

ANNUAL REPORT: June 1, 2009 – May 31, 2010
(i.e., Summer 2009, AY 2009-2010)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: Mark V. Lomolino

I. INSTRUCTIONAL ACTIVITIES

1. Regular Course Offerings

<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>	<u>No. of Lab. Sections</u>
SUMMER:				
FALL:				
EFB797	Ecology and Conservation of Island Life	1	10	
SPRING:				
EFB483	Mammal Diversity	3	73	4
EFB 796	Biodiversity of Mammals	4	2	

NOTE: PLEASE INDICATE WHICH COURSE(S) HAD A SERVICE-LEARNING COMPONENT AND BRIEFLY EXPLAIN THE NATURE OF THIS COMPONENT. For examples of service-learning in courses, see: <http://www.esf.edu/students/service/courses.htm>. Service-learning is a form of structured experiential education in which students engage with the community to be active learners, to enrich their sense of civic responsibility, and to explore practical application for course content. Faculty oversight, reflective thinking, and reciprocity are key components of service-learning. EFB courses currently listed with service-learning components include: 416/6/1, 486, 518, 521, 532, 446/646.

2. Non-Scheduled Course Offerings (e.g., 496, 899, 999)

<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>
FALL 2009			
EFB999 13	Doctoral Thesis Research	1	1
SPRING 2010:			
EFB798 13	Resrch Prob/Env&For Bio	1	1
EFB999 13	Doctoral Thesis Research	1	1

3. Continuing Education and Extension (short courses, workshops, etc.)

4. Guest Lecture Activities

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
-------------------	--------------	------------------------

II. STUDENT ADVISING

- A. Number of undergraduates for whom you are the student's official advisor 25 and unofficial advisor 1
UMEB Mentor for Larisa Bishop Burrows – Ecology and Echolocation in Bats
- B. Graduate Students: (Name, degree sought, starting date, month & year; if a degree was completed, please give date and full citation for the thesis or dissertation).

MAJOR PROFESSOR

Katherina Bendz, Ph.D., August, 2005 to present
Natasha Karniski, MS, August 2009 to present

CO-MAJOR PROFESSOR

MEMBER, STEERING COMMITTEE (other than those listed above)

Annie Schlesinger, MPS

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Chair of Examining Committee, Rayna Mayo – Environmental Studies

III. RESEARCH COMPLETED OR UNDERWAY

- A. Departmental Research (unsupported, boot-legged; title - % time spent)
- The Historical Development of Island Biogeography – 5%
 - Body Size Evolution in Insular Mammals – 5%
 - Ecology of Prairie Dog Towns – 5%
 - Evolution and Conservation of Elephants – 5%
 - Geographic Range Collapse in Endangered Species – 5%
- B. 1. Grant-supported Research (source, subject, amount - total award and current year, award period starting and ending dates; list graduate research assistants supported by each grant)
2. Research Proposals pending (include information as in B.1., above).
- NSF – Of Mice and Mammoths: Toward a General Theory of Body Size Across Space and Time
requested \$420,681; received notice of partial funding for initial period of grant (1 ½ years) of \$100,000
- NE Regional Conservation Needs Grant Program - Wildlife Management Institute - Climate Change, Long-Distance Dispersal and Conservation of Northeastern Forest Wildlife - \$100,000, pending
3. Research Proposals submitted, but rejected (include information as in B.1., above)
- NSF – Rapid Morphological Response of North American Mammals to Recent Climate Change - \$181,967
Northeastern States Research Cooperative (NSRC) 2010 - \$90,561

IV. PUBLICATIONS (Full bibliographic citation, i.e., do not use "with Jones," or "Jones, et al."; please list only publications published, in press, or actually submitted during this reporting period --- **do not list manuscripts in preparation**).

A. Refereed Publications

Journal Publications:

- Creighton, C., R. Bastarache, M. V. Lomolino and M. C. Belk. 2009. Effect of forest removal on the abundance of the endangered American burying, *Nicrophorus americanus* (Coleoptera: Silphidae). *Journal of Insect Conservation* Volume 13:37 - 43.
- Lomolino M. V., Brown J. H., D. F. Sax. 2009. Island Biogeography theory: reticulations and re-integration of 'a biogeography of the species'. Pp. 13-51 in, *The Theory of Island Biogeography at 40 – Impacts and Prospects*, edited by J. Losos and R. E. Ricklefs. Princeton (NJ): Princeton University Press.
- Lomolino, M. V., and J. H. Brown. 2009. The reticulating phylogeny of island biogeography theory. *Quarterly Review of Biology*. 84(4):357-90.
- Lomolino, M. V. 2010. Four Darwinian themes on the origin, evolution and preservation of island life. *Journal of Biogeography*.
- Brown, J. H., and M. V. Lomolino. 2010. MacArthur and Wilson's equilibrium theory. Pp. xx – xx in, *Foundations of Macroecology*. University Chicago Press.

Books:

- Lomolino, M. V., B. R. Riddle, R. J. Whittaker and J. H. Brown. 2010. *Biogeography*, 4th Edition. Sinauer Associates.

B. Non-refereed Publications

C. Papers Presented at Science Meetings (give title, date, occasion, and location)

D. Public Service Presentations (lectures, seminars, etc. to and for the public; give group or occasion, date(s), and attendance)

- Brown University – Guest Lecturer in General Ecology; Research Seminar on Evolution of Insular Body Size
- Utah State University – Research Seminar on New Theories in Biogeography

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local):
2. Industrial and Commercial Groups, etc.

B. Unfunded Service to Governmental Agencies, Public Interest Groups, etc.

VI. PROFESSIONAL DEVELOPMENT

A. Professional Honors and Awards (for teaching, research, outreach, etc.)

B. 1. Activities in Professional Organizations (offices held, service as chairman, member, participant or consultant)

Advisor, International Biogeography Society; development of a new journal – Frontiers of Biogeography

2. Professional Society Membership

International Biogeography Society

The Wildlife Society

American Society of Mammalogists

3. Other Professional Activities

a. Editorial activity

Journal (s)

Responsibility

Other (books, symposia, etc.)

b. Reviewer

- Approximately 20 reviews for various journals including Science, PNAS, TREE, Journal of Biogeography, Evolutionary Psychology, and Ecography.
- Proposal Reviewed for Marsden Fund, New Zealand

Journal(s)

No. of manuscripts

Agency

No. of proposals

Other

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.

Date

Place

C. Further Education/Re-training Undertaken, Leaves, Workshops, etc.

D. Foreign Travel (Where, When, Purpose)

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Participated in accepted student receptions and overviews of departmental programs in wildlife and conservation for visiting parents and students.

B. College-level

C. University-wide, including Research Foundation

VIII. SUMMARY OF SIGNIFICANT ACTIVITIES AND ACCOMPLISHMENTS DURING THIS REPORTING PERIOD, ESPECIALLY THOSE MOST NOTEWORTHY AND RELATIVE TO THE COLLEGE'S AND DEPARTMENT'S MISSION. One paragraph on each of the following would be most helpful: this past year, what have you done for our students, department/college, and self professionally? NOTE: The information in this section (along with the supporting specific information elsewhere in this report) should be your strongest case for being considered for a discretionary raise, which I'll continue to award based on your contributions to the department and college this reporting period.

Course development:

The course, Ecology and Conservation of Island Life, is one I am developing and hope to offer a graduate and upper level undergraduate course during the Fall semester of odd years. I offered a preliminary version of this as a 1 credit graduate course (EFB797) to 10 graduate students during Fall, 2009. Based on evaluations, the course was very well received and there would be much interest for a 3 credit course of the same title.

Mammal Diversity, EFB 483, is a four credit course that I have developed after arriving at ESF. During the Spring semester, I thoroughly revised and expanded the lab and discussion portion of this course, adding additional discussion topics, developing a web page and on line resources, organizing the mammal teaching collection in Room 238, better integrating lectures, video and power points shows of living mammals in lecture, lab and discussions, and offering optional labs in mammal tracking during three weekends (at the campus cemetery and Beaver Lake Nature Center) and one at the zoo.

Research and Scholarship:

Publication of the 4th Edition of Biogeography – Lomolino, Riddle, Whittaker and Brown, Sinauer Associates. This thoroughly revised and full-color edition should continue to be the leading text in the field of biogeography.

Expanded research program on ecology, evolution and biogeography of body size to include effects of climate change (dissertation topic of Katherina Searing) and patterns of extinct insular mammals and mammal species recently introduced to islands (recently notified of initial funding of \$100,000 for these studies by NSF).

Publication of important review of the conceptual develop of island biogeography theory in Quarterly Reviews.

IX. A. FUTURE PLANS, AMBITIONS, AND POTENTIAL CONTRIBUTIONS FOR YOUR OWN PROFESSIONAL DEVELOPMENT AND THE ENHANCEMENT OF THE PROGRAM IN

ENVIRONMENTAL AND FOREST BIOLOGY (brief summary)

In research, I am continuing to develop collaborations with a researcher at Brown University and a paleoecologist from Rome; these studies will focus on evolutionary and geographic variation of body size of non-native, introduced mammals, and a related study of body size variation and potential anthropogenic downsizing of elephants. Along with three other colleagues, we are revising our text – Biogeography, for its 4th edition, planned for summer of 2010.

In teaching, I will continue to develop my current course offerings, and explore the potential to offer a short course in field mammalogy and/or biogeography at one of our field stations (AEC or TIBS). I am also planning to complete the development of the course described earlier – a graduate and upper level undergraduate course on the ecology, evolution and conservation of insular biotas, which will be a 3 credit course (initially taught as a 1 credit course in the Fall of 2009).

In service, I will continue advising undergraduate and graduate students and contribute to development of the majors in Conservation Biology and Wildlife Sciences. Our new grant includes funds to support a Ph.D. level GRA for at least three semesters, so I will be recruiting another graduate student over the next few months and to start by January 2011.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2010

a. Course(s) to be offered – Mammal portion of ESF 202 at Cranberry Lake

b. Proposed research activity

- Initiate research on Body Size Evolution in Paleo-insular and Introduced Mammals – NSF.
- Apply for funding to initiate research on long-distance dispersal of vertebrates across the Great Lakes St. Lawrence System (proposal pending, new ones to be developed)
- Assist graduate student on studies of effects of climate change on body size of North American mammals

Continue Collaborative Research on

- Geographic Range Collapse in Endangered Species
- An Integrative Theory of Island Biogeography
- Body Size Evolution of Mammals on Islands
- Body Size Evolution and Conservation of Elephants

c. University, professional society, and public service – see above

2. Fall Semester 2010

a. Course(s) to be offered

<u>EFB444</u>	Biodiversity&Geography/Nature
<u>EFB644</u>	Biogeography
<u>EFB797</u>	Conservation Biogeography

b. Proposed research activity

- same as above

c. University, Professional society, and public service

– see above

3. Spring Semester 2011

a. Course(s) to be offered

EFB797 Conservation Biogeography

EFB 483 Mammal Diversity

EFB 683 Biogeography and Conservation of Mammals

b. Proposed research activity

- same as above

c. University, professional society, and public service

– see above