

Spring 2011

585-395-5975



The College at Brockport

# Environmental Science and Biology

## From the Chair's Desk— Dr. James Haynes

Welcome back for a new semester! As many of you know, our classes are very full this semester, but we fit all of you into the classes you need. We have more undergraduate majors (120+) and M.S. students (30) than ever in the department's eight year history, a tribute to the visibility and quality of our program. Like last year, many job and internship opportunities are being distributed on the department's email lists for undergraduates, graduates, and alumni. Keep checking your email and our new Facebook Page [The College at Brockport Department of Environmental Science and Biology](#) for these great career-building opportunities.

My big adventure over the winter break was leading my 24th class since 1990 to the Bahamas. This year, 23 students from Brockport, Geneseo, Purchase, and Onondaga Community College took Marine Biology/Geology-Bahamas (ENV/ESC 457). We had the best weather in years, and the students chose very interesting research topics.

from June 9 to July 4. Application reviews began on 1-31, so if you are interested, apply now at [www.brockportabroad.com](http://www.brockportabroad.com).

My next great adventure will be teaching Tropical Marine Ecology in remote Indonesia in June 2012—divers only. See me if you are interested. ([jhaynes@brockport.edu](mailto:jhaynes@brockport.edu))

My next adventure will be teaching "Sustaining Human Societies and the Environment" (OAP 428/528) in Australia with Dr. Norment



### Dr. Christopher Norment

### Fall 2010 Death Valley Sabbatical

Dr. Norment devoted his Fall 2010 sabbatical to field work on the evolution and conservation of rare species in the Death Valley region of California. During his time in the desert, he studied the Inyo Mountain slender salamander (one of only two desert salamanders species in the world: right), several species of desert pupfish, and the black toad. He also spent two weeks at Ash Meadows National Wildlife Refuge in Nevada helping with native fish counts and a week as a Visiting

Scholar at the Andrews Experimental Forest in the Oregon Cascades. Along the way, he interviewed biologists, hydrologists, ranchers, and resource managers

the Death Valley area in March for more field work. His sabbatical experiences will be incorporated into a book, tentatively titled *In the Fullness of Time*.

about matters related to conservation issues in the region. Dr. Norment plans to return to



# Environmental Science & Biology

## Faculty with Knowledge, Research, and Vision for the Future

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### **Dr. James Haynes, Professor/Chair**

Dr. Haynes received his Ph.D. from University of Minnesota in Ecology and Behavioral Biology. His research interests are fish and fisheries ecology; exotic species impacts on Lake Ontario benthic communities, and environmental education. Dr. Haynes has received the SUNY Chancellor's Recognition for Exemplary Contributions to Research, the SUNY Chancellor's Award for Excellence in Teaching, and the College Environmental Educator Award from the Monroe County Environmental Management Council. He served as Chairman (1990-1993) and member (1994-1998) of the Monroe County Water Quality Management Advisory Committee that was responsible for preparing Stage I and II Remedial Action Plans for the Rochester Embayment of Lake Ontario. He has lead and taught 24 classes in the Bahamas and three in Australia. Since joining SUNY Brockport in 1978, Dr. Haynes and his graduate and undergraduate students have engaged in \$3.5 million of research studies resulting in 30+ scientific publications on fish and invertebrate ecology and environmental education. He teaches Environmental Science, Biology of Pollution, Fisheries Science & Management, Marine Biology/Geology-Bahamas, and Sustaining Human Societies & The Natural Environment-Australia.

### **Dr. Joseph Makarewicz, Distinguished Service Professor**

Dr. Makarewicz received his Ph.D. from Cornell University, is a former Senior Fulbright Research Fellow to Germany, received the SUNY Chancellor's Award for Excellence in Teaching, and the Chandler Meisner Award for Outstanding Contribution to the Journal of Great Lakes Research by the International Association of Great Lakes Research, and has been honored by the Chancellor of the SUNY for outstanding scholarship and grantsmanship. His many undergraduate and graduate students have worked as interns and as research assistants on \$10 million of projects funded by Sea Grant, EPS, NSF, USDA, etc. He has focused on Great Lakes research in four areas: phytoplankton and zooplankton ecology, the ecology of exotic species and their effect on pelagic

food webs, pesticide movement in food webs, and watershed research on fate and transport of nutrients into coastal Great Lakes systems. He currently is the Co-Lead for the LONNS Project (Lake Ontario Nearshore Nutrient Transport Study), a bi-national project between the U.S. and Canada. He enjoys teaching Limnology, the study of freshwater lakes, and Water Quality Analysis, an instrumental course.

### **Dr. Christopher Norment, Professor**

Dr. Norment came to the College at Brockport in 1993 after completing his Ph.D. in Ecology and Systematics at the University of Kansas. During his time at Brockport, he has taught courses in Ornithology, Mammalogy, Herpetology, Conservation Biology, Wildlife Ecology, Global Environmental Issues, Field Biology, and Environmental Literature. His research interests include arctic and alpine ecology and the conservation of birds in early successional habitats (grasslands and shrublands) in the Northeast. His research has also taken him to Australia, Alaska, the Canadian Arctic, and many parts of the American West. He has published 38 scientific papers and received funding from many sources, including the U.S. Fish and Wildlife Service, the New York State Department of Environmental Conservation, the Department of Defense, and the New York State Biodiversity Institute. He has directed eighteen completed MS thesis projects and employed both graduate and undergraduate students on numerous research projects. In his spare time, Dr. Norment enjoys wilderness activities, running, and writing. He has published two books of creative nonfiction and a third, *In the Memory of the Map*, will be published early in 2012.

### **Dr. Douglas Wilcox, Empire Innovation Professor of Wetland Science**

Dr. Wilcox received his BS and MS degrees in biochemistry at SUNY-College of Environmental Science and Forestry and his Ph.D. in aquatic ecology at Pur-

due University. After a long career in the federal government, he retired from the U.S. Geological Survey in 2008 to accept this new position at the College at Brockport in his native western New York State. He also recently relinquished his role as Editor-in-Chief of the scientific journal Wetlands after a 20-year tenure. Dr. Wilcox received the Society of Wetland Scientists Presidential Service Award and was one of three initial inductees as an SWS Fellow, the highest honor awarded by the organization. His research on wetlands has spanned the Great Lakes basin and focused primarily on interactions of wetland plant communities and hydrology, including the role of climate change and the effects of lake-level regulation. He was a major contributor to the recently completed International Joint Commission study on regulation of Lake Ontario/St. Lawrence River levels and flows. His current and future research plans involve graduate students in developing wetland restoration methodologies for use in Lake Ontario wetlands. He is also the lead on a study recently funded by the USEPA that will initiate a wetland monitoring program for Lake Ontario and western Lake Erie. He enjoys teaching Wetland Ecology, Northern Wetlands, Restoration Ecology, and a Graduate Research Seminar on Scientific Technical Writing.

### **Dr. Mark Norris, Assistant Professor**

Dr. Norris earned his Ph.D. from the University of Minnesota and his M.S. from Kansas State University. He is one of two faculty members in the department focused on terrestrial ecology. His research interests are focused on how natural and anthropogenic disturbances influence ecological patterns and processes, emphasizing plant-soil interactions. Undergraduate and graduate students have worked on projects involving both community- and ecosystem-level analyses of land-cover changes and management, including studies investigating the role and consequences of invasive plant and pest species, and how land-cover change and restoration efforts in western NY influence plant community dynamics and ecosystem Carbon sequestration. Courses taught by Dr. Norris include Ecology, Plant Diversity, Plant Ecology, Terrestrial Ecosystem Ecology, and Biostatistics.

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## Faculty and Staff Profiles (continued)

### **Dr. Jacques Rinchar, Assistant**

#### **Professor**

Dr. Richard received his Ph.D. from the University of Namur in Belgium and was a post-doctoral fellow at Ohio State University, Texas Tech University, and the University of Michigan. His research interests include fish reproduction, nutrition, and ecology, as well as aquaculture. He has authored or co-authored over 50 peer-reviewed articles and has been granted funding since at the College from the National Science Foundation, Great Lakes Fishery Trust, Great Lakes Fishery Commission, USGS-Great Lakes Science Center, and Sea Grant. He enjoys teaching Biology of Organisms, Animal Behavior, Animal Ecophysiology, Aquaculture, Fish Biology, and Multivariate Statistics. Dr. Rinchar is also an Associate Editor for the North American Journal of Fisheries Management.

### **Mr. Gary Neuderfer, Adjunct Instructor**

Mr. Neuderfer received his Bachelors degree in 1972 from Michigan State University in Fisheries and Aquatic Sciences. He started teaching Aquatic Invertebrates at Brockport in 2005 while he was working for the NYS Department of Environmental Conservation, Division of Fish and Wildlife, Avon, New York. He was an Associate Aquatic Biologist in the Division of Fish and Wildlife and used his aquatic toxicology and macroinvertebrates expertise to help protect and improve water quality for the survival, growth, and reproduction of aquatic biota in New York State. In 2006, Gary started teaching Aquatic Toxicology at Brockport. He retired from NYSDEC in 2007 after 35 years of service. He now de-

votes his time to teaching at both the College at Brockport and Rochester Institute of Technology, where he teaches the Environmental Science Capstone course. In addition to teaching, he is involved in grants at Brockport, contract work, helping graduate and undergraduate students at Brockport and RIT, volunteering with NYSDEC on sea lamprey control and freshwater mussel monitoring projects, and community service activities like Community Water Watch, Rochester Area of Concern Oversight Committee, and Salvation Army. In his spare time, he enjoys babysitting his two grandchildren, dinners with friends and family, and enjoying life.

### **Norma Polizzi, Esq., Adjunct Instructor**

Ms. Polizzi is an attorney in a private practice and adjunct professor of Environmental Laws & Regulations. She received her Bachelor of Arts degree in History/Political Science from SUNY Albany and her Juris Doctor from University at Buffalo School of Law. Her law practice is focused primarily on environmental compliance, remediation, and litigation. She is admitted to practice in state and federal courts, including the U.S. Supreme Court. Prior to law school, she was the environmental compliance manager for a Fortune 200 company. She has been teaching at Brockport since 2007 and has taught many seminars in the community on various environmental topics for several years.

### **Hilary Mosher, Instructional Support Technician**

Ms. Mosher earned her MS in Biological Sciences at Brockport and recently completed a MS in Public Administration, also at Brockport. She provides support to the Department in a

variety of ways, e.g., boat, truck and equipment maintenance and repair, website, budgeting, accounting, advisor for the environmental science club ECOS, guest lecturer, event coordination, and academic advisement. She also teaches in Environmental Science 202. She serves as Chair of the Sustainability Task Force, an interdisciplinary group composed of 30 faculty and staff charged with creating awareness and promoting environmental sustainability through civic engagement and curriculum and faculty development. Highlights include: Princeton Review's Guide to 286 Green Colleges, RBJ Environmental Leadership Award 2010, and placing third in NYS in *Recyclemania*. Additionally, Hilary serves as the faculty advisor for the Leadership Academy and for the Green House, a Living Learning Community on campus. Outside of campus, she serves as Executive Board Member for RochesterCares, a non-profit service organization supporting the Greater Rochester area, participated in the International Coastal Cleanup at Hamlin Beach State Park, Earth Day in the Park at Hamlin Beach, and Canal Cleanups. Her passions include creating opportunities to make a difference in the community and promoting environmental awareness.



## ENV Grads and Undergrads put their education to use in real time

**Edward Wesolowski (BS 10)** - After visiting several other environmental colleges, Ed chose Brockport for its faculty and rural location. He has had many opportunities, such as refining scientific writing skills, conducting a collaborative research project under the guidance of Dr. Jacques Rinchar, and attending the 140th annual meeting of the American Fisheries Society in Pittsburgh, PA to present research results. Ed will begin pursuing his MS in the summer of 2011, as Brockport "left me yearning for more."

**Bobby Geroux (MS in progress)** - In the fall of 2010, Bobby had the opportunity to present part of his graduate research on lipids and fatty acids (crucial to developing fish) at the 2010 American Fisheries Society conference in Pittsburgh, PA. At the conference, he was not only able to share his research to the scientific community but able to network with other scientists from a variety of disciplines. The AFS was also a great place to meet potential employers, and future collaborators and inquire about graduate programs from around the country. "Without the support of advisor, Dr. Jacques Rinchar, my professors, and colleagues at Brockport, this incredible experience would not have been possible."

**Rebecca Bernacki (BS 11)** - Becca presented a poster of her research with Dr. Mark Norrris on collection of soil samples from Beech, Hemlock, and Sugar Maple at the Rochester Academy of Science Fall Scientific Paper Session. She will also present her work at the National Conference on Undergraduate Research in April.



## Environmental Science Alumni News

**Scott Williams (BS 09)** - Scott continues coursework on his Ph.D. at Georgetown University in Washington, DC. Scott is working on a multi-year NSF-funded study of community dynamics in intertidal salt marshes, with particular emphasis on plant/insect interactions.

**Matthew Jasikoff (BS 10)** - Matt is working as a seasonal conservation park ranger with the National Park Service in Amherst, Massachusetts. After completion, Matt will be well-qualified to apply for seasonal law enforcement park ranger positions.

**Levi Atwater (BS 07, MS in progress)** - Levi just took a District Wildlife Manager I job with the Colorado Department of Wildlife.



**Tom Haley (BS 07)** - Environmental Analyst II—NYSDEC Region 8. Tom was recently promoted to Deputy Regional Permit Administrator for Region 8, overseeing the region's natural resources permitting team.

**Nancy Kelly (BS 08)** - Public Health Sanitarian, EPS Lead Risk Assessor, Food Safety Inspector Officer II, Orleans County Health Department, Albion, New York.

**Scott Wells (MS 10)** - Scott is employed at the NYSDEC Region 4 Fisheries Office in Stamford. Currently, Scott is investigating the presence of loach in local trout streams. Loach are benthic generalists native to Eastern Asia with a high invasive potential and known to compete for food with other fishes.



**William Guenther (BS 05, MS 08)** - Environmental Scientist, Neponset River Watershed Assoc.

**Ryan Stotz (BS 09)** - Ryan is attending the University at Buffalo working on a MS in Geography, with a concentration in GIS. He is also employed as the Asset Manager for Veolia Water, a world-wide company that recently signed a 10-year contract with the Buffalo Water Authority to manage the City of Buffalo water system .

**Amanda Alexander (BS 06, MS in progress)** - Amanda is employed as a Fish and Wildlife Biologist in the Environmental Contaminants Program for the US Fish and Wildlife Service. The majority of her job is focused around the Great Lakes Restoration Initiative, which addresses the most significant environmental concerns of the Great Lakes. Amanda has also worked on White Nose Syndrome, a lethal and rapidly spreading fungus that affects many bat species and can wipe out an entire hibernacula.



Amanda is also working on the Niagara River Tumor Study. For this study, brown bullheads will be collected and checked for both external and internal tumors. They are a bottom-dwelling, non-migratory species that occurs at many Great Lakes Areas of Concern, in direct contact with contaminated sediments. They have been used throughout Lake Erie and at other contaminated sites as an indicator species. Dr. Haynes is doing similar work in Braddock Bay and Oak Orchard Creek. Amanda is also in charge of conservation efforts for the Cerulean Warbler and the Massasauga Rattle Snake in New York State.



**Erin Stocksclaeder (BS 10)** - Erin is an Early Detection and Rapid Response Coordinator for the Fairfax County Park Authority, in Fairfax, Virginia. She recruits and trains volunteers to methodically survey parkland for invasive plants on the “watch list.” “The skills I acquired through my degree in Environmental Science from SUNY Brockport helped prepare me for this position by giving me multiple opportunities to participate in field work for part of labs, as field work is a necessary component of EDRR.” At Brockport, Erin was able to do research on invasive plants, which was helpful in acquiring her position.

**Brad Mudrzynski (BS 07, MS 10)** - “When I was in high school, I knew I wanted to go to college and study science but was still drawn to the outdoors since I grew up on a farm and many of my hobbies involved being outside. I toured a few other colleges that offered Environmental Science or Ecology, but I was turned off either by the size of the college or courses offered. I enrolled in the Environmental Science and Biology Department and took as many wildlife and terrestrial courses as I could. During my senior year, I decided that I wanted to go to grad school and study wildlife habitat, and I applied at Brockport. Under the direction of Dr. Norment, I spent two falls counting and capturing songbirds to determine what habitat characteristics these birds are attracted to. While the main goal was to determine habitat relationships, I also studied the birds’ fruit consumption in these field, as we felt that fruits are an important food for the birds as they migrate. My main finding was that fall birds greatly prefer early successional shrublands over forested habitats. My data also showed that, as a whole, birds prefer habitats that contain a wide variety of shrub species. Finally, while we saw that fall birds consumed fruits found in these shrublands, some fruits were preferred over others, and frugivory varied among bird species. I am currently turning my thesis into a report to send to the Fish and Wildlife Service so they can use the information gained in making habitat management decisions. I also accepted a position to work for Dr. Wilcox on a five-year study of Lake Ontario wetlands. He has entrusted me with planning and overseeing the activities of a six-person field crew each summer, as well as overseeing data analyses and routine reporting.”