

ANNUAL REPORT: June 1, 2016 – May 31, 2017
(i.e., Summer 2016, AY 2016-2017)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

*****PLEASE DO NOT INSERT TABLES FOR ANY CATEGORIES*****

NAME: _____

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 307	Field Ethnobotany	3	16	
FALL:	EFB 497	Indigenous Environmental Leaders for the Future Seminar	1	2	
SPRING:	EFB 305/NAT300	Indigenous Issues and the Environment	3	30	
	EFB 605	Indigenous Issues and the Environment	3	6	
	EFB 446	Ecology of Mosses	3	23	1
	EFB 496	Indigenous Environmental Leaders for the Future Seminar	1	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 305/605 includes a service learning component. This year the students developed educational materials including a website for Indigenous Science, educational materials for the garden at Lafayette Experiment station and modules to share with existing classes at ESF to enrich the content with an indigenous perspective.

EFB 446/646 has a service-learning component. The students created an educational brochure on the mosses of Clark Reservation state Park to be distributed by the Council of Park Friends at the Nature Center.

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>
EFB 298	Research Internship	EFB	2	2
EFB 420	Professional Internship		22	7
EFB 498	Research Problem		12	6
EFB 798	Research Problem		2	1
EFB 899	Masters Thesis Research		5	4
EFB 999	Doctoral Research		2	1

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

Great Mountain Conservancy: Yale School of Forestry Nature writing workshop June 3-5 2016

4. Guest Lecture Activities

- 1) Dr. McGee's Environmental Communications Seminar
- 2) Dr. DeBaise's Environmental Writing course (5x)
- 3) Professor Jaeger Literature of Nature class
- 4) Dr. Roesch Wagners Women's Studies class (Syracuse University)
- 5) University of Vermont, 3 classes in Department of Natural Resources
- 6) University of Utah, Literature of Nature class, Dr, Steven Trimble

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
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II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 28 and unofficial 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

Sara Smith, MS finished 10/16

Brian Ratcliffe started 1/17

Meredith Kane MS, started 9/09

Suzanne Greenlaw, MS started 9/09

CO-MAJOR PROFESSOR

Catherine Landis PhD with Don Leopold

Monica Berdugo PhD with Martin Dovciak

MEMBER, STEERING COMMITTEE (other than those listed above)

Tomacz Falkowski
Eli Arnow
Isaias Martinez
Jorge Garcia Polo
Neil Patterson
Joanna Lumbsden
Michael Serviss

Carly Armstrong, PhD Trent University, Ontario

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Yuge Jiao

III. RESEARCH COMPLETED OR UNDERWAY

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

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)

1) 1) USDA Higher Education Challenge Grant, “Sowing Synergy: A graduate program to integrate scientific and traditional knowledge for sustainability. \$683,000. With Diemont, Beier, Folta, Manno co-PIs. April 2016-August 2019. Will support 3 grad students

2) USEPA Environmental Protection Agency, Environmental Education Program. \$30, 900 “Using the Thanksgiving Address to Advance Environmental Literacy and Environmental Stewardship” with Dr. Phil Arnold and Rachel May and Beth Folta. Syracuse University. Supports: Catherine Landis and Thomas Mackey 2016-2018

3) USDA Higher Education Challenge Grant, Learning From the Land: a cross-cultural partnership in forest stewardship education for climate change adaptation in the Northern Forest. Co-PI Colin Beier \$712,000 with College of the Menominee Nation. 2012-2016. Supports two graduate assistants Raymond Gutierrez and Sara Smith

4) United States Department of Agriculture, Multicultural Scholarship Program, \$200,000. supports 5 undergraduates, May 2012-May 2016.

5) Tribes and Climate Change: engaging northeastern indigenous nations. US Forest Service \$60,000 2011-2016

6) US Forest Service, Voices of Mother Earth: Native Women’s Climate Change Summit, \$60,000 May 2015-May 2018

- 7) National Science Foundation, participating partner with Dr. Jay Johnson at Kansas University, FIRST : Facilitating Indigenous Research, Science and Technology Research Coordination Network grant \$800,000. 2015-2018
- 8) National Science Foundation: ITEST: Earth Partnership: Indigenous Arts and Sciences—Connecting STEM to Native Science. Advisor to project \$1.2 million by PI Cheryl Bauer Armstrong at University of Wisconsin-Madison.
- 9) National Science Foundation: Collaborative Research: Restoring Biotechnology’s Moral Fiber; Genetically Modified Chestnut Trees, Responsible Innovation and Environmental Justice. in partnership with North Carolina State University.\$28,000 subward

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

National Endowment for the Humanities Summer Institute Program: Learning From the Land. with Syracuse University Partners. \$150,000

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

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

Fleischner, T.L. R.E. Espinoza, G. Gerrish, H.W. Greene, **R.W. Kimmerer**, E.A. Lacey, S. Pace, J.K. Parrish, H. Swain, S. Trombulak, S. Weisberg, D.W. Winkler, and L. Zander. 2017. **Teaching biology in the field: Importance, challenges, and solutions.** *BioScience* DOI 10.1093/biosci/bix036. *BioScience* 67(6):

B. **Non-refereed Publications**

- 1) Kimmerer, R.W. 2017 “The Covenant of Reciprocity”. The Wiley-Blackwell Companion to Religion and Ecology, J. Hart editor. pp 368-382
- 2) Kimmerer, R.W. 2017 “Heal-All” in *Nature, Love, Medicine: Essays On Healing In Wildness*. T.P Fleischner, ed. Torrey House Press in press
- 3) Kimmerer, R.W. 2016 “Listening to Water” in “Forest Under Story: Creative Inquiry in an Old Growth Forest” N. Brodie, C. Goodrich and FJ Swanson, eds. University of Washington Press
- 4) Kimmerer, R.W. 2016 “Interview with a Watershed” in “Forest Under Story: Creative Inquiry in an Old Growth Forest” N. Brodie, C. Goodrich and FJ Swanson, eds. University of Washington Press
- 5) Kimmerer, RW and KD Moore. 2016 “The White Horse and the Humvees: Standing Rock is Offering Us a

Choice” . <http://www.yesmagazine.org/people-power/the-humvees-and-the-white-horse2014two-futures->

- 6) **Kimmerer, RW 2016.** The case for more land conservation and a new national monument
The Hill <http://thehill.com/blogs/pundits-blog/energy-environment/309419-the-case-for-more-land-conservation-and-a-new-national>

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

- 1) “Learning From the Land” **Keynote** at College of the Menominee Nation National Educators workshop. Audience 125 June 7-9, 2016
- 2) University of Michigan Ann Arbor MI **Keynote** “The Honorable Harvest” August 29, 2016 audience 80
- 3) Notre Dame University: Sharing Indigenous Wisdom Conference **Keynote** September 13 2016 audience=100
- 4) Oklahoma State University **Keynote** Louis Stokes Alliance for Minority Participation. “The Fortress, The River and the Garden” Audience=300
- 5) State of the Stopover Annual Meeting, USFWS Migratory Bird meeting, Milwaukee WI **Keynote** “Reciprocity and Restoration: indigenous Knowledge for wetland Restoration”. Audience=250
- 6) University of Nebraska, Lincoln . Center for the Great Plains. **Keynote:** “The Honorable Harvest” audience=150
- 7) University of Nebraska, Lincoln. Biology seminar series. Audience=30
- 8) Syracuse University, Department of Geography seminar. “Indigenous Knowledge for Biodiversity Conservation”. Audience=40
- 9) University of Vermont, Rubenstein School of Natural Resources. “Indigenous Knowledge for Biodiversity Conservation”. Audience=100
- 10) Yale University, Franke Lecture in Science and the Humanities. **Keynote** Feb 14, 2017 Audience=300
- 11) Yale University, Program in Religion and Ecology, Seminar. Feb 15, 2017 Audience=50
- 12) Vassar College, “The Honorable Harvest” Feb 16, 2017
- 13) University of Arizona, Literature of Nature seminar. Tucson, Az. Audience=20 Feb. 23, 2017
- 14) Tohono O’odham Tribal College, Masabe AZ. “Indigenous Knowledge for Biodiversity” audience=40
- 15) EPA Tribal Leaders Forum, Syracuse NY. “Biocultural restoration” May 11, 2017 Audience= 30
- 16) Environmental Educators of Canada Annual Meeting, Nova Scotia. **Keynote: “The Land as Teacher”.** Audience=300

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

- 1) National Museum of the American Indian. **Keynote** for IWISE June 1, 2016 audience=100
- 2) Schuylkill Nature Center, panelist on The Meeting of Art and Science July 24, 2016 audience=35
- 3) Adirondack Museum Summer Lecture Series, Blue Mountain Lake, NY audience=100 July 25, 2016
- 4) Clark Reservation State Park, “Culturally Significant Plants of Central New York” guided walk. Audience=25 August 21, 2016
- 5) Citizen Potawatomi Nation, Shawnee Oklahoma. Center for Native Peoples and the Environment. Audience=15
- 6) “Voices of Maple Nation: Indigenous Women’s Climate Change Summit” **Keynote.** October 15, 2016
- 7) “Water is Life” Program for Standing Rock. Washington DC National Mall Nov 27, 2016 Audience 4000
- 8) Union College, Schenectady NY. Kelley Lecture Series “A wealth of plants” Audience 200
- 9) University of Arizona, Fiske School of Music. Pre-concert talk for the world premiere of “Braiding” Feb 22, 2017 audience=50
- 10) College of the Menominee Nation, Keshena Wisconsin March 2, 2017. “Braiding Sweetgrass” presentation for Community-wide “One Book” event. Audience=80
- 11) May Memorial Unitarian Society, March 5, 2017. “Returning the Gift” Audience=100
- 12) Old Dominion University, Musselman Natural History Lecture Feb 23, 2017 Audience=150
- 13) United States Botanical Garden, Washington DC “A wealth of plants” March 25, 2017 audience=30

- 14) Planet Forward Symposium, **Keynote**. Washington, DC. "Indigenous Storytelling in times of crisis" Audience=200
- 15) March for Science, Washington DC, presenter on main stage "The Indigenous Science Declaration" audience=**40,000** estimated
- 16) Syracuse Garden Club, Syracuse NY May 8, 2017 "Returning the gift of plants" Audience=120
- 17) "Americans Who Tell the Truth" portrait unveiling, Blue Hill, Maine. Remarks on cultures of gratitude. May 13, 2017 audience=100
- 18) University of Maine, Orono. May 15, 2017. "What does the Earth ask of us?" Audience=300
- 19) Pokagon Band of Potawatomi Indians, Dowagiac MI. May 25, 2017. "One Story: community-wide read event" Audience=75

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

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

- Great Lakes Intertribal Fish and Wildlife Commission, consultant on Traditional Ecological Knowledge and Climate Change
- Consultant/Collaborator: Salish Kootenai Tribal College NASA Grant: Living Landscapes."

2. Industrial and Commercial Groups, etc.

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

- 1) Neighbors of the Onondaga Nation
- 2) Great Law of Peace Education Center Initiative, Steering Committee
- 3) Haudenosaunee Environmental Task Force
- 4) Spring Creek Project for Nature, Philosophy and the Written Word (Senior Fellow)
- 5) Center for Nature and Humans, Senior Fellow
- 6) The Wild Center, Tupper Lake NY

VI. PROFESSIONAL DEVELOPMENT

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

- **American Indian Science and Engineering Society, Ely S. Parker award (highest AISES award for lifetime achievement)**
- **Feinstone Environmental Award, SUNY ESF**
- **Americans Who Tell The Truth, portrait and inclusion in AWTTT gallery**

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

American Indian Science and Engineering Society "Lighting the Path" Mentor

2. Professional Society Membership

2. Other Professional Activities

Research Mentor to 2 undergraduates at Northwest Indian College

a. Editorial activity

Journal (s)

Responsibility

Other (books, symposia, etc.)

b. Reviewer

Journal(s)

No. of manuscripts

Agency

No. of proposals

Other

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.

Date

Place

- 1) University of Michigan Matthei Botanical Gardens. Tribal collaborations on Native Plant Resources, August 29-30 2016
- 2) Salish-Kootenai Tribal College. Sowing Synergy workshop July 2016
- 3) The Intercessions: expanding the meaning of Public Lands Grand Canyon Trust, Moab Utah Sept25-27, 2016
- 4) Spring Creek Project for Nature, Philosophy and the Written Word. Annual Board Meeting Oct 30-31, Corvallis OR
- 5) Designed, organized and facilitated "Voices of Maple Nation: Indigenous women's Climate Summit" October 13-16 2017

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

- 1) Co-director, Cranberry Lake Biological Station 2016
- 2) Chair, Cranberry Lake Advisory Committee

- 3) Peer classroom evaluation for Promotion and Tenure Committee
- 4) Mentor for junior faculty member
- 5) Coordinate Chun June Wang Award

B. College-level

- 1) Director, Center for Native Peoples and the Environment. Highlights of the year include:
 - Organizing and hosting an historic 4 day gathering of 70 indigenous women from 15 different nations for the “Voices of Maple Nation: Indigenous Women’s Climate Change Summit”
 - Collaborative development and dissemination of the “Indigenous Science Declaration” engaging the indigenous science community and presented at a national and international level for the March For Science which gained extensive recognition
 - Design and delivery of an EPA funded environmental education program based on Haudenosaunee traditional environmental philosophy
 - Recruiting 5 new Native American graduate students for our new Sowing Synergy graduate initiative in Fall 2017
 - Development of a new course and curriculum in Biocultural Restoration
 - Hosting five on-campus educational events
 - Numerous collaborations with tribal nations and institutions
 - Details are available in the Center for Native Peoples and the Environment Annual Report (www.esf.edu/nativepeoples)
- 2) College Diversity Committee
- 3) Promotion and Tenure Committee, outside member, Environmental Studies
- 4) College-wide Awards Committee
- 5) Assist Admissions Office with recruitment strategies for Native American students
- 6) ESF Representative to Great Law of Peace Educational Center
- 7) Advisor to Primitive Pursuits student organization
- 8) CSTEP Mentor
- 9) Minor Coordinator, Native Peoples and the Environment
- 10) Coordinate with Development Office on initiatives for Center for Native Peoples and the Environment
- 11) Honor’s Thesis advisor
- 12) Alumni weekend nature walk
- 13) Alumni Weekend organization (with collaborators) at Cranberry Lake Bio Station

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.

Contributions to our students: In addition to teaching innovative classes which receive strong positive reviews, I am committed to serving our students as a mentor in many informal settings as well, as a CSTEP mentor, as advisor to the Primitive Pursuits Club, an internship sponsor and informal mentor to many students, including undergraduate research and Honors students which culminated in Spotlight on Research presentations. I designed and coordinate the new college-wide minor in “Native Peoples and the Environment” which has a growing enrollment. I have played a leadership role (with my co-PIs) in developing 2 new grant-funded courses and associated program which will be initiated with a new cohort of 5 Native American graduate students starting at ESF in the Fall—a historic event for ESF. Our new grant from USDA Higher Education Challenge Grant enables us to create and deliver a new graduate program which integrates Traditional Ecological Knowledge and Scientific knowledge in the field of biocultural restoration. I’m excited that ESF is growing in these new directions to support graduate education specifically designed to foster innovative approaches to intellectual and cultural diversity in the curriculum for our students.

Contributions to the Department and the College: Much of my attention and energy is devoted to my role as Director of The Center for Native Peoples and the Environment which has brought significant positive attention to the College’s leadership role in incorporating traditional ecological knowledge in environmental education and research. The extraordinary work of Assistant Director Neil Patterson supports the Center’s thriving. The Center has brought significant attention to innovations at ESF. I’m particularly proud of the contributions of the Center as an emerging change agent in broadening the scientific dialogue to include traditional ecological knowledge. Our major accomplishments this year include the “Voices of Maple Nation: Indigenous Women’s Climate Change Summit” and the leadership of the Center in generating and promoting the Indigenous Science Declaration which gained national and international recognition at the March For Science. The impact of the Center can be seen in the number of emerging collaborations from indigenous nations and universities on traditional ecological knowledge requested from around the country. The validity of using TEK as a partner to ecological science in education and research is gaining traction through our efforts. The momentum behind this endeavor is reflected numerous invitations for keynotes, lectures and presentations. This year, I have given at least 35 public presentations (estimated audience reached=7500 exclusive of the immense March for Science) to academic, professional, governmental and community organizations all over the country, as well as numerous interviews, videos etc., which I hope brings attention and respect to the work of SUNY ESF. In addition to my usual activities and listed service, I came forward to serve as Co-Director (with Dr. Fierke) of the Cranberry Lake Biological Station in 2016.

Contributions to Professional Development:

Outside of a full teaching load and the leadership of the Center for Native Peoples and the Environment, my scholarly energies are largely devoted to disseminating the body of work related to integration of traditional indigenous and western scientific knowledge, primarily through a large number of public presentations in diverse arenas. Given the urgent environmental issues we face, and the power of literary non-fiction as a cultural change agent, I am committed to investment of my scholarly efforts in that arena. I am continuing to learn and appreciate the power of engaged scholarship of writing and speaking to a non-academic audience as a pathway to influence public dialog on sustainability. Working in this interdisciplinary arena of public dialogue and engaging teaching tools outside of my academic expectations has been both challenging and rewarding, contributing to professional growth in new directions which can benefit my creative capacity as an educator and writer.

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)

Because of the exciting new incoming graduate cohort of Native students I have postponed my sabbatical application, in order to serve them, but next year I will be developing my sabbatical plan which includes finishing a new book.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2017

a. Course(s) to be offered :

Ethnobotany at CLBS

Environmental writers Workshop at Bread Loaf Writing Institute, Middlebury College

b. Proposed research activity

c. University, professional society, and public service

2. Fall Semester 2017

a. Course(s) to be offered: Plants and Culture

b. Biocultural Restoration

b. Proposed research activity develop new Sowing Synergy graduate class

c. University, Professional society, and public service:

Direct Center for Native Peoples and the Environment, Direct Sowing Synergy Graduate initiative

3. Spring Semester 2018

a. Course(s) to be offered

Indigenous Issues and the Environment

Sowing Synergy: integration of TEK and SEK

b. Proposed research activity

Develop sabbatical plan

c. University, professional society, and public service