavior of the parr-smolt transformation of Atlantic salmon. Presented at the Annual meeting of the American Fisheries Society. Symposium: Fish Ecophysiology and management.

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64. Barbin, G.P., McCormick, S.D., Haro, A.J. 1998. Direct evaluation of migratory behavior under different environmental conditions during the parr-smolt transformation of Atlantic salmon. Presented at the Annual Meeting of the American Fisheries Society. Symposium: Ecology, Physiology and Genetics of Salmon at the Southern Edge of Their Distribution: Implications for Conservation.
65. Barbin, G.P., McCormick, S.D., Haro A.J. 1998. Environmental control of smolt (*Salmo salar*) downstream migratory behavior: A direct evaluation. Presented at the Second International Congress on the Biology of Fishes. Symposium: Smolt Physiology and Behavior.

GRANTS AND CONTRACTS AWARDED:

Argonne NL	Application of Agent based model (PI)	\$ 25,000	2015
USDOE	Animal Interactions with MHK devices	\$ 80,000	2015
PRRT/NOAA	Sturgeon and dam removal (PI)	\$ 89,000	2015
PRRT/NOAA	Penobscot hydroacoustics (PI)	\$ 82,000	2015
NMFS/CINAR	Maine Cooperative Education	\$ 92,000	2014-2018
PRRT/NOAA	Sturgeon and dam removal (PI)	\$ 89,000	2014
PRRT/NOAA	Penobscot hydroacoustics (PI)	\$ 77,000	2014
USDOE	Animal Interactions with MHK devices	\$286,000	2014
Argonne NL	Application of Agent based model	\$183,000	2013-2014
Maine SeaGrant	Fish distribution in relation to tidal hydropower	\$128,527	2012-2014
US DOE	UMaine - Tidal Power Environmental Assessments: Fishes	\$850,000	2010-2013
US DOE	Maine Tidal Power Initiative (co-PI)	\$1,000,000	2010
DMR/NOAA	Demographic Correspondence of Sturgeon in Maine (co-PI)	\$481,687	2010-2012
US DOE	Biological assessment of the OCGenTM tidal energy (PI)	\$ 61,977	2010
US DOE	Environmental assessment of offshore wind	\$ 54,000	2010
PRRT/NOAA	Penobscot Hydroacoustics (PI)	\$ 120,000	2010
ME NSF EPSCoR	Sustainable Alternative Energy Development (co-PI)		2010-2014
<ul style="list-style-type: none"> •Year 5 Research. Maine Tidal Power Initiative: Linking Knowledge to Action for Responsible Tidal Power Development. PIs: T. Johnson & G. Zydlewski. Dates: 7/1/2013 to 6/30/2014 (\$103,977). •Year 4 Research. Maine Tidal Power Initiative: Linking Knowledge to Action for Responsible Tidal Power Development. PIs: T. Johnson & G. Zydlewski. Dates: 7/1/2012 to 6/30/2013 (\$80,167). •Responsible Tidal Power Development. PIs: T. Johnson & G. Zydlewski. Dates: 7/1/2011 to 6/30/2012 (\$86,948). •Year 2 Research. Linking Knowledge to Action for Responsible Tidal Power Development. PIs: T. Johnson & G. Zydlewski. Dates: 7/1/2010 to 6/30/2011 (\$30,200). •Year 1 Research Round II. Sustainable Alternative Energy Development: Social and Ecological Balance. PIs: T. Johnson & G. Zydlewski. Dates: 3/15/2010 to 6/30/2010 (\$11,131). 			
PRRT/NOAA	Penobscot Sturgeon (PI)	\$ 100,000	2009
PRRT/NOAA	Penobscot Hydroacoustics (PI)	\$ 170,000	2009
US DOE	Maine Tidal Power Initiative (co-PI)	\$ 950,000	2009
TNC	Research on Habitat Connectivity (PI)	\$ 20,000	2008
USGS/WRRI	Effective Knowledge Transfer (co-PI)	\$ 8,600	2007
Maine DMR (co-PI)	Sturgeon in the Penobscot River	\$ 250,000	2007-2010
Internal, SSI (co-PI)	State of the Penobscot Watershed	\$ 11,000	2007
Maine DMR (PI)	Physiology of DPS salmon	\$ 11,000	2007
TNC/NOAA (co-PI)	Sturgeon spawning	\$ 31,000	2007
NOAA (co-PI)	Sturgeon in the Penobscot River	\$ 86,000	2006
MTI (co-PI)	Coast of Maine Passive Acoustics	\$ 85,000	2006
NOAA (PI)	Seawater Performance of salmon	\$ 57,000	2005
NOAA (co-PI)	Sturgeon in the Penobscot River	\$ 86,000	2005
UMaine Faculty Research Fund (PI)	Effects of descaling	\$ 6,100	2004
Bonneville Power Admin. (co-PI)	Reproductive success	\$ 345,000	2004

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USFWS Oregon FWO (PI)	Microhabitat preferences	\$ 25,000	2003
USFWS Ecological Services (PI)	Effects of screens on lamprey	\$ 27,000	2003
USFWS FONS (PI)	PIT tag Engineer	\$100,000	2003
USFWS FONS (co-PI)	Bull trout bioenergetics	\$ 45,000	2003
Science Support Program (co-PI)	Alternative screening	\$ 57,000	2003
US Army Corps of Eng. (co-PI)	Bull trout swimming	\$ 70,000	2003
US Army Corps of Eng. (coll.)	Cutthroat trout movements	\$360,000	2002
USDA Forest Service (co-PI)	Swimming Performance	\$ 59,000	2001
BPA Innovative Project (PI)	New PIT tag methods	\$217,000	2001
National Research Council Postdoctoral Fellowship (PI)		~\$ 70,000	1997
University of Maine Graduate Research Assistantship(PI)		~\$ 30,000	1995-1996
Leopold Schepp Foundation Fellowship (PI)		~\$ 10,000	1995
John Anson Kittredge Educational Fund (PI)		~\$ 6,500	1995
Center for Marine Studies Graduate Research Assistantship (PI)		~\$ 39,000	1993-1995
Sigma Xi Foundation Grants-in-Aid of Research (PI)		~\$ 5,000	1993, 94
University of Maine Association of Graduate Students Research Grants (PI)			1993, 94, 95

ADVISING AND MENTORING:

Matthew Altenritter (PhD advisor) – Metapopulation attributes of sturgeon in the Gulf of Maine
 Jeffrey Vieser (Dual MS Advisor) – Collaborative research on fishes of Cobscook Bay, Maine
 Matthew Wegener (MS advisor) - Reproduction of Shortnose Sturgeon in the Gulf of Maine
 Haley Viehman (MS advisor) - Fish in a tidally dynamic region in Maine
 Phillip Dionne (Dual MS advisor) – Population status and habitat use of Penobscot sturgeon
 Stephen Fernandes (MS advisor) – Population status and movements of Penobscot sturgeon
 Undergraduate Advising – ca. 10+ advisees per annum including independent research projects

REVIEWER FOR JOURNALS (2010-PRESENT):

Acta Ethologica
American Fisheries Society Book Symposium Series
Aquaculture
Aquatic Biology
Aquatic Ecology
Canadian Journal of Fisheries and Aquatic Sciences
Environmental Biology of Fishes
Estuaries and Coasts
Fish Physiology and Biochemistry
Fisheries Oceanography
Hydrobiologia
Journal of Applied Remote Sensing
Journal of Fish Biology
2014 Marine Energy Technical Symposium
North American Journal of Fisheries Management
Pacific Conservation Biology
Proceedings of the IEEE (Institute of Electrical and Electronics Engineers)
Transactions of the American Fisheries Society

LOCAL SERVICE OR TESTIMONY:

- Public Testimony on LD 295: An Act To Promote Tidal Energy Projects to the Maine legislative Committee on Energy, Utilities and Technology, 19 March 2015

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- Public Testimony on LD1781: An Act To Amend Tidal Energy Demonstration Project Laws to the Maine legislative Committee on Energy, Utilities and Technology, March 2014
- Regular community meetings in Eastport and Lubec, Maine to update the community on tidal power research and fish in the region, annual meetings organized and conducted from 2011-2015.
- Invited Technical Expert: Ocean Renewable Power Company workshop on Marine Mammal interactions. 6 February 2012.
- State of Maine Governor's Ocean Energy Task Force: sub-committee scoping leader: Environmental and Human Impacts (2009)
- Penobscot River Science Steering Committee (2008 – 2009)

SELECTED RECENT MEDIA COVERAGE AND COMMENTARY:

- Aquakids episode: <http://youtu.be/-QyHeBzb7GA>
- CBS Evening News with Scott Pelley. Interview regarding implications of Penobscot River dam removal on fish populations. 1 November 2013.
- Forbes. A Fishermans Quest to Make Tidal Power Safe for Fish. By David Ferris. 13 September 2013 (884 views as of 1 Nov 2013). <http://www.forbes.com/sites/davidferris/2013/09/13/a-fisherwomans-quest-to-make-tidal-power-safe-for-fish/>
- Forbes. Renewable Energy, the Action-Adventure Thriller. 9 September 2013 (1,028 views as of 1 Nov 2013).
- Sierra Magazine. Electrify the Elements: Tides – Gayle Zydlewski. By David Ferris. September/October 2013 edition. <http://www.sierraclub.org/sierra/201309/electrifying-elements-alternative-energy-solar-water-wind-2.aspx>.
- WERU "Talk of the Towns". Invited radio show discussion featuring my tidal power research (Host, Ron Beard), May 11, 2012. <http://archives.weru.org/talk-of-thetowns/talk-of-the-towns-51112>
- Maine Public Broadcasting Network (MPBN). Sustainable Maine: The Triple Bottom
- Line. Television program highlighting my sustainability science research on tidal power, premiered September 27, 2011. Also available online:
- <http://video.mpbn.net/video/2135374720>.
- Castine Patriot, Tidal power: Cobscook Bay study bodes well for fish, by Colin
- Powell, February 3, 2011.
- UMaine Today (2011), "Fit to be Tide," cover feature on Maine tidal power research,
- September 2011; <http://umainetoday.umaine.edu/files/2011/08/UMT-11.3-fall.pdf>.