

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

**NAME: Elizabeth Folta**

**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:	EFB 202	Ecological Monitoring & Biodiversity Session A & C – taught Scientific Journaling	3	146	0
FALL:	EFB 312	Intro. to Env. Interpretation	3	40	3
	EFB 512	Intro. to Env. Interpretation	3	1	1
SPRING:	EFB 417	Non-Personal Envrn Interp Methods	3	15	0
	EFB 617	Non-Personal Envrn Interp Methods	3	3	0
	EFB 560	Electronic Technology in Interpretation And Environmental Education	3	10	0

**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 312/512** – Was not contacted by Wheeler Elementary School to help out this year, but the principal has recently been in contact asking that we reestablish the partnership for the fall.

**EFB 417/617 Non-Personal Environmental Interpretative Methods** – This year the students worked with seven community partners and one ESF based research project. The students worked with Baltimore Woods, Clark Reservation State Park, Rosamond Gifford Zoo, Alverna Heights Spirituality and Nature Center, Beaver Lake, Chittenango Landing Canal Boat Museum, NY State Zoo and the One Health research project. The students created brochures, waysides, and podcasts for the organizations to use. Not all organizations needed all three projects, so at minimum the students created a brochure and one of the other projects for their organization. Below are links to the podcasts created by the students in EFB 417/617:

- Alverna Heights Spirituality and Nature Center - <https://drive.google.com/file/d/0B00XOwNuwxpSjdKc0cyMk15Mkk/edit?usp=sharing>
- Baltimore Woods Nature Center - <https://drive.google.com/file/d/0B00XOwNuwxpb3V0R1A3RjZfdXc/edit?usp=sharing>
- Beaver Lake - <https://drive.google.com/file/d/0B00XOwNuwxpakdQa1dUSVF3aVE/edit?usp=sharing>
- Chittenango Landing Canal Boat Museum - <https://drive.google.com/file/d/0B00XOwNuwxpVGt1NII0UE5RYm8/edit?usp=sharing>
- Clark Reservation State Park - <https://drive.google.com/file/d/0B00XOwNuwxpbzRSSkNhNm9FZ28/edit?usp=sharing>
- NY State Zoo - <https://drive.google.com/file/d/0B00XOwNuwxpSXJ0a09BY19oMDQ/edit?usp=sharing>

- Rosamond Gifford Zoo - <https://drive.google.com/file/d/0B00XOwNuwxpcFhMM0VZTDZHa28/edit?usp=sharing>

In total, the students donate over 813 hours to the seven different community organizations and the one ESF based research project. The majority of the organizations have worked with us for several years now and would like to participate again in the future.

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>
Summer:	EFB 496	Interpretation of Field Biology	3	8
	EFB 696	Interpretation of Field Biology	3	1
	EFB 898	Professional Experience	1	1
Fall:	EFB 796	Research in Interpretation & EE	3	4
	EFB 420	Professional Internship	3	4
	EFB 495	Undergrad Exp/Coll Teach	3	3
	EFB 498	Independent Research/EFB	3	1
	EFB 898	Professional Experience	3/4	3
	EFB 899	Master's Thesis Research	2	2
	ESF 499	Honors Thesis/Project	3	1
Spring:	EFB 497	Visitor Education as a Wildlife Management Tool	1	18
	EFB 797	Visitor Education as a Wildlife Management Tool	1	3
	EFB 420	Professional Internship	3	1
	EFB 495	Undergrad Exp/Coll Teach	2	1
	EFB 898	Professional Experience	5/6	2
	EFB 899	Master's Thesis Research	4	2

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>
EFB 132	Freshmen Orientation Seminar	1 (per section)
EST 496	Science Communication	1

**II. STUDENT ADVISING**

A. Number of undergraduates for whom you are the student's official advisor 17 and unofficial advisor 1

In addition, co-advised one student in her Honor's thesis Isabella Garramone (2014, co-advisor Brandon Murphy)

INTERP club advisor

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

1. Hua Cai, M.S., 8/2011 – 8/2013; defended 8/2013, *Using Augmented Reality Games as Motivators for Youth Environmental Education: An American Hart's Tongue Fern Conservation Project*.
2. Sarah Maldonado, M.P.S., 1/2012 – 12/2013
3. Kelley Purcell, M.P.S., 8/2011 – 12/2013
4. Qing Ren, M.S., 8/2012 – 5/2014; defended 4/2014, *Evaluating Environmental Interpretation at the International Crane Foundation*.
5. Kyle Teufel, M.P.S., 8/2012 – current (plan to finish 6/2014)
6. Sara Velardi, M.S., 8/2012 – 5/2014; defended 4/2014, *An Exploration into the Components of Effective Professional Development for Science Educators: A Case Study with the Environmental Education Organization Project Learning Tree* ®.
7. Tiferet Zimmern-Kahan, M.P.S., 8/2011 – 12/2013

### CO-MAJOR PROFESSOR

1. Emily Van Ness, M.P.S., 1/2013 – current (co-major professor, Greg McGee)
2. Rachel Hoppins, M.S., 8/2013 – current (co-major professor, Laura Rickard)

### MEMBER, STEERING COMMITTEE (other than those listed above)

1. Courtney Johnson-Woods, Ph.D. (Andrea Parker, major professor)
2. Kimiharu To, Ph.D. (Andrea Parker/Sharon Moran, major professors)
3. Patrick Dawes, Ph.D. at Syracuse University (John Tillotson, Syracuse University major professor)
4. Daniel Collins, Ph.D. (Lee Newman, major professor)

### CHAIRMAN OR READER ON THESIS EXAMS, ETC.

1. Lori Cornell (Myrna Hall, major professor) – chair
2. Chao Jiang (David Sonnenfeld, major professor) - chair

## **III. RESEARCH COMPLETED OR UNDERWAY**

- A. Departmental Research (unsupported, boot-legged; title - % time spent)
- Completed - Qing Ren (M.S. student) completed her work with the International Crane Foundation evaluating the knowledge and attitude changes of adult visitors after participating in personal and non-personal interpretation. Percent of my time ~2%.
  - Rachel Hoppins (M.S. student) - Rachel is currently working with Seafood Watch to evaluate the role of partnership organizations in environmental campaigns. Percent of my time ~1%.
  - Defining Environmental Literacy – I am looking at how states define environmental literacy when it comes to their environmental literacy plans. What are the key characteristics and do they match the national definitions of environmental literacy.
- 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)
- a. Completed - Project Learning Tree Model Program Initiative Grant, *Evaluation of Project Learning Tree Workshop Formats and Correlation of Use in New York*; \$10,000; 1/2013-5/2014; Tom Shimalla, Mike Jabot, & Elizabeth Folta. This grant funded Sara Velardi's M.S. research.\*
  - b. SUNY ESF Seed Grant, One Health for All Visitors? *Exploring the Effects of One Health Messaging in a New York Park*; \$8,000; 6/2013-1/2015; Laura Rickard and Elizabeth Folta.

\*Please note with the Project Learning Tree (PLT) grant that Mike and I were both supposed to have graduate students funded/working on the grant. Since we received the grant Mike has stepped back from the project and will help when needed, but

my graduate student and I are now taking the lead on the project. Tom Shimalla is the coordinator for PLT in NY and will be working on the grant but not as the primary investigator.

2. Research Proposals pending (include information as in B.1., above).
  - a. National Science Foundation – *Collaborative Research: Research in Service to Practice: An Informal Evolution Education Opportunity for the Urban and Rural Public: SquirrelMapper*; \$1,714,725; 1/2015-1/2019; J. Gibbs, D. Bonter, E. Folta, R. Rundell, and B. Zuckerberg.
  - b. National Science Foundation; *NY SPARC (State Parks Augmented Reality Corridor) – Virtual Pathways to STEM Education and Recreation*; \$979,740; 9/2014-9/2017; E. Folta, R. Beal, D. Kuehn, and K. Mulverhill.
  - c. Institute of Museum and Library Services; *SECS (Science Education for Community Success) in the City*; \$42,800; 10/01/2014-9/30/2014; S.Weiter, R. Beal, J. Verostek, and E. Folta
  - d. Environmental Protection Agency; *NY SPARC (State Park Augmented Reality Corridor) – Educator Training Model*; \$185,379.00; 10/01/2014-09/30/2016; E. Folta and K. Mulverhill.
  - e. National Science Foundation; *Understanding and Using the Genetic Mechanism for Phytoremediation of Chlorinated Solvents? Environmental and Societal Impacts*; \$379,497; 8/2014-8/2017; L. Newman and E. Folta.
  - f. U.S. State Department; *Exchange in Science Education Techniques (RESET): Using Augmented Reality Games in Education*; \$94,940; 7/15/2014 – 6/30/2015; E. Folta and G. Lanza.
3. Research Proposals submitted, but rejected (include information as in B.1., above)
  - a. National Science Foundation; *Understanding and Using the Genetic Mechanism for Phytoremediation of Chlorinated Solvents – Environmental and Societal Impacts*; \$374,503.00; 8/2013 – 8/2016; L. Newman and E. Folta.
  - b. National Science Foundation; *SquirrelMapper – An Informal Evolution Education Opportunity for the Urban and Rural Public*; \$1,744,047.00 (ESF portion); 1/2014-1/2018; Gibbs, J., Shrimpton, N., Folta, E., & Bonter, D.
  - c. National Fish and Wildlife Foundation Five Star restoration Program; *Stream of Schools*; \$50,000; Smith, S., Smardon, R., Folta, E., Parker, A.
  - d. Northeastern States Research Cooperative; *One Health for All Visitors? Exploring the Effects of One Health Messaging in the Northern Forest*; \$110,635; 2014-2016; L. Rickard and E. Folta.

#### 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

Annetta, L.A., Lamb, R., Minogue, J., **Folta, E.**, Holmes, S.Y., Vallett, D.B., & Cheng, R. (2014). Safe science classrooms: Teacher training through serious educational games. *Information Sciences*. 264 (20). pp. 61-74.

Annetta, L.A., Vallett, D., Fusareli, B., Lamb, R., Cheng, M.T., Holmes, S.Y., **Folta, E.**, & Thurmond, B. (in press) Investigating science interest in a game-based learning project. *Journal of Computers in Mathematics and Science*

Teaching.

B. Non-refereed Publications

None

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

None

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

## V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local): None

2. Industrial and Commercial Groups, etc. None

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

1. Rosamond Gifford Zoo, Education Committee 12/2010 – current
2. Friends of Beaver Lake, Board Member 1/2011 – current
  - a. Education Task Force Member 8/2011 – current
  - b. Future Planning Committee 4/2011 – current
3. Project Learning Tree Steering Committee (NY) 7/2011 – current
4. Leopold Education Project State Co-Coordinator 2011 (unofficial) – current (official)

## VI. PROFESSIONAL DEVELOPMENT

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

- 2013 Presidential Award for Community Service – SUNY-College of Environmental Science and Forestry
- 2013 New York Society of American Foresters' Community Service Award *presented to* New York Project Learning Tree Steering Committee (which I am a member of)

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

2. Professional Society Membership

- Association for Science Teacher Education (ASTE)
- North American Association for Environmental Education (NAAEE)
- National Association of Interpretation (NAI)

3. Other Professional Activities

a. Editorial activity

Journal (s)

Responsibility

Other (books, symposia, etc.)

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Journal of Environmental Education	1
Journal of Science Education and Technology	1

<u>Agency</u>	<u>No. of proposals</u>
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<u>Other</u>	
NAAEE Conference Proposals	10

c. Participation (workshops, symposia, etc.)

<u>Name of workshop, etc.</u>	<u>Date</u>	<u>Place</u>
None		

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

- NASA Educator Training 8/6/2013
- NAAEE Conference in Baltimore, MD 10/9 – 10/12/2013
- NSF proposal writing workshop 11/8/2013
- CIT reviewer training 2/5/2014

D. Foreign Travel (Where, When, Purpose): None

**VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)**

A. Department-level

- Natural History & Interpretation Program Coordinator
- EFB Course and Curriculum Assessment Committee Member
- Help with departmental open houses: fall & spring; accepted student visitations: spring
- Submitted request for name change for Natural History & Interpretation to Environmental Education & Interpretation to SUNY.
- Started redesigning the Natural History & Interpretation assessment strategy to make it easier for future assessments of the major.

B. College-level

- Faculty advisor to the INTERP club (student environmental interpretation club)
- Curriculum group participant of Environmental Science area Environmental Communication and Participatory Processes
- EFB representative to the Recreation Resources and Protected Area Management minor
- Served on the *Spotlight on Student Research* planning committee. I organized the judging of the undergraduate portion.
- Volunteered to led a nature walk at the Freshmen Retreat for the fourth year.

C. University-wide, including Research Foundation

None

## **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 taught five interpretive courses and co-taught one seminar, which had a total enrollment of a 99 students. EFB 796 Research in Interpretation and Environmental Education was offered for the second time. After offering the course twice, I have decided that it is not working exactly as I planned, so I plan to redesign the course to focus more on evaluation as well as research. The evaluation portion will be from the perspective of an education manager/director's role in an organization. This would better tailor the course to MPS students as well as MS students in interpretation and closely related fields. Hopefully, this will help with student recruitment into the course, but also make it more useful for all interpretation students. This was the second year that EFB 312/512 had a recitation section. A few changes were made to the recitation, an additional field trip was added as well as another guest speaker. The idea was to show two examples of what interpreters/educators do in their jobs, but also to show two examples of how other natural resource professionals use interpretation/education in their jobs. I also added another presentation project to the recitation to give the student even more experience presenting to a group. I continue to have a problem with not enough students in the graduate recitation section for EFB 512. There was only one graduate student in the course this fall, so that student just participated in an undergraduate recitation section. I need to design an alternative for graduate students when there are only a few in the course. I co-led a seminar with PhD student Joe Folta on how interpretation can be used as a wildlife management tool. We used Yellowstone as a case study and had hoped to take a group of students to Yellowstone this summer. Unfortunately, we did not get enough interest in the second course to be able to offer it. The graduate students did not get much out of the seminar, but the undergraduate students really enjoy it. In the future if we offer it again we will make it an undergraduate only seminar. Finally, I continued to work with my graduate students to help them finish up. Six (3 MS and 3 MPS) of the nine students finished up this past year and two more MPS will finish up over the summer.

### **Department/College**

I served on the CCAC for the third year. As part of the work on the CCAC I began to redesigned the assessment strategy for the Natural History and Interpretation major. I also completed the paperwork for SUNY to approve the new name of the major. In addition, I was supposed to serve on the Public Service and Outreach committee starting this year, but a tenured chair could not be found for the committee. Because of this, the committee was disbanded for the year. In the place of this, I ended up serving on the Spotlight on Student Research planning committee. My role was to organize the judging of the undergraduate student posters. I worked with the Alumni Office and the Graduate Student Association to recruit alumni and graduate students to serve as judges. I arranged all the judging assignments and gave a brief training session that all judges had to attend. I created a digital score sheet that was used by some of the judges to help speed up the tallying of scores before the awards ceremony. Finally, I helped with the Roosevelt Wild Life Station's work by recruiting two alumni to design interpretive products for the bioblitzes the station is conducting.

### **Self**

My focus this year was trying to get some funding for research projects, so I can better recruit graduate students into the program. I submitted \$3.5 million in research proposals this year. While this is a lower dollar amount compared to years past the hope is by applying for more grants that I have a better chance of getting some funding. All proposals are still out at this point except for the One Health continuation, which was rejected. This year I partnered with NY State Parks on two of the grants which has helped to strengthen the partnership. The local parks are very open to augmented

reality research and educational projects. Otherwise my focus was on improving three courses that were offered for the second time this year; EFB 796 Research in Interpretation and Environmental Education, EFB 560 Electronic Technology in Interpretation and Environmental Education, and EFB 496/696 Interpretation of Field Biology. I made significant changes to each of these courses and while getting closer to what I imagine they all still need some more work to polish them.

**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)**

**B. PROJECTED ACTIVITIES FOR NEXT YEAR**

1. Summer 2013

- a. Course(s) to be offered
  - EFB 202 – Teach Scientific Journaling Portion
  - EFB 404 (Maymester 2015) Natural History Museums and Modern Science
  - EFB 796 Technology in Environmental Education (at Brookhaven National Laboratory)
- b. Proposed research activity
  - Seed Grant “One Health”– Data collection at the AIC.
  - Submit additional grant proposals and papers for publication.
- c. University, professional society, and public service
  - Continue service to Rosamond Gifford Zoo’s Education Committee, Project Learning Tree’s Steering Committee, Leopold Education Program, NYSOEA, and Friends of Beaver Lake’s board.
  - Check on status of the Natural History & Interpretation program name change.

2. Fall Semester 2013

- a. Course(s) to be offered
  - EFB 312/512 Introduction to Personal Environmental Interpretation Methods
  - EFB 796 Research in Interpretation and Environmental Education
- b. Proposed research activity
  - Assuming one or more of the proposed grants (e.g., SquirrelMapper, NY SPARC [either version], RESET, SECS or Understanding and Using Genetic Mechanism) are funded; preparation for the projects will start this fall.
  - Seed Grant “One Health”– Data analysis and work on publications.
  - Submit additional grant proposals and papers for publication.
  - Work with graduate and undergraduate research projects.
- c. University, Professional society, and public service
  - Continue service to Rosamond Gifford Zoo’s Education Committee, Project Learning Tree’s Steering Committee, Leopold Education Program, and Friends of Beaver Lake’s board.
  - Continue service on the CCAC.
  - Continue service as INTERP advisor.
  - Potentially serve on the college’s Public Service and Outreach committee – if the committee is reinstated.

### 3. Spring Semester 2014

#### a. Course(s) to be offered

- EFB 417/618 Non-personal Environmental Interpretive Methods
- EFB 496/796 Advanced Interpretation and Certification

#### b. Proposed research activity

- Continuation on funded research projects.
- Submit additional grant proposals and papers for publication.
- Work with graduate and undergraduate research projects.

#### c. University, professional society, and public service

- Continue service to Rosamond Gifford Zoo's Education Committee, Project Learning Tree's Steering Committee, Leopold Education Program, and Friends of Beaver Lake's board.
- Continue service on the CCAC.
- Continue service as INTERP advisor.
- Continue service on the college's Public Service and Outreach committee – if the committee is reinstated.