

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

NAME: Stewart Diemont

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: | ERE 425 | Ecosystem Restoration Design | 3 | 12 | |
| | ERE 625 | Ecosystem Restoration Design | 3 | 3 | |
| SPRING: | | | | | |
| | EFB 120 | Global Env/Evol. Human Soc. | 3 | 111 | |

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.

ERE 425 and ERE 625 (which are being offered this year in a revised format as EFB 496 and EFB 796) had a service learning component (to be expanded in EFB 496 and EFB 796). Students worked with the community members from the village of Lacanja Chansayab, Mexico on a biocultural restoration project; they are creating a Lacandon Maya field guide to be used in the elementary school to help incorporate Lacandon Maya TEK into the standard education. In another biocultural restoration project, they worked on an educational video that would be used by the Mayan Medicine Museum in San Cristobal de Las Casas to educate communities about traditional and current practice of biological conservation in communities. With a faculty member at El Colegio de La Frontera in San Cristobal de Las Casas, they worked on siting neighborhood-level natural wastewater treatment systems for the city of San Cristobal de Las Casas, a community that currently does not have wastewater treatment.

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: | ENS 798 | Problems/Env Sci | 1 | 1 |
| | ENS 899 | Master's Thesis Research | 2 | 1 |
| | ERE 498 | Honor's Thesis Research | 2 | 1 |
| | ERE 798 | Research/Env Res Eng | 2 | 1 |
| | ERE 898 | Prof Exp/Synthesis Eng | 1 | 1 |
| | ERE 899 | Master's Thesis Research | 1 | 3 |

| | | | | |
|---------|---------|--------------------------|---|---|
| | ERE 999 | Doctoral Thesis Research | 1 | 2 |
| SPRING: | EFB 498 | Independent Research | 2 | 1 |
| | EFB 898 | Professional Experience | 2 | 1 |
| | ENS 798 | Problems/Env Sci | 2 | 1 |
| | ENS 899 | Master's Thesis Research | 2 | 1 |
| | ENS 899 | Master's Thesis Research | 1 | 1 |
| | ENS 999 | Doctoral Thesis Research | 3 | 1 |
| | ERE 899 | Master's Thesis Research | 1 | 2 |
| | ERE 999 | Doctoral Thesis Research | 1 | 2 |

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

Workshop "Art and Conservation: Poetry and the Natural World in Mexico" about how combining poetry with biological conservation enhances both disciplines, with Deborah Diemont. Student Conference on Conservation Science – New York (SCCS-NY). American Museum of Natural History, New York, New York, October 11, 2013.

4. Guest Lecture Activities

| <u>Course No.</u> | <u>Title</u> | <u>No. of Lectures</u> |
|-------------------|-------------------------------|------------------------|
| LSA 470/670 | Food Studio/Edible Ecologies | 1 |
| EFB 496 | Indigenous Env Leaders/Future | 1 |

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 15 (Fall) 1 (Spring) and unofficial advisor 2 (Honors Theses)

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

Andrew Nessel, MPS, ERE-Ecological Engineering, completed December 2013

Nessel, A. 2013. Collaborative 3D Conceptualization Tools for Improved Interdisciplinary Ecological Engineering Design in Complex Projects. MPS Project Report, Department of Environmental Resources Engineering, Ecological Engineering Program, SUNY ESF.

Bianca Dygert, MPS, GPES-Community and Land Planning, completed December 2013

Dygert, B.N., 2013. Spatial Evaluation for Urban Agriculture Site Selection in Syracuse, NY. MPS Project Report, Graduate Program in Environmental Science, Environmental and Community and Land Planning, SUNY ESF.

Isaias Martinez, PhD, GPES-Environmental and Community and Land Planning, August 2012

Nathan Barlet, MS-Peace Corps, ERE-Ecological Engineering, August 2011, currently in Peace Corps in Jamaica

Eli Arnow, MS, GPES-Ecosystem Restoration, August 2012

Shruti Mokashi, PhD, GPES-Environmental and Community and Land Planning, August 2012

Eugene Law, MS, GPES-Ecosystem Restoration, August 2012

Hayley Kopelson, MPS, GPES-Ecosystem Restoration, August 2013

Tomasz Falkowski, PhD, EFB-Ecology, May 2014

CO-MAJOR PROFESSOR

Tomasz Falkowski, MS, completed May 2014, with Doug Daley

Falkowski, T.B. 2014. An Emergy Evaluation of Labor Transformity Incorporating Traditional Ecological Knowledge of Agroforestry in Lacanja Chansayab, Chiapas, Mexico. Master's Thesis, Department of Environmental Resources Engineering, Ecological Engineering Program, SUNY ESF.

Jonas Hamberg, MS, GPES-Ecosystem Restoration, August 2013, with Karin Limburg
Mariana Nava Lopez, PhD, GPES-Water and Wetland Resource Studies, January 2010, with Myrna Hall

MEMBER, STEERING COMMITTEE (other than those listed above)

Aayushi Patel (Smardon and Volk), MS, GPES-Coupled Natural and Human Systems, completed May 2014

Patel, A.R., 2014. Comparative Analysis of Willow Shrubs as Evapotranspirative Covers Versus Traditional Geomembrane Covers Using Life Cycle Analysis at the Onandaga Lake Territory. Master's Thesis, Graduate Program in Environmental Science, Coupled Natural and Human Systems, SUNY ESF.

Daria Medicis (Daley), MPS, ERE-Environmental Management, completed August 2013

Medicis, D.L., 2014. Engineering Survey of Available Solar Energy Technology and Application in Off-Grid Locations. MPS Project Report, Department of Environmental Resources Engineering, Environmental Management Program, SUNY ESF.

Meredith Kane (Kimmerer), MS, EFB-Ecology, August 2009
Frances Knickmeyer (Smardon), MS, GPES-Water and Wetland Resource Studies, January 2012
Catherine Landis (Leopold and Kimmerer), PhD, EFB-Ecology, August 2009

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Juan Carlos Alvarez Yepiz (Dovciak), PhD, graduated May 2014. Defense Examination Committee, Reader

Alvarez Yepiz, J.C., 2014. Mechanisms of Persistence in a Rare Cycad in Northwestern Mexico. PhD Dissertation, Department of Environmental and Forest Biology, Ecology Program, SUNY ESF.

Eileen Leon (Tao), PhD, ERE-Ecological Engineering, August 2011, Candidacy Examination Committee
Suzanne Greenlaw (Kimmerer), MS, EFB-Ecology, August 2009. Defense Examination Committee, Reader
Li Kui (Stella), PhD, GPES-Water and Wetland Resource Studies, May 2011. Candidacy Examination Chair
Stacey Mack (Germain), PhD, FNRM-Natural Resources Management. Candidacy Examination Chair

III. RESEARCH COMPLETED OR UNDERWAY

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

Social, ecological, and religious dimensions of sacred groves in Maharashtra, India (1%) with Shruti Mokashi, PhD advisee

Fire, field restoration, and traditional ecological knowledge in New York: Ecosystem services from four edible herbaceous species (2%) with Eugene Law and Eli Arnow, MS advisees

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)

Diemont, S.A.W. and L. Quackenbush. EAGER: Understanding the potential role of Mayan traditional ecological knowledge for ecological engineering of forest restoration in Mexico. National Science Foundation. \$100,000 (current year \$50,000), 5/1/12-4/30/15. Supports Tomasz Falkowski.

Diemont, S.A.W., V. Luzadis, T. Toland. A Systems Approach to measuring social and technical effectiveness of green infrastructure for combined sewer overflow mitigation in Onondaga County. Syracuse University and Save the Rain, \$25,085, 9/1/13-3/31/14.

Diemont, S.A.W. A field guide of Mayan traditional ecological knowledge. New York State United University Professions, Individual Development Award, \$570, 2/1/14-6/30/14.

Klossner, R. (PI), S.A.W. Diemont S.A.W. City of Syracuse creekwalk landscaping design. Spanfelner Fund/Central New York Community Foundation, \$50,000, 12/1/12-7/1/14. Senior personnel

Faust, B.B. (PI), A. Anaya, V. Suarez Aguilar, S. Jimenez, F. Bautista, D. Leonard, S.A.W. Diemont. Research on irrigation and drainage functions of Maya canals at Cauich, Campeche, Mexico. National Geographic, \$19,837, 5/1/14-4/30/15. Senior personnel

Limberg, K. (PI), S.A.W. Diemont, Cohen, J., Beier, C. Restoring ecosystem integrity and ecosystem services to Jamaica Bay, NY: A research planning workshop, SUNY 4E Network of Excellence, \$6343, 3/1/14-2/28/14. Senior personnel

Advisees working with me who have received research support directly:

Hamberg, J. (with Limberg). Restoring native submerged aquatic vegetation to the Hudson River. Tibor T. Polgar Fellowship, Hudson River National Estuarine Research Reserve, \$1,000.

Hamberg, J. (with Limberg). Restoring native submerged aquatic vegetation to the Hudson River. Edna Bailey Sussman, Summer 2014, \$6,370.

Martinez, I. Soil nutrients and organic carbon stocks as sustainability indicators in indigenous farming systems in Oaxaca, Mexico. Summer Research Grant. Program on Latin America and the Caribbean, Maxwell School, Syracuse, University, \$500.

Martinez, I. Soil nutrients and organic carbon stocks as sustainability indicators in indigenous farming systems in Oaxaca, Mexico. Fulbright summer stipend for research, \$4200.

Wesner, W. Does *Piper auritum* decrease soil nematode population in Lacandon Maya-managed ecosystem restoration of Lacanja Chansayab, Mexico? STEM Undergraduate Research Program, SUNY Research Foundation, \$3000.

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

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

Kimmerer, R., S.A.W. Diemont, S. Moran, J. Manno. Sowing Synergy: Design and delivery of a graduate program that integrates indigenous and scientific knowledge for sustainability. USDA, \$750,000, 9/1/14-8/31/17. Note: an institutional partner was unable to complete necessary paperwork; therefore this proposal was pulled a day before submittal.

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

Bohn, J.L., S.A.W. Diemont, J.P. Gibbs, S.V. Stehman, J. Mendoza Vega, 2014. Implications of Mayan agroforestry for biodiversity conservation in the Calakmul Biosphere Reserve, Mexico. *Agroforestry Systems* 88(2): 269-285.

Nigh, R. and S.A.W. Diemont, 2013. The Maya milpa: fire and the legacy of living soil. *Frontiers in Ecology and the Environment* 11: e45–e54.

Ferguson, B.F., S.A.W. Diemont, R. Alfaro Arguello, J.F. Martin, J. Nahed Toral, D. Alvarez Solis, Rene Pinto Ruiz, 2013. Sustainability of holistic and conventional cattle ranching in the seasonally dry tropics of Chiapas, Mexico. *Agricultural Systems* 120: 38-48.

Lin, H., S.A.W. Diemont, T. Toland, W. Tao, D. Daley, D.L. Johnson, 2013. Vermifiltration ecological treatment for the re-use of food waste digestate. *Water Environment Research* 85(11): 2184-2193.

Barlet, N.T., S.A.W. Diemont, M.A. Teece, K.L. Schulz, 2014. Emergent microbial food webs in ecological treatment systems for wastewater: Insight from stable carbon isotopes. *Ecological Engineering*, accepted.

Falkowski, T.B., I. Martinez Bautista, S.A.W. Diemont. How valuable could traditional ecological knowledge (TEK) be for a resource-limited future?: An emergy evaluation of TEK learning in two Mexican villages. *Ecological Engineering*, under review.

Carter, E., S.A.W. Diemont, B. Rodriguez, C. Barhite. Mortgage discrimination and its effects on urban ecosystem performance: The case of the Syracuse urban forest 1938-2011. *Urban Ecosystems*, under review.

B. Non-refereed Publications

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

Diemont, S.A.W., 2013. Service learning ecological engineering projects to enhance integration of society with the environment in degraded and lower income areas of Syracuse, New York. American Ecological Engineering Society 13th Annual Meeting, East Lansing, MI, June 12.

Barlet, N.T., S.A.W. Diemont, and K.L. Schultz, 2013. ¹³C tracer development to understand trophic cascade food webs for natural wastewater disinfection. American Ecological Engineering Society Annual Meeting, East Lansing, MI, June 10 (poster).

Falkowski, T., I. Martinez, and S.A.W. Diemont, 2013. Re-evaluating traditional ecological knowledge inputs to indigenous farming systems using emergy. American Ecological Engineering Society Annual Meeting, East Lansing, MI, June 10 (poster).

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

Diemont, S.A.W., J. Carter Ingram, R. Dirzo, E.J. Sterling. "This Year in Conservation." Mack Lipkin Man and Nature Series and Dale L. Travis Lecture Series, American Museum of Natural History, Center for Biodiversity and Conservation, New York, New York, October 9, 2013, ~125 in attendance.

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.

Municipality of San Cristobal de Las Casas, Chiapas, Mexico. Natural wastewater treatment plant system design and siting.

Village of Lacanja Chansayab, Chiapas, Mexico. Biocultural restoration project: Creating a Lacandon Maya field guide for educating children about their own traditional ecological knowledge.

City of Syracuse, Euclid Avenue Bike Lane Design, with Ashley Miller, ESF Undergraduate Honor's Research

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)

Executive Committee, Past-President, American Ecological Engineering Society

2. Professional Society Membership

American Ecological Engineering Society (since 2001)

3. Other Professional Activities

a. Editorial activity

Journal (s)

Ecological Engineering

Other (books, symposia, etc.)

Responsibility

Guest Editor, Special Issue, with Marc Beutel

b. Reviewer

| <u>Journal(s)</u> | <u>No. of manuscripts</u> |
|--|---------------------------|
| Ecological Economics | 2 |
| Journal of Environmental Accounting and Management | 1 |
| Agroforestry Systems | 1 |

| <u>Agency</u> | <u>No. of proposals</u> |
|---------------|-------------------------|
|---------------|-------------------------|

| <u>Other</u> | <u>No. of manuscripts</u> |
|---|---------------------------|
| Proceedings of the 8 th Biennial Energy Conference | 2 |

c. Participation (workshops, symposia, etc.)

| <u>Name of workshop, etc.</u> | <u>Date</u> | <u>Place</u> |
|-------------------------------|-------------|--------------|
|-------------------------------|-------------|--------------|

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

First Responder Training, including First Aid and CPR, American Red Cross, May 31, 2014 (preparedness for my field course in Mexico).

Traditional Ecological Knowledge Brownbag. This is a weekly meeting of faculty, staff, and students working on traditional educational knowledge in order to share ideas, stories and perspectives (Spring 2014).

D. Foreign Travel (Where, When, Purpose)

Chiapas and Oaxaca states in Mexico, various locations, 7/1/13-8/18/13. NSF-supported research on traditional ecological knowledge (TEK) of the Maya, working with doctoral students Tomek Falkowski and Isaias Martinez and undergraduate student Ana Flores. Worked with Martinez on Zapotec TEK in Oaxaca. Taught ESF course ERE 525/625 Ecosystem Restoration Design 8/4/13-8/18/13 (12 undergraduate students and 3 graduate students), Chiapas, Mexico.

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Undergraduate Curriculum Coordinator, ERE Department
Student Open House and Information Sessions, Primary Presenter, ERE

B. College-level

Graduate Program in Environmental Science, Ecosystem Restoration, Area Leader
Center for Native People and the Environment, Advisory Board, Hiring Committee for New Assistant Director
Awards Committee
Library Committee
Co-Adviser, Engineering for a Sustainable Society

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.

Our Students

I continue to work closely with many graduate and undergraduate students both in the US and in Mexico. Three advisees published their first articles in international journals with me this year (Bohn, Barlet, and Lin), and two other advisees have manuscripts in review (Falkowski and Martinez). Of my 11 graduate advisees (or co-advisees), three received their master's degrees (Nessel, Dygert, and Falkowski). I traveled to Mexico with Falkowski and an undergraduate ESF student (Ana Flores) where we conducted research as part of an NSF-sponsored project on traditional ecological knowledge (TEK) and ecosystem restoration. Falkowski greatly improved his Spanish proficiency during this summer's research. Fifteen other ESF students travelled with me throughout Chiapas, Mexico and participated in this NSF project through the course I co-taught with Deborah Diemont, ERE 425/625 Ecosystem Restoration Design (Fall 2014) (now EFB 496/796). I am re-envisioning the courses I am now teaching in EFB. EFB 120 has had a "flipped classroom" format, and in my first semester teaching this course (Spring 2014), I experimented with many teaching styles (including small group work, white boards exercises, music, debates, and more than 10 other methods) to determine what works for students. It is my first time teaching a class of more than 100 students, so I understand that I have a lot to learn. I am trying to make the course as engaging as possible while still meeting learning outcomes. I have changed a couple of key things in my ecosystem restoration course, the course I teach in Mexico at the end of the summer, to better teach students about restoring ecosystems. The course will now be four credits for students who come to Mexico; they will have three hours with me during the weeks of the Fall semester. In the past, this was limited to one hour each week during the fall, but I felt that this amount of time was insufficient to learn ecosystem restoration across ecosystems. I also updated the book for this course. I am taking EFB 518 Systems Ecology through several changes during my first time offering this course. I will now be teaching the course through two textbooks, and will be using STELLA modelling software, which is designed for systems ecology. I am also looking at other local sites where we can collect data for ecosystem modeling.

Department/College

With my move this year from ERE to EFB, my departmental service has gone through transition, and my service I feel continues to be important to the college. In ERE I was the Undergraduate Curriculum Coordinator during Summer and Fall 2013 of this academic year. In ERE this is the primary position of responsibility for undergraduate students (~125 students) and includes, in addition to oversight of the program quality (i.e., approval forms, advising), being the point-of-contact for all parent questions and the presenter for all information sessions. At the college level, I continue to serve as the Area Leader for the Ecosystem Restoration area for the Graduate Program in Environmental Science (GPES), a position for which I make decisions on applications, help determine funding, and serve on the GPES leadership committee. I am also a member of three other college committees, the Awards Committee, Library Committee, and the Advisory Board for the Center for Native People and the Environment (CNPE). As a member of the Awards Committee I helped make recommendations about Chancellor's Awards, Distinguished Professorships, and Honorary Degrees/Commencement Speakers. With the Library Committee I helped make recommendations about the library transition from Syracuse University to SUNY. As a member of the Advisory Board for the CNPE I helped in the hiring of the new Assistant Director for the CNPE and worked with other members to initiate a weekly TEK brownbag meeting.

Myself Professionally

I am energized by a number of developments this year. During this year I moved from ERE to EFB department to fill the open Systems Ecologist position. The transition has taken time (moving my office, lab, and grad students; teaching new courses; new advising responsibilities), but I believe this move fits in well with where I am going with my research and teaching. Increasingly, I am interested in devoting more research time to traditional and local ecological knowledge as it contributes to restoration ecology and conservation biology. This research direction fits in nicely with EFB and the work that Kimmerer, Gibbs, Frair, Leopold, Limberg, and others are doing. This year I published two articles in this area (one in *Frontiers in Ecology and the Environment*), and I continued work on an NSF-funded project in this area. Students in my courses and graduate advisees did field work with me on this project and other similar projects in Mexico. I also began work on a project in the US looking at this research area. With graduate students Eli Arnow and Eugene Law we have created an experimental site on Arnow's family farm looking at how traditionally-used fire and edible herbaceous species can be the first stage in field restoration in former pasture lands, looking at field to forest restoration in New York. I have also been working with my doctoral advisees Isaias Martinez and Shruti Mokashi, looking at TEK of field and forest management in Oaxaca, Mexico and Maharashtra, India, respectively. My grant writing was less than I would like this year, which I feel was due to time related to departmental transition and preparing for new teaching responsibilities. I had a good year for publishing. In addition to the two TEK articles above, I had three other manuscripts published or accepted this year (Impact Factors = 0.9, 1.4, 2.5, 3.0, and 7.6). Two other manuscripts are under review. I continue to do service to the profession. This year I was a Guest Editor for a Special Issue in the journal *Ecological Engineering* and served my last year on the Executive Committee for the American Ecological Engineering Society as Past-President.

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)

I am looking forward to continuing several teaching and research changes in the coming year. I will be teaching a new course for me, EFB 518, am teaching EFB 496/796 Restoring Ecosystems in a new way, and will be making adjustments to EFB 120 based on feedback from this year. All of these course changes will take time, and in some cases learning new material and re-tooling. In the end, however, I believe that all these courses will add to what EFB offers in terms of restoration ecology, ecological engineering, systems ecology, and traditional ecological knowledge. I will be changing computer program in EFB 518 to software that was developed for systems ecology, STELLA, a change that I also believe will also contribute to my research program by permitting a clearer modelling of ecosystem dynamics by my graduate students and myself in coupled human and natural systems. With my research I am very excited about devoting more time and effort to traditional ecological knowledge (TEK) and local management, particularly in relation to restoration ecology and conservation biology, something made possible by my departmental change. To this end, I will be seeking funding that allows for expansion of my research with graduate students in Mexico, Belize, and also in India (see work with Mokashi above). I will also continue to write up the work we have already completed in this area; several papers from theses have yet to be published.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2014

a. Course(s) to be offered

The Fall 2014 EFB 496/796 Restoring Ecosystems: Principles and Practice will begin during the summer with a field course in Mexico

b. Proposed research activity

I will continue working in Mexico this summer with doctoral students Falkowski on TEK of the Maya and with Martinez on the TEK of the Zapotec. With Falkowski we will be sampling experimental restoration sites with the NSF project and conducting bird sampling in landscapes under different types of management. With Martinez, we will be doing both plant community and soil assessment of Zapotec agroforestry systems. In addition I plan to travel to Belize in order to continue work with the Mopan Maya. I am interested in how these groups have adapted to different environmental conditions. I will also be working on several grant proposals to continue funding this work.

c. University, professional society, and public service

I will continue working with the village of Lacanja Chansayab, Mexico on a Plant and Bird Field Guide for TEK education in the village elementary school and with the city of San Cristobal de Las Casas and ECOSUR in the siting and of natural wastewater treatment systems for the city.

Continue Guest Editor Responsibilities for Ecological Engineering

Continue Executive Committee responsibilities for the American Ecological Engineering Society

2. Fall Semester 2014

a. Course(s) to be offered

EFB 496/796 Restoring Ecosystems: Principles and Practice (4 credits, 11 students)

EFB 496/796 Principles of Ecosystem Restoration (3 credits, ~6 students)

EFB 518 Systems Ecology (4 credits, ~20 students)

b. Proposed research activity

The field work will continue at the Arnaw farm looking at edible landscape restoration of fields. I will be part of a SUNY 4E Network of Excellent workgroup led by Limberg to begin to consider Jamaica Bay restoration. I will be applying to three NSF RFP's that have been announced for this period.

c. University, Professional society, and public service

Graduate Program in Environmental Science, Ecosystem Restoration, Area Leader

Center for Native People and the Environment, Advisory Board, Hiring Committee for New Assistant Director
Awards Committee

3. Spring Semester 2015

a. Course(s) to be offered

EFB 120 Global Environment (3 credits, ~120 students)

b. Proposed research activity

The spring semester will be occupied with preparing graduate students for the summer field season and preparing myself for work in Mesoamerica. We will submit the USDA Higher Education Challenge grant, which we completed writing this past year (see above under grant activities)

c. University, professional society, and public service

Graduate Program in Environmental Science, Ecosystem Restoration, Area Leader

Center for Native People and the Environment, Advisory Board, Hiring Committee for New Assistant Director
Awards Committee