

ANNUAL REPORT: June 1, 2013 – May 31, 2014
(i.e., Summer 2013, AY 2013-2014)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: Rebecca J. Rundell

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:

SPRING:	EFB311	Principles of Evolution	3	183	N/A
	EFB355	Invertebrate Zoology	4	38	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.

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>	
<u>FALL</u>	EFB498	Independent Research/Envrn Bio	5	2	
	(one of the two students is no longer listed on the ESF Faculty Portal for some reason)				
	EFB798	Research Prob/Env & Forest Bio	4	1	N/A
<u>SPRING</u>	EFB495	Undergrad Experience/College Teaching	3	7	2 for 355 + 311 lec.
	EFB498	Independent Research/Envrn Bio	3	1	N/A
	EFB899	Masters Thesis Research	3	2	N/A

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

Started the Evolution Discussion Group (an informal reading group focused on current evolution, evolutionary ecology, and paleobiology literature, convened with graduate and undergraduate students and faculty from ESF and Syracuse University, held in EFB)

4. Guest Lecture Activities

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
EFB211	Diversity of Life	2

II. STUDENT ADVISING

- A. Number of undergraduates for whom you are the student's official advisor 18 and unofficial advisor 2
- B. Graduate Students: (list 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

Ms. Jessica Lynn Miller, M.P.S. in Conservation Biology, Started January 2013; Graduated with M.P.S. in Conservation Biology, May 2014

Ms. Cody Gilbertson, M.S. in Conservation Biology, Started August 2013

Mr. David Bullis, M.S. in Ecology, Started January 2014

CO-MAJOR PROFESSOR

MEMBER, STEERING COMMITTEE (other than those listed above)

Mr. David Kelton Moss, Ph.D. in Geology, Department of Geology, Syracuse University, Started August 2012

Mr. Stefan Karkuff, M.S. in EFB Ecology

Ms. Cheryl Whritenour, Ph.D. in EFB Ecology

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Chair: Ms. Carolyn Huynh, M.S. ESC Water and Wetland Resource Studies, Graduated with M.S. May 2014, "The uptake and depuration of pharmaceuticals ibuprofen and naproxen in yellow perch (*Perca flavescens*)."

External Examiner: Ms. Jessica Bouchard, M.S. EFB Plant Science and Biotechnology, Graduated with M.S. May 2014, "Genetic and phenotypic diversity of *Dryopteris fragrans*, a rare fern in the forests of the northeastern United States."

External Examiner: Ms. Emily Ogburn, M.S. EFB Fish and Wildlife Biology and Management, Graduated May 2014, "Banded killifish parasites of the Hudson River estuary's littoral habitats."

III. RESEARCH COMPLETED OR UNDERWAY

- A. Departmental Research (unsupported, boot-legged; title - % time spent)

Rundell, R.J. In Prep. Build up of ecologically similar species of rock- and leaf-litter dwelling land snails.
Rundell, R.J. and J.E. Czekanski-Moir. In Prep. Molecular phylogeny and geographic distance in Belau diplommatinid land snails.
Rundell, R.J. In Prep. Devastation and diversity: Conservation of an indigenous snail biota in the aftermath of World War II, Battle of Peleliu (Republic of Palau, Oceania).
Rundell, R.J. and J.E. Czekanski-Moir. In Prep. The land snails of Kosrae (Kosrae State, Federated States of Micronesia, Oceania).
Bullis, D. and Rundell, R.J. In Prep. Conservation and geographic distributions of Belau's critically endangered endodontoid land snails.
Enck, J. and Rundell, R.J. In Prep. Adirondack lake meiofauna biodiversity.

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)

2014 ESF Seed Grant Program, "Belau's islands of diversity: Development of a natural laboratory for evolutionary research and teaching," \$3,900 April 2014 - June 2015; research of graduate students David Bullis and Jesse Czekanski-Moir supported in part (e.g. supports purchase of critical sequence analysis software). PI: R.J. Rundell

USFWS Endangered Species Great Lakes Restoration Initiative (GLRI), "Removing the threat of stochastic extinction for the Chittenango ovate amber snail: A collaborative captive propagation effort to develop *ex situ* population in New York State," \$100,000, 9/1/2013 – 8/31/2016; partial support of M.S. student Ms. Cody Gilbertson. Year 1 of grant.

2. Research Proposals pending (include information as in B.1., above).

NSF DRL - AISL, Program Solicitation 13-608. "Collaborative research: Research in service to practice: An informal evolution education opportunity for the urban and rural public: SquirrelMapper." \$1,714,725, 48 months starting 1/1/2015. PIs: Gibbs, Bonter, Folta, Rundell, Zuckerberg

US Army Corps of Engineers and the Cooperative Ecosystem Studies Unit. "Baselines and barcodes: Developing land snails as indicator species on Fort Drum." \$73,815, May 1, 2015 to April 30, 2016 pending governmental budget approval, to support (in part) graduate student David Bullis or other graduate student recruited or assigned to the project. PI: R.J. Rundell

John Ben Snow Foundation, "Wild life on the web;" \$10,742, July 2014 - July 2015, support for Roosevelt Wild Life Collections cabinets and drawers and nominal support for Ph.D. student Jesse Czekanski-Moir to undertake megapixel photography and video project in service of the Roosevelt Wild Life Collections. PI: (Brenda Greenfield, ESF College Foundation, Inc.) submitted/written by R.J. Rundell

3. Research Proposals submitted, but rejected (include information as in B.1., above)

Northeastern States Research Cooperative (NSRC) 2014 Pre-proposal, Theme Four: Biodiversity and Protected Area Management: "Biodiversity assessment for developing New York forest land snails as indicators of forest health and environmental change." (Full proposal invited).

Northeastern States Research Cooperative (NSRC) 2014 Full proposal, Theme Four: Biodiversity and Protected Area Management "Biodiversity assessment for developing New York forest land snails as indicators of forest health and

environmental change.” \$136,915, 2014 – 2016, to support tuition, assistantship and research of graduate student David Bullis. PI: R.J. Rundell. (Rejected)

NSF Division of Environmental Biology, Program Solicitation 14-503. 2014 Pre-proposal. “Tardigrades across mountains: Ecology of tardigrade community structure across elevational and environmental gradients.” PI: K. Hayes et al.; R.J. Rundell, Senior Personnel. (Not invited for full proposal)

NSF Division of Environmental Biology, Systematics and Biodiversity Sciences cluster, RAPID Program. 2014. “Baseline inventory of land snails of the central Southern Tier region of New York State: Assessing the fauna prior to hydraulic fracturing impact.” co-PIs: R.J. Rundell, M. Coppolino, P. Mikkelsen, T. Pearce. (Not invited for full proposal)

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

Rundell, R.J. and B.S. Leander. 2014. Molecular examination of kalyptorhynch diversity (Platyhelminthes: Rhabdocoela), including descriptions of five meiofaunal species from the northeastern Pacific Ocean. *Journal of the Marine Biological Association of the United Kingdom* 94(3): 499-514.

B. Non-refereed Publications

Anonymous. 2013. Spectacular diversity discovered in Palau’s unique land snail biota. *Tia Belau* 22 [October 28]: 2, 11. (Republic of Palau) [*Tia Belau* is the Republic of Palau’s national newspaper; I contributed this article to inform the widest audience in Palau about their indigenous terrestrial biota and the importance of forest and limestone outcrop conservation]

Rundell, R.J. 2013. Land snail sampling protocol. Report to the Belau National Museum and Republic of Palau Conservation Managers Association. 14 October 2013. pp. 1-5

Rundell, R.J. 2013. Recommendations for managing and maintaining Koror State forest trails and recreation areas: Indigenous and endemic land snail perspective. Report to Koror State (Republic of Palau) and Princess Blailes, Koror State Rangers. 6 November 2013. pp. 1-4.

Rundell, R.J. and J.E. Czekanski-Moir. 2014. Partulid conservation in the western Pacific islands of Belau (Republic of Palau, Oceania). *Tentacle. Newsletter of the IUCN/SSC Mollusc Specialist Group*. 22: 31-33.

Rundell, R.J. 2014. *National Biodiversity Strategy and Action Plan: Terrestrial Flora and Fauna. Nonmarine Molluscs*. Submitted to Palau Conservation Society 20 February 2014; Submitted to the United Nations Convention on Biological Diversity (CBD) on Behalf of the Republic of Palau in March 2014. pp. 1-5.

Rundell, R.J. 2014. *Terrestrial Flora and Fauna. Nonmarine Molluscs*. Republic of Palau’s 5th National Report to the Convention on Biological Diversity for the United Nations. Submitted to Palau Conservation Society 20 February 2014; Submitted to the United Nations Convention on Biological Diversity on Behalf of the Republic of Palau in March 2014. pp. 1-5.

News coverage for above two CBD reports in:

Anonymous. 2014. SUNY ESF biologist helps United Nations protect Palau snails: CNY Science. *The Post-Standard*

and Syracuse.com [March 25]: 1-2.

Kirschen, L. 2014. Slowly but surely: Professor travels to Micronesia, aids in protection of islands' endangered snail population. *The Daily Orange* [March 31]: 1-4.

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

Rundell, R.J. 2013. Build up of ecologically similar rock- and leaf litter-dwelling land snails on the western Pacific islands of Belau (Republic of Palau, Oceania). Special Meeting of the International Biogeography Society: The Geography of Species Associations. Université du Québec à Montréal, Montréal, Québec, Canada, 15-17 November (talk).

Enck, J. and **R.J. Rundell.** 2014. A survey of Adirondack meiofauna and an investigation into the phylogenetic dimension of community assembly. SUNY-ESF Spotlight on Student Research, 16 April (poster).

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

Rundell, R.J. 2013. Invertebrate evolution and conservation on the western Pacific archipelago of Belau (Republic of Palau, Oceania). Biology Department Seminar. Clarkson University (Potsdam, New York). 20 Sept. Attendance: 40. (Seminar)

Rundell, R.J. and Palau Conservation Society. 2013. Conservation priorities for Belau land snails and their forest homes. A presentation for the Republic of Palau's Conservation Managers Association, Airai State and Oikull Community leaders, and Belau National Museum Board Members. Belau National Museum (Koror, Republic of Palau). Date: 22 October; Attendance: 20. (Seminar)

Rundell, R.J. 2013. Belau *ngetmakl* depend on the forest. Belau land snails help the forest. Humans need the forest, too. Science Classroom of Koror Elementary School (Koror, Republic of Palau). Date: 21 October; Attendance: 30 (Lecture and hands-on snail lab)

Rundell, R.J. 2013. Belau National Museum exhibits on Palau's indigenous and endemic land snails and their conservation. Land snail exhibits are located in the central area of the Natural History section of the Museum. Belau National Museum (Koror, Republic of Palau). Dates: October – Present/Indefinite; Attendance: 1000. (Exhibition)

EFB 311 Evolution Students (**Rundell, R.J.** 2014). International Darwin Day Celebration. This was an officially registered exhibition of student-produced and designed posters, and was the sole publicized Darwin Day event in Syracuse (International Darwin Day website: darwinday.org). In a collaboration with Moon Library colleagues and President Quentin Wheeler, we awarded a student a permanent bookplate in Moon Library's copy of *The Annotated Origin* (authors Darwin, C. and Costa, J.T.). Moon Library, SUNY-ESF (Syracuse, New York). Dates: 10-24 February; Attendance: 250. (Exhibition)

Rundell, R.J. 2014. The Roosevelt Wild Life Station and its Collections: Wild life on the web. John Ben Snow Foundation offices (Syracuse, New York). Date: 17 May; Attendance: 5. (Seminar and funding talk)

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local):

2. Industrial and Commercial Groups, etc.

Sotheby's New York, Silver and Vertu: Advised on conservation status of mollusc species used in historical art objects and silver sets in order to ensure their legal export.

Sotheby's New York, Single-Owner Sales: Advised on conservation status of mollusc species used in historical art objects in order to ensure their legal export.

Sotheby's New York, Jewelry Department: Advised on conservation status of mollusc species used in historical and modern jewelry pieces in order to ensure their legal export.

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

Angaur State (Island of Ngeaur, Republic of Palau): 1) Worked with Dr. Joel Miles and advised the Governor of Angaur State on conservation importance of land snails. Surveyed land snails and crab-eating macaques following widespread Typhoon Bopha destruction. 2) Donated roundtrip airfare for Bureau of Agriculture employee and one volunteer (Pacific Mission Aviation), and truck fuel costs for trip to Anguar.

Belau National Museum (Republic of Palau): I advised the museum on a Collections improvement grant proposal to acquire curatorial materials for the museum's Natural History Collections and Herbarium.

Island Conservation (NGO primarily focused on eliminating rats from islands around the world in order to restore bird nesting on those islands): I advised the organization on key land snail species on islands in Federated States of Micronesia, Republic of Palau, and Palmyra Atoll, and the potential positive and negative impacts on rat-trapping activities on Pacific islands.

Koror State and Koror State Rangers (Republic of Palau): Advised Princess Blailles and Koror Rangers on appropriate construction of trails on Ulong to minimize forest destruction and maximize conservation of threatened diplommatinid species, and critically endangered endodontoid and partulid land snail species, as well as monitor lizards and megapodes (endangered ground-nesting birds).

Melekeok State (Island of Babeldaob, Republic of Palau): I held a workshop on nonmarine mollusc identification and conservation for conservation managers at Ngardok Lake Nature Reserve and advised the director of conservation at Ngardok Lake on conservation practices at the Reserve.

Nchesar State (Island of Babeldaob, Republic of Palau): I advised the Governor of Ngchesar on appropriate road and trail construction practices in order to preserve fringing coral reef in his state and river health. I also advised the Governor on the new land tour area at Ngchesar waterfalls, and proper trail management to ensure survival of endemic orchid species and snail species.

Peleliu State (Island of Beliliou, Republic of Palau): Continued long-term biodiversity survey of the island, focusing this trip on the Bloody Nose Ridge area that was supposedly decimated by flamethrowers and related intense fighting and Japanese tunnel construction and entrenchment during World War II, but that also harbors a spectacular recovered terrestrial biota.

Republic of Palau Bureau of Agriculture: Worked with and advised Dr. Joel Miles on land snail survey techniques and potential impacts of escaped crab-eating macaques on the Island of Babeldaob.

Republic of Palau Association of State Conservation Managers: Met with individual conservation managers in newly established association and began process of advising on the relevance of the terrestrial invertebrate biota to lands under their care.

NYS DEC: Slug identification.

VI. PROFESSIONAL DEVELOPMENT

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

Scientist-in-Residence, Roosevelt Wild Life Station

Research Associate Nominee (pending), Carnegie Natural History Museum (Pittsburgh, Pennsylvania)

Research Associate Nominee (pending), Paleontological Research Institution (Ithaca, New York)

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

Member and Specialist, IUCN (International Union for Conservation of Nature) Species Survival Commission, Molluscs

2. Professional Society Membership

American Malacological Society

International Biogeography Society

Palau Conservation Society

Paleontological Research Institution

3. Other Professional Activities

a. Editorial activity

Journal (s)

Responsibility

Other (books, symposia, etc.)

b. Reviewer

Journal(s)

No. of manuscripts

Biological Invasions

1

BMC Evolutionary Biology

1

Molecular Ecology

1

Molecular Phylogenetics and Evolution

1

PALAIOS

1

PLoS ONE

1

TAPROBANICA, The Journal of Asian Biodiversity

1

Zootaxa

1

Agency

No. of proposals

Austrian Science Fund (FWF)

1

Other

Speciation book chapter (request by author)

1

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.

Date

Place

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

NYS DEC-hosted Webinar, Great Lakes Research Consortium and Regional Economic Development Council Funding Opportunities, May 12, Moon Library (SUNY-ESF)

GPS Workshop, May 15, Baker 437 (SUNY-ESF)

D. Foreign Travel (Where, When, Purpose)

Montréal, Québec, CANADA: To give a talk at a scientific meeting (Special Meeting of the International Biogeography Society: The Geography of Species Associations)

REPUBLIC OF PALAU: Field research; meetings and collaborations with state and federal agencies and NGOs; school programs.

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Head Curator, Roosevelt Wild Life Collections (development, planning and oversight of Collections)

GPAC; taking over revision of EFB's M.P.S. program from former committee member Sadie Ryan who previously worked on the overhaul of the program

Grober Graduate Research Fellowship Committee

B. College-level

Contributed to NYSUNY2020 marketing materials through photos and testimonial on my performance as a teacher and mentor by former ESF undergraduate student David Bullis (student in EFB311 Evolution and undergrad TA in EFB355 Invertebrate Zoology); Feb.-March 2014

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 (**i.e., three paragraphs total**) 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 (when available), which I'll continue to award based on your contributions to the department and college this reporting period.

Students. This year I finished my first grad student, Jessica Miller, with an M.P.S. in Conservation Biology. Miller is leaving ESF having excelled in challenging courses such as population genetics, and has been hired this summer as a paid zookeeper. She will then move into a paid competitive internship in big cat conservation, her desired field. I started two additional grad students this year, one of whom is working on the captive breeding of the endangered Chittenango ovate amber snail, funded in part through the U.S. Fish and Wildlife Service Great Lakes Research Initiative (Cody Gilbertson: M.S.). The other student I recruited through my evolution and invertebrate zoology courses (David Bullis: M.S.). Bullis is pursuing research on the evolution, biogeography and conservation of critically endangered Belau endodontoid land snails, and has submitted several small grant proposals this semester (his first semester) to help fund his work. In the Fall our lab will welcome a new Ph.D. student, Jesse Czekanski-Moir, an expert on Belau ants and snails with deep interests in both evolution and ecology. We will also welcome an M.P.S. student, Logan Osterhoudt, who was recruited by Sadie Ryan's lab.

My undergraduate teaching life this year has been full, with an expanding invertebrate zoology program and a deepening evolution program. In EFB355 Invertebrate Zoology we expanded the number of live invertebrate representatives and the extent of the "invert-ed [flip] classroom" program that continues to be successful. In doing so we found that one grad TA and five (!) undergrad TAs just barely covered the animal husbandry, dry specimen, and dissection meeting and feedback needs for the two labs—but wow did we have an interesting time making it happen. The mussels threw out byssal threads, the hermit crabs scavenged, the urchins mowed down algae and thrived, the anemones were generously fed by probing and inquisitive students, and our jelly tanks and displays improved incrementally. The new coldwater hands-on tank was an enormous hit this year, with students gathering around it just to figure out what was happening by the end of every lab session. By the end of the semester our Amazonian bird-eater tarantula (inherited from former inverts professor Roy Norton) successfully molted—which indicated to me that perhaps we are making progress. This year I had several students approach me after class to tell me how much they learned from the course and how it had changed them. So I think we are moving in the right direction.

Evolution (EFB311) is also improving, my chief indicator being the increasing number of students who approached me after lectures with substantive, intriguing questions. I have a couple of students from that course who are hoping to come work in my lab. I also think we continued to grow with our annual International Darwin Day event at Moon Library. Library liaison Jessica Clemons was instrumental in incorporating the library's new display system, a Darwin- and Wallace-themed book display, and the drawing of a permanent bookplate for one of the Evolution students. The idea behind this Darwin Day poster display is not only to get our students up to their elbows in recent evolution research, but to expose the public to this work in a fun and accessible way. Our event remains the only publicly-registered International Darwin Day event in Syracuse.

We also started the Evolution Discussion Group (EDG) in EFB, and it has been well-attended by students and faculty in the department as well as faculty and students from SU's Geology Department, some of whom I met as graduate participants in my invert zoo course last year. The goal of this discussion group is to provide a collegial environment

for discussing a wide range of papers in the evolution, systematics, paleobiology and evolutionary ecology literature. EDG will continue in the coming year, led by grad students in my lab.

Department/College. My main (or most important) service to the Department and College this year was spending an entire weekend carefully pulling soaking Herbarium sheets out of saturated Lane cabinets and spreading them out across every inch of available horizontal space in Illick Hall. The February 2014 flooding event appeared to be the final insult in a series of destructive construction-related events in Illick, and in this case it not only ruined materials in offices and labs, but damaged the Collections treasure that ESF holds in trust for future generations. To see an entire table of “mighty” oak species practically ruined was truly one of the more depressing moments of this year. Following the flood I worked with Alex Weir and others concerned about the Herbarium to try to save what we could. Additional service to the Department and College (this year and in the coming years) includes heading up the Roosevelt Wild Life Collections, and I look forward to working with faculty and staff in working to improve the conditions and visibility of these specimens so many of us rely on.

Self. My most important accomplishment this year was getting back into the field in Belau (Republic of Palau), after having been away from my work there in order to pursue unrelated postdoctoral research projects at University of British Columbia and University of Arizona. My Fall field season was thus a tipping point following decade-long relationship with the Republic of Palau—one that would set the tone for the next decade of research. I was delighted to find that my work and trust-building had paid off, and I was finally having meaningful dialogue with community leaders and conservation managers. I balanced my time between working with new and old contacts in the field, training community members in land snail survey techniques and conservation, and meeting with governmental officials, NGO leaders and school groups back in town. One of the most pressing concerns in the country is the initiation of limestone outcrop quarrying for road building materials. Because these new quarries are also home to forests with critically endangered partulid tree snails and endodontoid snails I needed to rapidly change plans and spend most of the trip focused on the quarrying threat as well as rapidly expanding land tourism sites. I provided direct, practical advice to governmental and community leaders in several states that are in the midst of clearing roads, trails, and patches of land. Being given the opportunity to impart this advice and seeing my words and research change perceptions and action was a big moment in my research career. The field work itself was also eye-opening in that my will was renewed to pursue more collections in the forest pockets between the rivers of the largest island of Babeldaob, which has been previously neglected in part because of the difficulty in working there. However, the rate at which the forest is being eroded (including endemic tree species down to a handful of known individuals), combined with the endemism situated there suggests that we need to get back as soon as possible.

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)

Self:

I examined the set of long-term goals I wrote about in last year’s Annual Report, and I am making incremental progress on all of these areas, but particularly in strengthening relationships with people and organizations in the Republic of Palau and beginning to understand educational- and conservation-related needs that my lab can begin to address. I am using these ideas for my next NSF grant proposal, which will involve developing Belau as a natural laboratory of evolution research and teaching.

Goals one and two, involving establishing myself as a leader in land snail evolution, ecology and conservation in the Pacific, and nurturing Belau as an exemplar of evolution and Pacific conservation, would be tough challenges for anyone. My ambition is to work toward these goals by publishing two books on Pacific island land snail evolution and conservation, one early in my career that will set up the big questions, and one later in my career that will check on

what we learned and what needs to happen next. The next set of papers I publish on Belau will help form the first chapters of the first book and will be the basis for a book proposal.

EFB:

One of the reasons I decided to come to ESF was the unique strength I saw in organismal biology in EFB. This strength aligned with my own educational philosophy—that the best way to learn abstract concepts in ecology and evolution was through the prism of an actual organism, alive, or, sometimes even better: once-alive. Given this organismal biology strength at ESF (especially in EFB), I think our Collections are among our most important educational and research resources, and I think we therefore not only need to treat them as such (e.g. through adequate space, pest control, climate control, data quality, specimen protection, planning and management), but continue to enhance them (e.g. grow the Collections, provide exhibitions, education, online access and other venues for their accessibility). The above is a huge job that is enough for the entire full-time curatorial, interpretive and collections management support staff of a museum, but I hope to contribute to plotting the way forward. I think that by serving the Collections, we will bolster the entire educational and research foundation of the Department.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2014

a. Course(s) to be offered

EFB202 Ecological Monitoring and Biodiversity Assessment, CLBS co-taught with G. McGee

b. Proposed research activity

DNA sequence analysis and collaboration with Steve Campbell and co-authors Frair and Gibbs on Chittenango ovate amber snail *Biological Invasions* revision

Personal research on ongoing Palau land snail projects, some of which is in collaboration with new grad students David Bullis and Jesse Czekanski-Moir

Collaboration with grad student Ms. Cody Gilbertson on developing her Chittenango ovate amber snail captive breeding research

Personal research on Pacific meiofauna diversity and evolution

c. University, professional society, and public service

Roosevelt Wild Life Collections “State of the Collections” Report

Roosevelt Wild Life Collections Planning and Development

INECOL Museum Advisory Board Meeting, Xalapa, Veracruz, Mexico
Meeting of the Americas, Mollusca 2014, Mexico City, Mexico

Paleontological Research Institution Summer Symposium

Providing land snail conservation information to Palau Conservation Society

Providing land snail identifications and conservation information on Pacific land snails to Island Conservation NGO

2. Fall Semester 2014

a. Course(s) to be offered

EFB797	Conservation Biology/ Conservation of Invertebrates	>10 students	co-taught with D. Parry
EFB298	Research Internship/Envrn Biology	2 students	
EFB899	Masters Thesis Research	2 students	
EFB999	Doctoral Research	1 student	

b. Proposed research activity

Personal research on ongoing Palau land snail projects, some of which is in collaboration with new grad students David Bullis and Jesse Czekanski-Moir

Collaboration with grad student Ms. Cody Gilbertson on developing her Chittenango ovate amber snail captive breeding research

Adirondack meiofauna research with EFB alumnus and deferred M.S. student Mr. Joshua Enck

Personal research on Pacific meiofauna diversity and evolution

c. University, Professional society, and public service

Supervision of and participation in EFB Evolution Discussion Group (an informal reading group focused on current evolution, evolutionary ecology, and paleobiology literature, convened with graduate and undergraduate students and faculty from ESF and Syracuse University, held in EFB)

Presidential Inaugural BioBlitz

Collections work for specimens deposited following Inaugural BioBlitz

Roosevelt Wild Life Collections Planning, Development, Oversight, and Curatorial responsibilities

GPAC

3. Spring Semester 2014

a. Course(s) to be offered

EFB311	Principles of Evolution	3	~183	N/A
EFB355	Invertebrate Zoology	4	>38	2

b. Proposed research activity

Personal research on ongoing Palau land snail projects, some of which is in collaboration with new grad students David Bullis and Jesse Czekanski-Moir

Collaboration with grad student Ms. Cody Gilbertson on developing her Chittenango ovate amber snail captive breeding research

Adirondack meiofauna research with EFB alumnus and deferred M.S. student Mr. Joshua Enck

c. University, professional society, and public service

Roosevelt Wild Life Collections Planning, Development, Oversight, and Curatorial responsibilities

GPAC

Supervision of and participation in EFB Evolution Discussion Group

Planning for Herbarium re-housing and Herbarium sheet re-mounting needed following Feb. 2014 flood damage