### I. INSTRUCTIONAL ACTIVITIES

1. **Regular Course Offerings**

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credit</th>
<th>No. of Students</th>
<th>No. of Lab.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMER:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL: EFB 554 Aquatic Entomology</td>
<td>3</td>
<td>14</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SPRING: EFB 385 Comparative Vertebrate Anatomy</td>
<td>4</td>
<td>39</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**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](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.

Neither of these courses had a service learning component this year.

2. **Non-Scheduled Course Offerings** (e.g., 496, 899, 999)

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credit</th>
<th>No. of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>Exp/College Teaching</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>498</td>
<td>Independent Research</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>899</td>
<td>Master’s Thesis</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>999</td>
<td>Doctoral Dissertation</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Spring</td>
<td>Research/Internship</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>420</td>
<td>Prof/Internship</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>498</td>
<td>Independent Research</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>499</td>
<td>Honors Thesis/Project</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>899</td>
<td>Master’s Thesis</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>999</td>
<td>Doctoral Dissertation</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
3. Continuing Education and Extension (short courses, workshops, etc.)

4. Guest Lecture Activities

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>No. of Lectures</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFB 210</td>
<td>Diversity of Life</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Biology of Aquatic Insects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>March 18, 2015</td>
<td></td>
</tr>
</tbody>
</table>

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student’s official advisor __0___ and unofficial advisor __4___

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**


Zachary Smith, M.S. January 2013 (*target completion* August 2015)

Ann Burnham, M.S. August 2013 (*target completion* July 2015)

Justin DiRado, M.S. January 2014

Christopher Powers, M.S. January 2014

Ryan Smith, M.S. May 2014

Harold Nugent, M. S. May 2014

Carrianne Pershyn, M.S May 2015

Elizabeth Stieber, M.S. May 2015

Michael Connerton, Ph.D. December 1996 (NYDEC Biologist)

**CO-MAJOR PROFESSOR**
MEMBER, STEERING COMMITTEE (other than those listed above)

Mirian Cauldran, M.S.

Tom Evans, Ph.D.

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Smriti Sharma

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)

Current Awards

National Science Foundation
   Collaborative Research: Impacts of In-Stream Restoration on Hydrological, Chemical and Biological heterogeneity in the Hyporheic Zone
   1% CY; Co-Pi
   $275,335
   01/01/2010 – 12/31/2015

USDA Forest Service
   Enhanced Effectiveness of Planning and Managing Urban Forest Ecosystems
   8.5% CY; PI
   $54,000
   09/22/2011 – 09/21/2016

National Science Foundation
   Technology Enhancement of Hot Water Extraction
   5% CY; PI
   $599,822
   09/01/2012 – 08/31/2015

Honeywell, Inc.
   Onondaga Lake Biological Assessment and Monitoring
   4% CY; PI
   $439,085
   07/01/2013 – 06/30/2015

NYS Department of Environmental Conservation
   Fish and Macroinvertebrate Concordance: Validation of a NYS Fish Index of Biotic Integrity and its Relationship to Macroinvertebrate Metrics
   5% CY; PI
$75,000
09/01/2013 – 10/31/2015

NYS Sea Grant
Atlantic Salmon Restoration in Great Lakes Tributaries: An Ecological and Bioenergetics Approach
22% CY; PI
$250,000
02/01/2014 – 01/31/2016

US Geological Survey
Restoration of Lake Ontario Native Fish Species
2% CY; PI
$117,409
07/30/2014 – 08/31/2015

NYS Department of Environmental Conservation
Determining the Provenance and Life Histories of Blueback Herring in the Mohawk River
10% CY
$261,072
04/01/2014 – 03/31/2017

NYS Department of Environmental Conservation
Low Gradient Stream IBI
5% CY; PI
$80,000
05/16/2015 – 03/31/2016

NYS Department of Environmental Conservation
Internship in Water and Stream Biomonitoring
1% CY; PI
$7,000
04/01/2015 – 12/31/2015

Pending
08/16/2013 – 08/15/2018

Honeywell, Inc.
Onondaga Lake Biological Assessment and Monitoring
4% CY; PI
$160,000
07/01/2015– 06/30/2016

NYS Department of Environmental Conservation
Development of Macroinvertebrate Index of Biotic Integrity for Water Quality Assessment of slow Gradient Alluvial Streams in NYS
5% CY; PI
$125,000
09/01/2014 – 08/31/2016

Center State Corporation of Economic Opportunity
2014 #2015 Speaker at the SUNY Biotechnology Accelerator: Scientists-Engineers-Entrepreneurs
1% CY; PI
$8,000
05/14/2014 – 05/31/2015
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**


B. **Non-refereed Publications**

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


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

WSYR “Insight” TV interview Onondaga Lake. Televised May 22, 2015
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.

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)

2. Professional Society Membership

AAAS (Fellow)
Sigma Xi
American Fisheries Society
American Institute of Fishery Research Scientists

3. Other Professional Activities

   a. Editorial activity

   Journal(s)                      Responsibility

   Ecology of Freshwater Fish     Associate Editor
       Other (books, symposia, etc.)

   b. Reviewer

   Journal(s)                      No. of manuscripts

   Ecology of Freshwater Fish      1

   Agency                         No. of proposals

       Other
c. Participation (workshops, symposia, etc.)

<table>
<thead>
<tr>
<th>Name of workshop, etc.</th>
<th>Date</th>
<th>Place</th>
</tr>
</thead>
</table>

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

B. College-level

Ex Officio Committee on Research

C. University-wide, including Research Foundation

SUNY/RF Research Council
SUNY/RF Vice Presidents for Research/Officers
SUNY/RF Network of Excellence Co-leader with SUNY Stony Brook, Albany, Binghamton
SUNY Distinguished Academy
Co-Director Hill Collaboration Environmental Medicine with UMU, SU, ESF, VA
Advisory Council, Biotechnology Accelerator
Planning Team, Center of Excellence Biofuels Laboratory
Planning Team, Institute for Environmental Health and Environmental Medicine (2020 Challenge Grant)

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.

EFB

The aquatic program is supporting up to nine graduate students on grants and contracts with NOAA/Sea Grant, Honeywell, EPA; and NYDEC. One grad student completed her Master’s degree this year, and two more will finish in the summer of 2015. The courses EFB 385 (Comparative Vertebrate Anatomy) and EFB 554 (Aquatic Entomology) continued, with several professional positions recently connected to aquatic invertebrate expertise. Students continue to successfully gain admission to medical and veterinary programs with support from the CVA course. This was the first year to contribute to the Diversity of Life Course (EFB 210) with regard to aquatic insects: a 4-month topic in 55 minutes! Collaborative work on Onondaga Lake is to be summarized in two papers presented at a symposium at the American Fisheries Society Annual Meeting in Portland, Oregon in August 2015. Our Atlantic salmon studies utilizing field and CIRTAS facilities have gone exceptionally well, with high rates of growth and survival in tributaries of Oneida Lake, Lake Ontario and Onondaga Lake. This species, traditionally difficult to restore, may ultimately succeed in our region as the result of this work.
ESF

A major success in licensing of patented technology (Hot water extraction process: Dr. Thomas Amidon and colleagues, inventors) occurred this year, with able assistance from intellectual property colleagues at Binghamton University. Modest grants were won by several faculty members via the Hill Collaboration in Environmental Medicine (ESF, SU, VA, UMU). Significant funding to ESF faculty members will be awarded this summer in the 4E Network of Excellence. Successful symposia sponsored by the Institute for Environmental Health and Environmental Medicine (IEHEM) were held at ESF and OCC; another is scheduled at SUNY Oswego in September 2015.

SUNY/RF

Work at the SUNY and SUNY/RF level has emphasized development of a $1.9 M seed grand program in the 4E Network of Excellence (Energy, Environment, Economics, and Education). Research Vice Presidents/Vice Provosts from SUNY ESF, Stony Brook, Binghamton and Albany have created a strong working relationship in this 4E program that should be long-lasting and productive. This has become a true collaborative success, with faculty working together across at least 10 SUNY institutions throughout the State of New York; many of these faculty members had not previously met, even though they share research expertise and interests. Additional interactions at the SUNY level included participation in the proceedings of the Distinguished Academy, the Vice Presidents/Vice Provosts of Research planning meetings in Albany and NYC, and the SUNY/RF Research Council.

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)

In addition to the teaching and graduate program in EFB, the coming year will see new interactions with the various Centers and Institutes, and working synergistically with our new Provost. Formalizing CIRTAS (already an active facility/center) via a proposal to the Academic Council should occur early in the new academic year. The ESF Biofuels facility in the Center of Excellence building will begin operations in the summer, and activities of our three EFB faculty members in the Biotechnology Accelerator will expand. We hope to contribute to the Water Resources and Education Center in the Inner Harbor of Onondaga Lake. We will work with EFB/ESF faculty and others in SUNY on the 4E Network of Excellence initiatives, beginning with the Charrette at Stony Brook University June 1-2, 2015. Contributions to the SUNY Research Council, Distinguished Academy and VPR’s deliberations are envisioned to have at least indirect feedback and benefits to EFB and ESF. Work with the Hill Collaboration in Environmental Medicine will support mutual interests in this area. We will present two papers on the Onondaga Lake system at a symposium at the American Fisheries Society Annual Meeting in Portland, Oregon on August 20th. This event is targeted at stimulating collaborations among university, private and governmental agencies to enhance restoration efforts nationally.

B. PROJECTED ACTIVITIES FOR NEXT YEAR
1. Summer 2015
   a. Course(s) to be offered
   b. Proposed research activity
      Onondaga Lake and Atlantic Salmon studies ongoing with graduate and undergraduate teams
   c. University, professional society, and public service

2. Fall Semester 2015
   a. Course(s) to be offered
   b. EFB 554 Aquatic Entomology
   b. Proposed research activity
      Onondaga Lake and Atlantic Salmon studies ongoing with graduate and undergraduate teams
   c. University, Professional society, and public service

3. Spring Semester 2016
   a. Course(s) to be offered
   EFB 385 Comparative Vertebrate Anatomy
   b. Proposed research activity
      Onondaga Lake and Atlantic Salmon studies ongoing with graduate and undergraduate teams
   c. University, professional society, and public service