ENVIRONMENTAL AND FOREST BIOLOGY

Memo to: Dr. Craig Davis, Chair COI

From: Neil H. Ringler, Chair

Re: Majors in EFB

Date: December 24, 2003

Copies to Drs. Dudley Raynal and Marla Bennett

We thank the COI and the various Faculties for their careful deliberations on the draft plan sheets and descriptions of the proposed majors. Each suggestion and critique has been carefully considered and each major and/or its description has been revised accordingly.

This memo provides 1) a general response to the COI and the Faculties with regard to available resources, 2) a statement on impacts on other programs, 3) additional responses to Faculties with regard to curricula, 4) lists of specific changes undertaken in response to the comments on each major, 5) three minor adjustments requested as part of the package, and 6) a set of attachments representing revised plan sheets and descriptions for each major.

The appropriate new course descriptions have been completed, currently are under review by our Curriculum and Assessment Committee and will be reviewed by EFB faculty January 9th. I believe that we have addressed virtually every comment and specific curricular item that has arisen, and I look forward to working together to bring these proposals to fruition.

I. Resources

During the early development of the majors set concept, we acknowledged that budgetary constraints in SUNY would likely preclude the addition of faculty to advise and teach in the majors. On the other hand, one critique was that ESF needs to have more GIS expertise in hand as the majors go forward, and indeed such a search is now underway. We have a long-standing request for a Forest Pathologist, and we do hope that will go forward in the near future. The curricular set, however, does not assume that hire is imminent. The Natural History and Interpretation major is supported by a host of EFB faculty; during the course of Professor Saunders’ work here we have always integrated interpretation with the rest of the EFB program. Presumably we may augment this or other areas over the next five years (a 5-year positions matrix has been in place for some time), but we have no faculty position that needs to be added prior to moving forward with the majors. We hope that highlighting some major strengths will assist ESF in attracting even more high-quality students. Reassignment of our advisors, e.g., to one new major and to ENB, will serve to address the very significant issue of advising. An objective of the new majors is to more closely connect the students to expertise in their areas of
special interest. At the same time, all curricula retain flexibility and the potential for change well into or even beyond the sophomore year.

II. General Impact on other majors at ESF

The general impact on other majors at ESF should initially be modest, because each of the majors are preceded by an existing, closely related Option that has been operational in EFB for some time. Because the programs are designed to be attractive, we envision that the pool of applicants for Biology programs will broaden, so that student profiles (SAT scores, grades) are predicted to improve. We envision that a large fraction, and probably the majority, of students will elect to remain in the Environmental Biology major. We see only positive effects on the current Biological Sciences Applications Option in Environmental Studies, as students are likely to more readily recognize the broad opportunities in biology applications now available at ESF. The attraction of the highlighted areas (majors) and the more accurately named general major (ENB) could result in an overall increase in applicants. There are spaces for additional students amidst Illick Hall and other locales in ESF, particularly with creative scheduling; we do not foresee space/facilities as major issues in this curricular development.

III. Additional General Responses

The specific course/curricular suggestions made by the Forestry Faculty are detailed below. In addition, we have revised the Forest Health description to more accurately and clearly delineate it from other majors at the College. We believe that an important feature of the Conservation Biology proposal is that social and economic themes are being integrated into core courses and in the directed electives. Social, economic, legislative and political issues receive significant attention in Introduction to Conservation Biology, Problem Solving in Conservation Biology, and Senior Synthesis. (These courses are now described). This major also requires at least one course in Human dimensions, and two courses in Applied Conservation Biology, which will include social, economic, legislative and political issues to varying degrees. New course descriptions for the Natural History and Interpretation major have now been completed. This program has always rested upon the specialized training in a diversity of biological subjects taught in EFB; the proposed courses will be taught by existing faculty, and we have made the necessary changes in overall workload to ensure success.

The Chemistry Faculty expressed disappointment in curricular changes that would reduce basic science courses, such as chemistry, taken by some students. We appreciate the development of an organic chemistry course (FCH 210; still an important offering) in response to curricular changes of a dozen years ago. We clearly acknowledge the value of instruction in basic science; every faculty member in EFB uses basic scientific training in their teaching and research. However, the basic science requirements proposed are highly comparable to those for comparable majors offered across the United States. For example, Conservation Biology, Natural History and Interpretation and Wildlife Sciences (or close relatives) commonly do not require organic chemistry. In concert with their advisors, each student has the elective space to take the full suite of math, chemistry, physics, and some certainly will, but there are abundant courses and skills that the experts in EFB believe are at least as important for students embarking on 21st century opportunities. We, too, are sensitive to the needs to strongly prepare our students.
competitively in science; getting them into our programs and connected with a knowledgeable advisor is a first and vital step in that preparation.

A series of thoughtful meetings led EFB to propose this set of majors and course requirements. We agreed at the outset that, while a particular course may “turn on” (or turn off) a student, it is unlikely that a single course, whether in chemistry, math, physics or physiology, will mean the difference between success and failure of a future scientist. We also agreed that to take advantage of the diversity of students interested in environmental biology and related topics, changes in the curricula were needed. Each of the new majors represent, essentially, what we have been providing for many years, but by better advising and highlighting we are certain that we can build an even stronger and better recognized set of programs.

IV. Majors-by-majors Revisions/Explanation

Aquatic and Fisheries Science

1. EFB 4XX Senior Synthesis in Aquatic and Fisheries Science has been deleted from the curriculum. We have modified the core requirements such that students may take either EFB 421, Ecology of Freshwaters or EFB 524 Limnology, so EFB 524 will not be modified. EFB 388 Ecology of Adirondack Fishes has been included in the core as an alternative to EFB 486 Ichthyology.

2. FOR 307 has been deleted from the core, and APM 391 has been corrected.

3. 151/152 was changed to 150/151. EFB 486 was moved from Fall to Spring of the Junior year in the “Typical Schedule,” and elective hours were adjusted.

4. These seem correct: if not, please COI advise us.

5. EFB 488 was changed to EFB 388 Ecology of Adirondack Fishes. Descriptions for Marine Ecology, Ornithology, Diversity & Cons of Mammals will be part of the overall EFB resubmission. Increasing credit for EFB 421 from 2.5 to 3 is part of the overall proposal from EFB. FOR 478, ERE 550, EFB 503, and EFB 5xx Fish Production Dynamics have been deleted.

Wildlife Science

1. Course proposals are part of the EFB resubmission (Problem Solving in CB, Ornithology, Diversity & Conservation of Mammals)

2. EFB 413 has been listed incorrectly as a 4-credit course for several years, but Norton corrected this through Dean Raynal some months ago (see new ESF Schedule).

3. FOR 560 was changed to FOR 360
4. 151/152 was changed to 150/151

5. These seem correct: if not, CoI please advise us.

**Natural History and Interpretation**

1. Course proposals are part of the EFB resubmission (five, altogether)

2. EFB 413 has been listed incorrectly as a 4-credit course for several years, but Norton corrected this through Dean Raynal some months ago (see new ESF Schedule). FOR 372 Fundamentals of Outdoor Recreation has been moved to the Core list, and credits were adjusted.

3. 151/152 was changed to 150/151

4. These seem correct: if not, CoI please advise us.

5. This list has been corrected.

**Forest Health**

1. The renumbering of EFB 540 Forest Health Monitoring to EFB 439 Forest Health Monitoring is part of the overall curriculum proposal from EFB

2. FOR 334 was changed to FOR 321

3. 151/152 was changed to 150/151

4. EFB 442 was changed to EFB 342, FOR 370 was deleted.

5. These seem correct: if not, COI please advise us.

6. The narrative has been changed to clarify that this is not a degree in forest management, and to distinguish the major from others at ESF.

**Conservation Biology**

1. New course proposals are part of the resubmission (Problem Solving in ConBio, Ornithology, Diversity & Conservation of Mammals). Freshman Seminar in Conservation Biology is withdrawn and an extra credit is added to the Open Electives.

2. EFB 413 has been listed incorrectly as a 4-credit course for several years, but Norton corrected this through Dean Raynal some months ago (see new ESF Schedule).
3. 151/152 was changed to 150/151

4. These seem correct: if not, COI please advise us.

5. Changes to Directed Electives:
   EFB 442 Field Mycology is now EFB 342 Fungal Diversity and Ecology
   EFB 435 Adirondack Flora is now EFB 327 Adirondack Flora
   FOR 450 is changed to ENS 550 Environmental Impact Analysis
   ERE 550 and EFB 733 were deleted.

V. Minor adjustments to existing courses/program

1. We request that EFB 540 Forest Health Monitoring be renumbered to EFB 439 Forest Health Monitoring

2. We request that the credit hours for EFB 421 Ecology of Freshwaters be increased from 2.5 to 3.

3. We request that the current undergraduate major “Environmental and Forest Biology” be renamed “Environmental Biology.”

VI. Descriptions and Curriculum Plan Sheets (5 Files Attached)

Last revised: January 7, 2004