

ANNUAL REPORT: June 1, 2014 – May 31, 2015
(i.e., Summer 2014, AY 2014-2015)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: James P. Gibbs

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>
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SUMMER: None

FALL: None

SPRING:

EFB413 *Introduction to Conservation Biology*, 3 cr , 101 students, no lab sections
EFB419 *Problem-solving in Conservation Biology*, 3 cr, 53 students, no lab sections

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.

None did

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

“Problem-solving in conservation biology,” Conservation conflicts: XXI century challenges and solutions, Federal University of Amapá, Macapá, Brazil, 07-09 October 2014 (20 students, 3 days).

4. Guest Lecture Activities

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
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Urban Ecology EST 220 1 lecture
Herpetology EFB 485 1 lecture
Diversity of Life EFB 211 2 lectures

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 24 and unofficial advisor 0

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

Dean, Samantha EFB Conservation Biology MS Jan 2015

Fishman, Michael S EFB Conservation Biology MS Jan 2006

Iegorova, Ielizaveta, EFB Conservation Biology MS Aug 2014

Kudalkar, Sahila EFB Conservation Biology MS Aug 2012

LaPan, Stewart EFB Fish & Wildlife Biology & Mgt, MS Aug 2012, Completed May 2015: "Bird, Reptile, and Amphibian Response to Habitat Enhancement Techniques in St. Lawrence River Coastal Wetlands"

Paltsyn, Mikhail Y. EFB Conservation Biology, PhD Jan 2013

Rachmansah, Angga EFB Conservation Biology, MS Aug 2013, Completed May 2015: "Life History Traits, Latitude, and Sustainable Harvesting in Freshwater Turtles"

CO-MAJOR PROFESSOR

Youker, Tess E EFB Conservation Biology MS Aug 2013 (co-advised with S. Ryan)

Tapia Aguilera, Washington Ph.D., University of Malaga (I serve as thesis director along with Dra. Maria del Mar)

MEMBER, STEERING COMMITTEE (other than those listed above)

Avis, Michelle L, Master of Science, EFB

Devlin, Allison L, Doctor of Philosophy, EFB

Gurdak, Daniel J, Doctor of Philosophy, EFB

Holevinski, Robin A, Doctor of Philosophy, EFB

Helenbrook, William, Doctor of Philosophy, EFB

Kocek, Alison R, Master of Science, EFB

MacDuff, Andrew J, Master of Science, EFB

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

III. RESEARCH COMPLETED OR UNDERWAY

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

Teaching myself how to mine "big data" to address research questions relevant to natural resource conservation (2%)

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)

National Aeronautics and Space Administration (NASA) (Science Mission Directorate / Earth Science Division), "Management of Social-Ecological Grazing Systems in the Altai Mountain Transboundary Zone" G. Mountrakis and J. P. Gibbs, \$779,061, 6/1/15-5/30/18 (Mikhail Y. Paltsyn, Ielizaveta Iegorova supported).

BASF Corporation, "Status, movements, and habitat assessment for map turtles (*Graptemys geographica*) within the Hudson River in the vicinity of Rensselaer, New York," J.P. Gibbs, \$245,198, 1/1/15 - 12/31/16 (Stewart LaPan supported)

US National Park Service, "Assessment of natural resource condition for Weir Farm NHS," G. Tierney and J.P. Gibbs, \$45,000, 9/15/14-3/31/16 (Dr. G. Tierney supported)

National Science Foundation/Population and Community Ecology: "How Environment, Physiology and Life History

Interact to Determine Pattern in Animal Migration Proposal 1258062," J. P. Gibbs, S. Blake, S. Deem, J. Frair. 3/13-2/15. \$600,000 (Dr. Guillaume Bastille-Rousseau supported).

United States Fish and Wildlife Service Great Lakes Restoration Initiative, "Restoring critical habitat, mitigating multiple threats, and evaluating population status for bog turtle, eastern massasauga rattlesnake, and Houghton's goldenrod co-occurring in a single, exceptional, marl fen ecosystem, Bergen Swamp, Genesee County, NY" D. J. Leopold, K. T. Shoemaker, and J. P. Gibbs. 8/2012- 5/2015, \$128,064.00.

United States Agency for International Development (USAID), "Engaging Climber-Scientists and Indigenous Herders on Grazing and Climate Change Issues in the Altai Mountain Region of Mongolia," \$99,655 James P. Gibbs, Giorgos Mountrakis, Jennifer Castner. 2/13-7/14. (Mikhail Y. Paltsyn supported).

National Geographic Society, "Understanding Interactions among Three Globally Endangered Species -- the Waved Albatross, Giant Tortoise, and Giant Tree Cactus -- to Inform Conservation Management of Española Island, Galápagos," J. P. Gibbs, \$21,500, 6/1/10-5/31/12 (*Extended to 12/1/14*)

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

Partnerships for Enhanced Engagement in Research (PEER), "Quantifying biodiversity impacts of hydroelectric expansion and river use changes in the Brazilian Amazon," D. Norris, F. Michalski, J. Gibbs, \$225,525.

US National Park Service, National Center for Preservation Technology and Training, "Novel electronic technology for real-time detection of trespass at archeological sites", J. Gibbs and S. Burnett, \$40,000.

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

US National Science Foundation (AISL), "Research in Service to Practice: Squirrel Mapper - A Program of Informal Evolution Education," J. Gibbs, R. Rundell, E. Folta and D. Bonter. \$1,511,464.

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

Aguilera, W. T., Málaga, J., & Gibbs, J. P. (2015). Conservation: Giant tortoises hatch on Galapagos island. *Nature*, 517(7534), 271-271.

Harper, E. B., Patrick, D. A., & Gibbs, J. P. (2015). Impact of forestry practices at a landscape scale on the dynamics of amphibian populations. *Ecological Applications*.

Garrick, R. C., Kajdacs, B., Russello, M. A., Benavides, E., Hyseni, C., Gibbs, J. P., ... & Caccone, A. (2015). Naturally rare versus newly rare: demographic inferences on two timescales inform conservation of Galápagos giant tortoises. *Ecology and Evolution*.

Hansen, S. J., Frair, J. L., Underwood, H. B., & Gibbs, J. P. (2015). Pairing call-response surveys and distance sampling for a mammalian carnivore. *The Journal of Wildlife Management*, 79(4), 662-671.

Gibbs, J. P., Hunter, E. A., Shoemaker, K. T., Tapia, W. H., & Cayot, L. J. (2014). Demographic Outcomes and Ecosystem Implications of Giant Tortoise Reintroduction to Española Island, Galapagos. *PloS one*, 9(10), e110742.

Shoemaker, K. T., Breisch, A. R., Jaycox, J. W., & Gibbs, J. P. (2014). Disambiguating the minimum viable population concept: Response to Reed and McCoy. *Press. Conservation Biology*.

Garrick, R. C., Benavides, E., Russello, M. A., Hyseni, C., Edwards, D. L., Gibbs, J. P., ... & Caccone, A. (2014). Lineage fusion in Galápagos giant tortoises. *Molecular ecology*, 23(21), 5276-5290.

Campbell, S. P., Frair, J. L., Gibbs, J. P., & Rundell, R. J. (2014). Coexistence of the endangered, endemic Chittenango ovate amber snail (*Novisuccinea chittenangoensis*) and a non-native competitor. *Biological Invasions*, 17(2), 711-723.

B. Non-refereed Publications

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

“Designing and Redefining Productive Landscapes” , SUN-B09 Conservation Agriculture: ASLA 2014 Annual Meeting, Denver, CO, Nov 23, 2014, joint presentation by T. Woltz, J. Gibbs and Z. Wolf.

“Staying relevant as a conservation biologist,” Conservation conflicts: XXI century challenges and solutions, Federal University of Amapá, Macapá, Brazil, 07-09 October 2014.

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

“The Giant Tortoise Restoration Initiative: Integrating Science and Management to Advance Giant Tortoise Conservation in Galapagos, Ecuador,” Nov 16-20, 2014, Michigan Technological University Distinguished Ecologist Seminar, 60 in attendance

“On the Brink: Saving Russia’s Last Snow Leopards,” Nov 16-20, 2014, Michigan Technological University Distinguished Ecologist Seminar, 60 in attendance

“Integrating Science and Management to Advance Giant Tortoise Conservation in Galapagos, Ecuador,” Featured Darwin Day speaker, Feb 25, 2015, SUNY-Cortland, 70 in attendance

“The Giant Tortoise Restoration Initiative: Integrating Science and Management to Advance Giant Tortoise Conservation in Galapagos, Ecuador,” April 23, 2015, University of Maine Distinguished Wildlife Alumnus Lecture, 35 in attendance

“Endangered species conservation in Altai Russia: Starting from scratch,” April 24, 2015, University of Maine Distinguished Wildlife Alumnus Lecture, 45 in attendance

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

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

General Electric Corporation (on-going consultation regarding wildlife research on Upper Hudson River)

Janice Parker Landscape Architects (on-going consultation regarding property restoration, Southampton, Long Island)

2. Industrial and Commercial Groups, etc.

3. Public interest groups

Galapagos Conservancy (on-going consultation as co-leader of Galapagos Conservancy’s Giant Tortoise Restoration Initiative and as Galapagos Conservancy’s Adjunct Scientist)

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

Member of the General Assembly, Charles Darwin Foundation (elected)

Adjunct Scientist, Galapagos Conservancy

Board member, The Wetland Trust

Board member, Altai Assistance Project

Board member, Nine Mile Creek Conservation Council

“COMMON” Foundation Holland: External Science Advisor for 5 year, \$2M project focused on application of Groasis / Waterboxx Technology for ecosystem restoration and enhancing agricultural production in the Galapagos Islands

VI. PROFESSIONAL DEVELOPMENT

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

Comment [JPG1]: I added this category because one can do paid work for non-profits – maybe add this category for next year? GC pays me \$10k per year for my efforts...

Michigan Tech 2015 "Distinguished Ecologist"
University of Maine 2015 "Distinguished Wildlife Alumna/Alumnus" Award

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

2. Professional Society Membership

3. Other Professional Activities

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

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

D. Foreign Travel (Where, When, Purpose)

Ecuador, Galapagos Islands, May/June 2014, Advance work on NSF project, Galapagos Tortoise Restoration Initiative, and Groasis project (Espanola, Plazas, and Santa Fe Islands)

Brazil, Amapa State, Macapa (Universidade Federal do Amapá, Oct 2014, hosted by Drs. Fernanda Michalski and Darren Norris), to develop proposals, teach short course, and mentor students

Ecuador, Guayaquil, July 2014, Advance work on Galapagos Tortoise Restoration Initiative

Ecuador, Galapagos Islands, Dec 2014, Advance work on Galapagos Tortoise Restoration Initiative (Pinzon Island and Volcan Wolf)

Ecuador, Galapagos Islands, May/June 2015, Advance work on Galapagos Tortoise Restoration Initiative Advance work on NSF project, Galapagos Tortoise Restoration Initiative, and Groasis project (Baltra, Plazas, Santa Fe and Espanola Islands)

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Director, Roosevelt Wild Life Station
Associate Chair
Member, Promotion and Tenure Committee

B. College-level

C. University-wide, including Research Foundation

VIII. SUMMARY OF SIGNIFICANT ACTIVITIES AND ACCOMPLISHMENTS DURING THIS REPORTING PERIOD, ESPECIALLY THOSE MOST NOTEWORTHY AND RELATIVE TO THE COLLEGE'S AND DEPARTMENT'S MISSION.

One paragraph on each of the following (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.

For our students I continue to teach two of the three core courses in the Department's largest major: Conservation Biology. Notably one of those courses – Introduction to Conservation Biology – serves all members of the major and an equal number of students from around the College plus Syracuse University. During the spring semester I orchestrated the ESF-NYSDEC/FWMR internship that placed many EFB students in well-paying internships doing fish and wildlife species protection and habitat management work for NYSEDEC. I also oversaw (with Leopold) a biological survey undertaken by field crew of our graduate students on private property near New York City that showcased the many talents of EFB's grads; these surveys have also become a major revenue source for the Roosevelt Wild Life Station, with more planned for 2015 and 2016.

For our Department and College, I serve on the EFB P&T committee, assist with assessment matters for the conservation biology major, and serve as Director of the Roosevelt Wild Life Station, which has seen significant activity this year. Two publications in *Nature* and *PLoS* and related research and service activity garnered significant media attention for the College this year.

For myself professionally I was awarded the University of Maine Distinguished Wildlife Alumnus award for 2015 and was featured as Distinguished Ecologist at Michigan Tech. I continue to push ahead a complicated and ambitious Galapagos Tortoise Restoration Initiative (serving as co-Director of this \$1.2M effort between the Galapagos Conservancy and the Galapagos National Park Service Directorate) that is the culmination of two decades of work. Service as board member to The Wetland Trust and Nine Mile Creek Conservation Council has occurred at a time of progress on significant land protections by these groups this year.

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)

Roosevelt Wild Life Station development activities are continuous yet with finally resulting in gains. I am trying to develop a research and teaching collaboration and funding to support it with a small developing university in Brazil's least developed state of Amapa as a place to invest in capacity development in the next generation of conservation biologists in one of the world's greatest biodiversity hotspots. The Galapagos Giant Tortoise Restoration Initiative will be peaking in 2015/2016 and will require a great deal of focus. My classes receive very positive reviews on all aspects

except assessment; I will focus during 2016-2017 on improving the assessment process for both classes. I also need to develop a system for tracking reviews I conduct of manuscripts, dossiers etc to enable reporting details in EFB annual reports.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2015

- a. Course(s) to be offered

- b. Proposed research activity

- c. University, professional society, and public service

2. Fall Semester 2015

- a. Course(s) to be offered

- b. Proposed research activity

- c. University, Professional society, and public service

3. Spring Semester 2016

- a. Course(s) to be offered

- b. Proposed research activity

- c. University, professional society, and public service