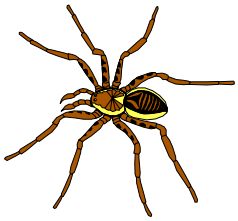



Cobwebs

Spring 2001 - Volume 5

A Newsletter for Alumni in Biology, Natural Resources Management, Environmental Science, Planning and Resource Management and Group Science

Cat and Koi: Predator and Prey?

Karel Rogers, Biology Dept. Chair

A story and then a bit of news. My brother has friends who built an expensive oriental-style house on the Pacific Coast. This house is elegant in the extreme. It has an entryway with an arched bridge over a large Koi pond that has a rock island in the middle. The folks who live there, Phil and Aud, collect expensive, unique Japanese Koi that are an important part of the exquisite ambiance of the place. Shortly after Phil and Aud moved into this lovely place, they noticed a high-bred neighborhood cat that spent its time on the rock in the pond waiting for a chance to nab one of these fish. Of course this was distressing to Phil and Aud, but not wanting to be nasty to their neighbors, they decided to take the losses as they came rather than complain about the cat. One day they went out to lunch. As they left their beautiful home, the cat was on the rock in the Koi pond doing its daily hunting but when they got home, the cat was gone from the rock. What they did find, however, was the cat in the bottom of the Koi pond and one of their prize Koi with claw marks on it. Not wanting to admit to the neighbors what had happened, Phil put the cat in a bag and took it down the street for disposal. I understand the cat still isn't out of the bag on this story and the Koi have a whole new attitude about their place in nature.

What they did find, however, was the cat in the bottom of the Koi pond and one of their prize Koi with claw marks on it.

Now for the news. Our MS in Biology is closer to becoming a reality. The Final Plan for it is likely to complete the university approval process during Winter Semester, 2001. The timing of the likely approval date is late enough in the year that we will be unable to admit the first cohort of students for Fall 2001, our original target date. Rather than risk the quality of the master's experience for students in the program, we will probably start our first group during Fall 2002. For those who are unfamiliar with this proposed program, it is a Master of Science that includes a few core courses, a required applied component (thesis, project, or internship), and individually selected coursework that supports the career goal of the student. There will be a Natural Resource Management emphasis available. This program is designed to be versatile enough to meet the varied needs of professionals who wish to upgrade their credentials to the master's level, biology teachers who wish to have a content-based masters, and students who wish to prepare for doctoral work they will pursue elsewhere. Developing and gaining approval for this degree has been a long, arduous process, but the benefits to the people of west Michigan and to the university will be worth the work.

We all hope you enjoy our newsletter and that you will keep in touch with us occasionally!

Is There Life After NRM?

Summary of Results from the Fall, 2000 Alumni Survey

Neil MacDonald, Associate Professor of Biology and Natural Resources Management

The Natural Resources Management (NRM) Program at GVSU has been experiencing steady growth in its faculty and course offerings over the past several years. As part of ongoing efforts to improve the program, we sent a survey to our alumni last fall to assess the effectiveness of our program in helping our graduates in their careers. We sent out approximately 300 surveys and had a response rate of about 33%. We had responses from alumni who graduated as far back as 1973 (from various ancestral programs), and as recently as 2000. Responses were fairly evenly distributed over this time interval, giving us a good idea of how our graduates have faired over the past 25 years. On average, 80% of respondents were successful in finding work in a natural resources related area at some point in their career, with only 20% never entering the field. Many reported that positive internship experiences and persistence in the job search were instrumental in helping them secure work in the natural resources field. Difficulty in finding entry-level positions, however, continues to be a major reason why some individuals never succeed in finding work in the natural resources field. Of the 80% who did find work in a natural resources related field, approximately 20% subsequently left the field for a variety of reasons. Some were unable to find work after an initial position ended, but

many went on to careers in other fields as opportunities arose or their personal interests evolved.

Employers of our graduates are varied, with the majority of people employed by government agencies or private companies. We also have a fair number of graduates employed by local public school districts and non-profit organizations. A few of our graduates are directly employed by universities, or actively pursuing graduate studies. A sample of job titles, providing an idea of the range of careers our graduates are involved in, include high school biology teacher, hydrogeologist, park naturalist, resource soil specialist, fisheries technician supervisor, mom/homemaker, environmental health supervisor, GPS survey crew chief, environmental quality analyst, county sanitarian, soil erosion inspector, forest technician, loan consultant, natural resources/wildlife administrator, insurance agency field specialist, university research technician, watershed project manager, family independence specialist, zoning administrator, GIS coordinator, USMC infantry rifleman, biological science technician, factory worker, township planning director, graduate student, farm owner/manager, private business owner, and resource conservationist. Whether employed in a natural resources field or not, our graduates are productive members of society. Regardless or where you are, or what you are doing, we are very proud of all of you as graduates of our program.

Reported income ranges varied widely, depending on year of graduation, job type, and career area. In general, those in natural resources related positions tended to make less money than those in other career areas, especially recent graduates in entry-level positions where many reported incomes in the range of $20,000-$29,000 per year. About 30% of those in natural resources related careers reported incomes in excess of $40,000 per year, while approximately 50% of those in other career areas reported incomes in this range. Career satisfaction, however, was highest among those in natural resource related fields, with over 80% in this category reporting that they were satisfied or very satisfied with their current career. In comparison, from 60 to 70% of those in careers not related to natural resources reported that they were satisfied or very satisfied with their careers.

All respondents identified factors related to their experience at GVSU that have been beneficial to their careers. Most respondents indicated that coursework (both required and elective) and practical skills developed in courses were most important in their careers. Many also reported that internship experiences, guidance by individual professors, and opportunities to work on projects or research were valuable. Others specifically noted that communication skills (written and oral) and the ability to retrieve information had been very useful in their careers. A few reported that an ability to work independently toward a goal had helped them in their careers, especially in developing private businesses of their own. Overall, respondents were very satisfied with the quality of education they received at GVSU, and they have been able to apply skills and abilities developed in the NRM program in a variety of careers. A common concern expressed by many was the need for greater guidance and assistance while at GVSU in finding natural resource related jobs. We are concerned about this too, and have been placing greater emphasis on helping students develop specific career interests earlier in their studies, encouraging students to become involved in a variety of internships, and bringing in speakers who can help give students advice on how to find positions in various career fields. Thank you to all those who participated in this survey. The information you supplied is very valuable in helping us improve the program in those areas where it needs improvement, and to continue to strengthen those areas that you have found valuable in your careers.

β β β and Biology Club News

Travis Devlin, President, β ββ /Biology Club

The Biology Club has continued to work hard this year to provide a number of educational and fun activities to promote interest in biology at Grand Valley. We kicked off the semester in August at Campus Life Night where over 75 students expressed an interest in receiving more information about the Biology Club. In addition to our regular meetings, last fall's activities included a ravine clean-up, a fundraising bake sale at the GVSU Renaissance Festival, a fall bonfire and hayride, and a holiday canned food drive in which we collected over 470 canned goods which were donated to the Salvation Army. Speakers at our meetings included Patrick Lederle, the head of the endangered species program in Michigan, and Dr. Jodee Hunt, a Grand Valley professor who presented her research involving nesting behavior of large-mouth bass. One of our major projects last semester was the design of a new Biology Club logo and the process of ordering Nalgene® water bottles imprinted with the new logo (see above), available to both members and nonmembers. In addition to designing the new logo, one of our members, Tim McElwee has worked hard to put together a Biology Club website at: http://www2.gvsu.edu/~bioclub.

We are looking forward to another great semester this spring with many planned speakers and events including our annual trip to Chicago. We feel very fortunate to have such active support and involvement from the Biology Department as well as the students at Grand Valley and are looking forward to another promising semester.

2001 Biology Club/Beta Beta Beta Officers: Travis Devlin, president; Gerry Verwey, vice president; Heather Bill, treasurer; Jennifer Slusher, secretary; Mark Staves, faculty advisor.

Soil and Water Conservation Society News – Shelley Brege, Secretary and Neil MacDonald, Advisor

The GVSU Student Chapter of the Soil and Water Conservation Society continues its involvement in a variety of resource management related activities. This year's officers include Bryan Rupar (President), Emily Sauter (Vice President), Jessica Hackman (Treasurer), Shelley Brege (Secretary), and Stefanie Shuker (Public Relations Officer). Fall, 2000 activities included the M-45 highway clean-up, a talk by Carol "Griff" Griffin on western natural resource management issues, and a social outing to a local bowling alley. We started Winter, 2000 with a series of guest speakers, including Jim McAllister, Soil Erosion inspector for the Kent County Road Commission, Frank Wash, Planning Director for Alpine Township, Rebecca Gannon, a seasonal employee with the US Fish and Wildlife Service, Dave Solberg, Forestry Planner for Trees, Inc., and Drew Discher, Environmental Health Specialist with the Mid-Michigan Health Department. All of these speakers are graduates of the GVSU NRM program, and were able to share their experiences with current students. In early February, we took advantage of the snow and enjoyed a social outing to a local snow tubing area. SWCS activities planned for later in the semester include helping with the GVSU Science Olympiad, completing a service project for the Pigeon River Watershed Project, and ending the semester with the traditional highway clean-up.

It is the province of knowledge to speak, and it is the privilege of wisdom to listen.

Oliver Wendell Holmes

Grand Valley Vet Club

Bobbi Conner, President

Still a relatively young organization on campus, the Grand Valley Vet Club has been working on expanding the goals set forth by some of its founders in 1999. The main focus of the organization has always been to provide a support group for those Grand Valley students interested in pursuing a career in veterinary medicine, whether students are looking to become veterinary technicians or doctors of veterinary medicine. The club meets on a bi-monthly basis, in order to discuss upcoming events, alert each other about job opportunities, new information about veterinary schools and requirements, and any other pertinent information. Students have even been able to find jobs at local vet hospitals thanks to this type of information.

Another addition to the Vet Club's roster this year was the Grand Valley Vet Club website, which was coordinated by the Vet Club's advisor, Terry Trier. The website, while still growing, currently includes information about the pre-vet emphasis, suggested course work, some of MSU's Veterinary requirements, as well as sources for additional information.

In addition to the bi-monthly meetings, the Vet Club has organized a bake sale, represented Grand Valley at a local veterinarian's Pet Celebration, attended MSU's Vet-A-Visit, brought in a speaker from the John Ball Zoo (Jodi Denuyl, John Ball Zoo veteterinary technician), and is planning to bring in more speakers from different fields of animal science. With the new pre-veterinary biology emphasis, the Vet Club is expecting more pre-veterinary students to enroll at Grand Valley with each coming year, and our hope is that the Vet Club continues to provide an avenue of learning and support.

Student Scholarship Day 2000

Undergraduate research/scholarship is a very important part of the teaching mission in GVSU Biology and Natural Resource Management. Each year students present their results at the Student Scholarship Day (SSD) held in mid March. Research topics this past year spanned the complexity of biology including such projects as the role of increasing atmospheric carbon dioxide on insect growth, methods in the re-establishment of prairies, and the detection of water born bacteria by PCR (molecular technique). Below are a list of the authors, titles of talks given, and their faculty advisors who gave much of their time and efforts. We should be very proud of these students!

Scott Abella. *Nitrogen Addition Effects on Northern Hardwood Forests in Michigan.* Sponsor: Kim McCracken.

Scott Abella. *Introduced Eastern White Pine Regeneration and Management in Oak Openings Preserve, Ohio.* Sponsor: Kim McCracken.

Scott Abella and Mitchell Koetje. *Coarse Woody Debris Habitat Evaluation for Small Mammals, Cavity Nesting Birds, and Reptiles in Hoffmaster State Park, Michigan.* Sponsor: Shaily Menon.

Amanda Black. *The Effect of the External Medium on Gravitropism in Arabidopsis thalania.* Sponsor: Mark Staves.

Jason Combs. *Feeding Efficiency of Gypsy*

Moths and Forest Tent Caterpillar on Leaf Samples Derived from Birch Exposed to Increased CO2 Levels in a Free-Air Environment. Sponsor: Terry Trier.

Jean Conzlemann. *Soil Respiration and Carbon Turnover in Contrasting Forest Ecosystems in Ottawa County, Michigan.* Sponsor: Kim McCracken.

Travis Devlin. *Internal Parasite Survey of Rehabilitation Raptors and Passeriformes.* Sponsor: Terry Trier

Jason Evans, Danielle Williams, Mitchell Growhowski and Amanda Brushaber. *Seasonal and Circadian Patterns of White-tailed Deer: Vehicle Collisions in Kent County, Michigan.* Sponsor: Joe Jacquot.

Armetris Forman. *Individual and Seasonal Variation in Tree Swallow Sperm Counts.* Sponsor: Michael Lombardo.

Shannon Hanna. *A Timber Sale Management and Environmental Impact Analysis using Geographic Information Systems (GIS).* Sponsor: Shaily Menon.

Chad Hipshier and Nate Dunn. *The Effects of Gypsy Moth Spraying.* Sponsor: Shaily Menon.

Matthew Johnson. *Representative Homoptera as Bioindicators of Habitat Quality in Prairies in Newaygo County, Michigan.* Sponsor James P Dunn

Mitchell Koetje *Establishment of Native Warm Season Grasses on a Spotted Knapweed (Centaura maculosa) Infested Site Using Herbicide and Sludge Applications.* Sponsor: Neil MacDonald.

Joel Mulder. *Source/Sink Energy Allocation in a Clonan Plant Community.* Sponsor: James P Dunn.

Christine Philips. *Trisomy-16 Placental Mosaicism: A Case Study.* Sponsor: Nancy Shontz.

Kristin Rench *A Statistical Look at the Factors that Affect Deforestation in the Western Ghats of India.* Sponsors: Shaily Menon, John Gabrosek, and Neal Rogness.

Stephanie Shuker and Bruce Van DenBosch. *Estimating Non-Point Source Pollution using Geographic Information Systems.* Sponsor: Shaily Menon.

Cassie Summerfield. T*he Effects of Water-Stress and Herbivory on Milkweed Defense and Reproduction.* Sponsor: James P Dunn

Beth VanderToorn, Jill Thompson, Sandra Gabrielse and Jacquelyn Schei. *The Little Campus that Grew.* Sponsors: Kelly Parker and Mark Luttenton

Michael VanOotghem. *Water Quality Assessment on the Bass River Recreation Area's Large Water Basin.* Sponsor: Rick Rediske (WRI)

Michael VanOotghem *Lower Muskegon River Watershed terrestrial and Aquatic Habitat Changes.* Sponsor: Rick Rediske (WRI)

Bruce Whitaker and Joshua Stickney *A Quick and Easy Method for the Detection of Bovine-Specific Bacteria by PCR.* Sponsor: Rod Morgan

Rebecca Wigger *Environmental Factors Affecting the Distribution of Red-backed Salamanders on the GVSU Campus.* Sponsor Michael Lombardo.

Jodi Wilkinson *Integrins: Possible Mechanisms by Which Plant Cells Perceive their Environment.* Sponsor: Sheila Blackman.

New Courses approved during the 1999-2000 academic year:

BIO 418A: Western Natural Resource Issues: Field course to Greater Yellowstone Ecosystem. C. "Griff" Griffin.

This field trip exposed students first-hand to western ecosystems and their management. Most of our time was spent in the Greater Yellowstone Ecosystem in Idaho, Montana, and Wyoming. We talked with agency personnel from the National Park Service, Forest Service, and the Bureau of Reclamation. They discussed challenges such as changing the public's perceptions of fire, involving the public in decision making, and the growing popularity of recreation on federally managed land. Communities near public land are often very involved in trying to influence management. This was particularly evident when we met with business leaders in West Yellowstone about the proposal to ban snowmobiles in Yellowstone National Park. Interest groups also play a major role in influencing western environments. The Nature Conservancy discussed their efforts to improve the productivity of rangeland while simultaneously increasing stream health. They are hopeful that local ranchers will adopt their rotational grazing practices.

We talked with the Sierra Club and the Buffalo Field Campaign about their efforts to increase wilderness areas and reduce the slaughter of bison in national parks. Water management in the west is complicated by century old laws that allow individuals to own a public resource such as water. We saw the results of these antiquated laws when we visited two reservoirs and saw the dramatic changes in water levels that occur over the summer. We also discussed historical fisheries management in the West and the resultant decline of native species such as cutthroat trout.

Thirteen NRM, Biology, and Communications students traveled in two vans over 4,200 miles in ten days. We camped every night, but the fires that hit the West last summer made for some chilly, campfire-free nights because of the restrictions on burning.

On our day off, some people hiked, others rafted down the Snake River, while the remainder of the group relaxed in town. Students said the trip was eye-opening and very rewarding. The trip is likely to be offered again

in the Summer of 2002. Pictures from this trip can be accessed through the Biology Department website: http://www.gvsu.edu/biology/.

BIO 418B: Natural History of Coastal Maine. Katherine Kantz, Keith Fessel, and Joe Jacquot.

In July 2000, ten Grand Valley students participated in a field course to the coast of Maine. We initially drove to the southern coast of Maine and spent two days in the salt marshes and bogs. It became clear how influential tidal action and wetlands are in coastal areas. We next traveled to the Robert S. Friedman field station in northeast Maine, which is operated by Suffolk University. The field station is located in the Bay of Fundy, which is noted for its large tidal swings. We experienced tides of over 5.5 m! The intertidal zone in this area was remarkable; it was a forest composed of red, green, and brown algal. We encountered vast numbers of sea stars, urchins, limpets, barnacles, clams and mussels, crabs, chitons, polychetes, and many other taxa. It was a great chance to experience the diversity of intertidal zones. We spent a foggy morning boating out to Machias Seal Island to visit the largest Atlantic puffin colony in the U.S., while there we also encountered common razorbills, gray seals, and had our closest encounters with harbor seals. The town we departed from had several large salmon enclosures and we learned they were operating 'salmon farms' locally. We spent our last five days camping in Acadia National Park. Diversity in the intertidal zone was lower than what we had encountered at the field station. The role of tourism was evident throughout the trip, but was most obvious in Bar Harbor, which we explored one afternoon. While in town we also went on a whale-watching trip, our boat alone had 300-400 people. One of the trip highlights was a day spent hiking up Cadillac Mountain to observe the change in plant communities with increasing elevation. We received a lot of positive feedback from the students and hope to offer this trip again in the future. Pictures from this trip can be accessed through the Biology Department website (http://www.gvsu.edu/biology/).

Participants in the Maine field course. Photo was taken at the top of Cadillac Mountain, Mt. Desert Island, Acadia National Park.

BIO 272: Insect Biology and Diversity. Jim Dunn.

What is the most successful group of eukaryotic organisms on earth? If the number of species indicates success then the insects have it hands down. For example, there are more species of beetles than all the species of mammals, reptiles, birds, and amphibians put together. Wow!

In response to growing biodiversity issues, a new course is being taught at GVSU, Biology 272 Insect Biology and Diversity. Students investigate evolutionary reasons that may have led to the success of insects and the ecological roles they play in terrestrial ecosystems. In lab and field, insect diversity will be examined by making a scientific collection followed by museum curation, and taxonomic identification. Students leaving the course are prepared to scientifically study, collect, and identify terrestrial adult insects.

BIO 309: Plants and Human Health. Katherine Kantz.

BIO 309 is a new course in the General Education theme "Health, Illness and Healing". It does not count towards the Biology major or minor. The course is primarily an examination of the plants and fungi that are sources of medicines and herbal remedies or that are used in the healing practices of various societies. Plants that are a regular part of people's diets and that have been found to have specific health benefits will also be discussed. This course will provide a biological perspective to the theme to compliment the perspectives provided from anthropology, history, psychology, social work, and sociology.

One goal of this course is to examine the biological reason why many plants and fungi produce chemicals, such as caffeine and cocaine, which are physiologically active in animals. A second goal is to explore the different types of claims (i.e. folkloric, anecdotal, and scientific) made about the health benefits or healing properties of particular plants, fungi or their products.

As a third component of this course, examples of particular plants and fungi that have been proposed to have physiological effects in humans will be examined in order to

provide non-biology majors with a sense of the broad role that plants and fungi play in human health.

BIO 412: Mammalogy. Joe Jacquot.

Although the mammalian lineage is not species rich, it is an important group simply because it gave rise to *Homo sapiens*. Additionally, many mammalian species are prominent throughout human culture as sources of food, shelter, tools, in commerce and religion, and in recreational activities such as hunting, trapping, and ecotourism.

Students will learn about mammalian evolution, ecology, physiology, and behavior. They will also gain practical knowledge concerning mammal identification, estimating population and home range sizes, handling techniques, and the methods of studying mammals in the field. It will be especially useful for those students who are interested in teaching, field naturalist positions, game management, applied ecology, and for individuals that wish to conduct future research with mammals.

Mammalogy was taught for the first time this fall (BIO 380); each student was required to prepare three study skins as part of the course. These materials were a significant addition to our new mammal collection. As our collection grows I intend to make it accessible to local schools. The collection serves many courses other than Mammalogy, including Natural History of Vertebrates and Wildlife Management. It would be helpful to have mammals donated from our alumni. For example, if you have a cat that brings small mammals to your home, you remove moles or ground squirrels from your yard, or you come across an irresistible road kill I would love to receive a 'mammal care package'. Such donations, including the shipping costs are tax deductible, I would ask that you contact me for more information if this sounds interesting to you. I may be contacted at 616-895-3523 or jacquotj@gvsu.edu.Thank You, Joe Jacquot, Resident Mammalogist.

New Website!

Lowry C. Stephenson, Web Coordinator for Biology/NRM

GVSU's Biology Department and Natural Resources Management Program have an official web site! Visit us at www.gvsu.edu/biology or from the GVSU homepage under academic programs. The NRM web site is maintained within the Biology site and can be reached from the Biology homepage or from the GVSU homepage under academic programs. We went live in June 2000 and soon were averaging more than 7,000 hits per month. Our goal is to serve our various interest groups in a variety of ways. The most obvious function is to provide information–key Departmental contacts; descriptions of programs, emphases, and courses; roster of faculty and staff with complete contact information. We've recently added fairly extensive personal pages for every faculty member–background, publications, research interests, even pictures! Many faculty have links to their own homepages as well. This is a great way for alumni to keep up with what their favorite professor is doing. One growing use of the Biology/NRM site is to provide web links to specific course sites, where faculty have developed supplemental resources for their courses. We found that our candidates being interviewed for the three Biology job vacancies used our web site heavily to find out more about the Department, programs, and faculty. We've recently added an additional feature–photo essays of recent summer field courses. Courses to Maine, Yellowstone, and Brazil are now on line or soon will be. We expect faculty to add pages for new or specialized courses as well, to better bring them to the attention of GVSU students planning their programs.

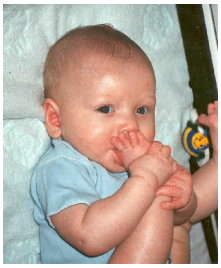
Our primary user group for the web site is the student population. These include prospective majors–students new to Grand Valley (or even still at high school) who want to find out more about our department and the major, and current Biology and NMR majors–students who can use the program and course pages to plan their programs or visit the faculty pages to contact a faculty member or prospect for a research interest that matches their own. Other user groups include GVSU faculty or administrators, who need to contact someone or clarify a program detail in the major, and the general public–we've had hits nationwide and even from abroad–Japan, Australia, Czechoslovakia, Bulgaria, and others.

One group we have not yet addressed is the alumni. An active web site is an obvious way to link our alumni with the Department, as it is readily and immediately accessible to everyone anywhere. What would the alumni like to see on a site specifically devoted to their own interests and needs? Roster of alumni with current address and contacts? Photo essays of specific graduates? Essays by alumni on specific jobs, careers, or graduate programs? A bulletin board feature? Do you have ideas for a Biology/NRM alumni web site within our current site? Contact me to discuss this further.

Our current Biology/NRM web site is a basic one, without fancy features, designed to be easily accessible to the slowest computers and most primitive browsers. The University is proposing to upgrade its site in the near future (this year) and introduce a new look to its pages. This make over will apparently extend to at least the top layers of our Biology/NMR site as well. Stay tuned! If you have comments, suggestions, or corrections regarding the

Biology/NRM web site, or about potential roles for the site to alumni, please get in touch with me. My email address is stephenl@gvsu.edu and phone (616) 895-3103.

All words are pegs to hang ideas on.
Henry Ward Beecher



Our latest arrival!

Sheila Blackman and Mark Staves are thrilled to announce the birth of their son Ian Alexander Blackman Staves on September 17, 2000. He entered the world 54 cm long, weighing 3410 g and seems to be having a great time.

Faculty Profile: Dr. Michael P. Lombardo

Dr. Lombardo was born and raised in the New York Metropolitan area and attended elementary and high school in Rockville Centre on Long Island. He was always interested in science as a career and during elementary school, at the height of the space race, was very interested in being an astronomer and discovering new stars and planets. His parents encouraged his interest in science and microscopes and telescopes were common birthday presents. Later on in high school, he became interested in biology with the intent of becoming a physician.

When he entered the Ohio State University in the fall of 1972, his plan was to major in zoology as preparation for attending medical school. After his junior year he worked as a volunteer in the toxicology laboratory of the Nassau County Medical Examiner's Office to learn some laboratory skills and a bit about pathology. Ironically, while working on completing his zoology major, Dr. Lombardo had little interest in his current fields of expertise; evolutionary biology, behavioral ecology, and ornithology. To him, studying evolution and animal behavior seemed like a monumental bore. All of this changed during the summer between junior and senior years when one of his best friends encouraged him to read Jane Goodall's book, *In the Shadow of Man*, about her pioneering field studies of chimpanzees. Reading that book that summer changed everything about the future course of his life. During the rest of that summer and the following school year, he devoured all the books that he could on human evolution and animal behavior. He decided that want he wanted to do was to learn more about evolution and animal behavior so began planning to study those fields in graduate school. When he was graduated in 1976, Dr. Lombardo was the first person in his large extended family to attend college and earn an college degree.

Dr. Michael P. Lombardo

Dr. Lombardo began graduate school at Rutgers University in 1977 intent on studying the evolution of social behavior. While at Rutgers his major professor Harry W. Power influenced him to begin using birds as model systems for studying and understanding the evolution of behavior. His master's thesis, completed in 1979, was on the sex ratio strategy of Eastern Bluebirds (*Evolution* 36:615-617, 1982). For his doctoral work he studied the interactions between breeders and nonbreeders in Tree Swallows. During that project, he conducted the first experimental test of the TIT FOR TAT model of reciprocity (*Science* 227:1363-1365, 1985). Dr. Lombardo defended his dissertation in 1984. From 1984-1987 he taught a variety of courses at Rutgers including Animal Behavior, Biology and Social Issues, General Biology, and Human Sexuality.

While teaching at Rutgers Dr. Lombardo also worked on a project that studied the ecological and evolutionary correlates of intraspecific brood parasitism and cuckoldry in European Starlings. In starlings, some females (parasites) avoid the costs of parental care by laying their eggs in the nests of other females (hosts) and before laying their own eggs parasites sometimes remove host eggs *(Behavioral Ecology and Sociobiology* 24:217-223, 1989).

From 1987-1990, Dr. Lombardo was a Junior Fellow in the Michigan Society of Fellows at the University of Michigan. The Michigan Society of Fellows is an interdisciplinary postdoctoral fellowship program. During the three-year fellowship, Junior Fellows are free to pursue their research, scholarship, or creative interests. It was an intellectually exciting experience and he was able to regularly interact with very bright and accomplished people in fields that ranged from cultural anthropology to philosophy to the history of art and music. While at Michigan, he continued to study the evolution of social behavior and worked on projects that researched (1) the ecological correlates of infanticide and (2) nest architecture in Tree Swallows (*Auk* 111:814-824, 1994). While at Michigan he also taught the evolution lectures in General Biology and a non-majors course in Animal Behavior.

Dr. Lombardo began teaching at GVSU in 1991 after temporary teaching jobs at West

Chester University and Villanova University in Pennsylvania. At GVSU he regularly teaches Animal Behavior, Evolutionary Biology, Human Evolution, Field Zoology, Ornithology, and Natural History of the Vertebrates. He continued his research on Tree Swallows and has published over 30 papers on various aspects of avian biology. Undergraduate researchers have made some very important contributions to his research projects at GVSU (*Auk* 112:973-981, 1995; *Condor* 98:167-171, 1996; *Auk* 116:947-956, 1999; *The American Midland Naturalist* 144:216-219, 2000). For the last five years Dr. Lombardo has collaborated with Dr. Pat Thorpe in studies of (1) the ecological and evolutionary dynamics of the interactions between Tree Swallows and the microbes that live symbiotically with them (*Behavioral Ecology* 10:333-337, 1999; *Journal of Wildlife Diseases* 36:460-468, 2000), and (2) patterns of sperm depletion and replenishment in Tree Swallows. They work very closely with students in all of their projects and doing research with students has been the most rewarding part of their experiences at GVSU.

In his free time, he enjoys spending time with his wife Leslie and two teen age daughters, biking when the Michigan weather cooperates, reading, and rooting for the Buckeyes and the NY Mets. His only real claim to fame is a two-week appearance with Miss Joan on Romper Room in the spring of 1960.

Alumni News

Scott Herron says Hi

I recieved the Cobwebs newsletter for this spring and thought I would let you know what I am up to as an alumni. I graduated in 1998 from GVSU with B.S. in Biology and Plant emphasis. Since then I have been working on my Ph.D. in Plant Biology at Southern Illinois University at Carbondale. I was priveledged to a direct entry in the Ph.D. program and have been supported by an IMGIP fellowship for the first two years with one more year of support.

I just recieved a $600 Ozment fellowship natural history grant. This will be used for travel to undertake one component of my research, *Ethnobotany of the Anishinaabek Northern Great Lakes Indians*. The Ozment grant will allow me to research this May and June with the Keweenaw Bay Indian Community in Baraga, MI. I am still happily together with Michelle Hulls (1998 GVSU alum in Health Communications) after meeting almost six years ago freshman year in good old Robinson Dorm. We have been engaged since July 30, 1998. She is the Public Awareness and Media Relations Coordinator for the entire state of Illinois in the non-profit NGO Green Thumb, Inc., which services people aged 55 and older in training and placement into today's workplace.

Take care and thanks to all the faculty and students who worked with me.

Shannon Hanna is enjoying grad school

Hello Shaily!

Just thought I'd write to update you on my grad school process. I was accepted into the Forestry program at Michigan State! I am super excited! I decided to go the Forestry route. I'm very interested in forestry after taking Neil's and your class where I did a lot of forest analysis kinds of stuff. So, I just wanted to thank you again for the letter you wrote for me. I'll keep you updated on how my first semester goes!

Also, I've been using GIS throughout the summer with the DNR. I just finished a big project showing all the historic and current horse trails within the entire State Game Area. We are holding a public meeting to try and show the damage that the horses cause to the trails and stream beds. I also used ArcView to calculate all the miles we have of each type of trail to show the horseback riders all the damage they cause! It will be fun to see this project presented to the public! Well, that's all for now! Hope all is well at GVSU!

And a note from Bethany Waterbury, DVM

Hello there!

I am a 1995 graduate of the Biology department and wanted to let you guys know what is up with me. I graduated from MSU's College of Veterinary Medicine in 1999, and am working at the Kentwood Cat Clinic here in GR. I was very excited to see that GVSU now has a pre-vet club, and would love to work with the club in any way I can - speaking to the group, setting up volunteer or paid positions etc. So if you could pass my name onto the club I would appreciate it.

So many new faces and names at Grand Valley. Are the Shontz's still around? I loved my genetics classes with Nancy Shontz.

Keri Konarska is keeping in touch

Hi Shaily!

I know, I know, it's been a long time since I've written... sorry! I really wanted to get to GVSU while I was home for Christmas break but between the snow, appointments, more snow, & a head cold, I just didn't get out that way!

So, how's life at GV? What are you teaching this semester? How's Kira?

I am still in Denver, but I will be graduating in June. I am the "poster child" for the MSGIS program since I will be the only student to do research, publish a paper and finish it all in two years. The research is still on-going. It just never seems to get finished. I was suppose to have the paper ready by December, but I still don't have all of the analysis done. I do have a table with new ecosystem service values for all the states (except for the coastal states... I have

to mask out the ocean water from the images before calculating the areas) and I can tell you that all of the states increased in value except New Mexico. I am presenting a poster of my research at the Association of American Geographers national meeting at the end of February.

I am debating what I want to do after graduation. I just need to get a job, but I'm not sure what that job might be! I am torn between the need to use my degrees and wanting to teach. My advisor keeps telling me that I should get my Ph.D., but I just don't think I have the energy right now. I would like to move back to Michigan, so I am looking on the internet for environmental consulting & GIS-type jobs. Since I have been a TA, I have also discovered that I really like teaching or at least working with students, so if I could find something in that arena...well, I have 5 months to figure that out, so Im sure it will all work out!

Speaking of teaching, I have to go. I am teaching lab this afternoon and I have to make sure the A/V equipment works, etc!

Take Care! Let me know what's new in the Biology Dept.!!

Denise Dunn: enjoying research in a sunny climate

Dear Dr Rogers,

I received your recent newsletter and thought I would let you know where one of your graduates ended up and what we do for research down here in Lake Alfred, Florida. I graduated from GVSU in 1984 (B.S. in biomedical sciences). I have been involved in various areas of biological research for 15 years now. I received my M.S. in Botany from University of South Florida, with studies in stress-induced predisposition to disease in plants as it relates to cellular nitrogen changes and phenolic defense responses (something I call the 'arginine connection'). I am presently working in a nematology laboratory where our main area of focus is citrus diseases. We also work with beneficial nematodes as biocontrol agents of arthropod pests. We have discovered new endemic species of nematode that could be used in integrated pest management systems (IPM) to control diseases using the least possible chemical intervention.

My personal areas of research interest include; short-chain polysaccharide signaling to root zone organisms, changes in cellular metabolic pathways of nitrogen in plants under different stress scenarios, and mathematical modeling of survivorship probabilities of plant pests and diseases using known (and approximated) biological life cycle parameters of similar organisms. I plan to initiate a Ph.D. program as soon as I have settled on one of these ideas or some other area of interest. Lake Alfred, Florida is the location of CREC (Citrus Research and Education Center), where I work as a biologist and where I reside. CREC is a satellite research facility of the University of Florida in Gainesville (2 hrs north). Lake Alfred is a one-traffic-light town, quiet and rural. However we are 40 short minutes from both Disney (north) in Orlando, and Tampa Bay (SW).

CREC is the largest agricultural research facility devoted to citrus in the world. We have approximately 50 Ph.D. staff and a similar number of biologists and support personnel such as myself. The facility is unique in that we have all of the crop research areas found in a major university (from horticulture to disease to post-harvest research) only in a microcosm and on a single crop, which creates unique opportunities for cooperative multi-disciplinary work. We also have a community, family-like spirit, since we are small compared to a university. If you're in Florida feel free to drop into our research facility for a tour.

Keeping in Touch

We hope you enjoy our newsletter and that you will keep in touch with us. We welcome your feedback. Share news with us–even if it is old to you. Give us your email address and expect some kind of response (though not an instant one). We are accessible through rogersk@gvsu.edu, phone: 616-895-2470. Keep the Biology Department informed of changes in your mailing address, and if there are classmates out there that you've lost touch with, ask us for addresses.

- cut here -

Name: ____ Year graduated: _____________

Corrected address :_____________________________

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__________________________ Zip _______________

email: _____________________

Please send to: Biology Department
Grand Valley State University
Allendale, MI 49401

Tori Weaver writes...

Hey Neil,

I just wanted to let you know that I got a job at Burns Forestry Service in Iron Mountain. This place is a part of Canal Forest Resources, I don't know if you've ever heard of them. I will be a forestry technician for the summer, but I will mainly focus on wildlife management. I'm so excited. They may even send me back downstate to do some work for a few weeks. That's all for now. I just wanted to let you know what was going on. Thanks.

Alumnus Nate Bacheler, Jodee Hunt, and Liam Walits at the recent Black Bass 2000 Symposium (part of the American Fisheries Society's national meeting in St. Louis, MO). Nate co-authored an invited paper that Jodee presented in the "Conservation" session of the symposium. Nate is working on his masters in Puerto Rico studying the ecology of "bigmouthed sleepers," a fish native to Puerto Rico.

Note: The feedback from the alumni has been overwhelming. Unfortunately, due to space limitations we are unable to publish all the letters/information we receive. But please continue to write us. We really appreciate hearing from you and will do what we can to share your stories with others. Thanks so much for keeping in touch!