

PROGRAM REVIEW FOR L&S

UNDERGRADUATE MAJOR IN

BIOLOGICAL ASPECTS OF CONSERVATION

Stanley Dodson
Program Chair
2006

INTRODUCTORY QUESTIONS

OVERALL MISSION: The overall mission of the Biological Aspects of Conservation (BAC) undergraduate major program is to provide undergraduate students broad training in the biological and related disciplines most relevant to conservation biology and policy. This science-based program emphasizes basic knowledge of natural history, whole organism biology, ecological interactions and conservation biology. Thus empowered, our students are able to act as informed citizens, and to enter careers in environmental education, environmental resources management, and/or endangered species research and recovery efforts. They are prepared for graduate study in a wide range of conservation biology programs.

“Whenever the people are well-informed, they can be trusted with their own government.”
--Thomas Jefferson to Dr. Price, 1789.

Aldo Leopold and Norman Fassett first initiated this major in the 1940s to prepare individuals for careers as game wardens, ranger naturalists, and museum workers. These opportunities continue and have expanded to include work in environmental education; forest, game and park management; endangered species research and recovery efforts; and work with private conservation organizations. The major is also recommended for those seeking a liberal education in the intrinsic values of natural resources and those preparing for graduate study in the rapidly developing field of conservation biology (e.g., our M.S. program in Conservation Biology and Sustainable Development).

The BAC program is characterized by flexibility with a broad range of opportunities. Our curriculum requires students to complete a series of basic science courses, courses focused on the ecology of at least one group of organisms, and to supplement their core courses with a variety of courses in ecology, environmental sciences, environmental studies, and/or social sciences from among offerings of 23 University departments and programs. Our program has a unique appeal to students passionate about conservation biology, from the social scientist to the theoretical ecologist.

RESPONSES TO THE LAST REVIEW:

The last L&S review of the BAC program was completed by a committee headed by Professor John Magnuson on 26 May 1995. The review includes the following --

EXECUTIVE SUMMARY AND RECOMMENDATIONS OF THE LAST REVIEW:

“Biological Aspects of Conservation (BAC) is a popular major in Letters and Sciences (L&S) that has grown rapidly since 1989 from essentially inactive to 150 declared majors in the fall semester of 1994. It is a broad biological major across departments and colleges and has considerable flexibility in selection of courses. It has minimum quantitative requirements and does not specify that depth be achieved in any area. Thus, the major is on the breadth side of any breadth and depth debate in the learning experience. It is coordinated by a group of volunteer faculty across the campus and has had a voluntary chair.

The majority of our committee believes that the major should continue.

The major must be able to stand on its own intellectually, that is, a second major should not be necessary to achieve "rigor" and "depth. The challenge is to retain its strength of breadth while increasing strengths in its quantitative and depth areas. When this major is tuned, it should remain broader than any departmental degree related to conservation biology but have increased strengths in quantitative skills and depth within the major.

Advising must be strengthened and be more evenly distributed among the BAC Chair and the BAC Committee of Advisors. Rotation of advisors from a broader number of faculty committed to BAC is needed. Career advising is needed to meet the desired and realistic futures of the students. A greater sense of identity is needed among students in the major. This is especially true given the interdepartmental nature of the major and the breadth of the degree. Greater access is needed to internships and research experiences with faculty, research scientists and graduate students. The major must have a stronger and better supported institutional structure. The committee recommends that the position of the BAC Chair and BAC Committee of Advisors be enhanced and that support be provided for supplies and staff assistance. The greater involvement of the faculty and courses in College of Agriculture and Life Science (ALS) would enhance many aspects of the major. Integration of the major across L&S and ALS is encouraged; a number of specific institutional changes would be required by these Colleges.”

Here, we will outline the BAC responses during the last 10 years to the specific recommendations of the review committee.

Specific Recommendations

GENERAL RECOMMENDATION (1995): The review committee recommended that the Biological Aspects of Conservation major be continued and strengthened to provide a broad interdepartmental and inter-college major in conservation biology...contingent on:

a. Increase in Rigor: In response to the 1995 recommendations, the BAC program has increased rigor by recommending the Biology 151/152 introductory courses, and by including additional quantitative course work options in the list required and elective courses. We are currently discussing the desirability of adding a math requirement, such as statistics, to our core requirements (Statistics 301/302 and 571/572 are already accepted for elective credit by the program).

b. Intercollege Integration: A serious attempt is being made to integrate the BAC major across L&S and ALS, by incorporating the program's administration into the newly formed (2005) Institute for Cross-College Biology Education (ICBE). In addition, the BAC Program currently has 4 CALS advisors and one advisor from the Gaylord Nelson Institute for Environmental Studies (compared to only 3 CALS advisors in 1995).

c. BAC Chair and Faculty: The role of the BAC Chair was strengthened at the time of the appointment, by then Dean Philip Certain, of Dr. Stanley Dodson as chair of the BAC program in May of 1999. At that time, the Dean offered \$1200 in supplies and one semester of teaching relief, as well as encouraging the Zoology department to provide advising help and clerical support. In subsequent years, the Dean's office has provided annually to the chair \$1000 in supplies support and one month of summer salary. Advising shifted first to CBE and then in 2005 to the ICBE advising staff.

The BAC Committee of Advisors has been strengthened by replacing retiring members after discussion with the Committee, by increasing the number of advisors from 9 to 11.

The review Committee also made recommendations concerning the BAC curriculum, advising, and institutional structure.

CURRICULUM

A Strengthened Curriculum: As recommended by the 1995 review, the BAC curriculum has been reviewed by the BAC Committee of Advisors on an annual basis, since 1999, at an annual faculty meeting. We have discussed and in many cases implemented strategies for increasing the quantitative requirements and range of courses available to our students. We have yet to add additional quantitative requirements, such as statistics, because of concern that, by so doing, we would discourage the natural history and liberal arts portion of your majors. While our major is appropriate for students interested in either environmental science or environmental studies, our curriculum focuses on aspects of conservation biology lying between these two specialties.

We have increased the number of potential courses from outside L&S in all three curriculum areas core courses, species and field biology, and electives). Environmental studies courses were added to our core courses. The number of courses acceptable as species and field biology courses has increased from 42 to 50. Some of these courses are in programs new to BAC, including courses in two CALS departments (Agronomy and Horticulture), and courses in Environmental Studies and Animal Health and Biomedical Sciences (Veterinary School). Courses automatically accepted for elective credit have increased from 67 in 1995 to 87 today. We have added elective courses in Agronomy and Animal Health and Biomedical Sciences.

Since 1995 we have added the recommendation of Biology 151/152 and removed introductory ecology courses while retaining General Ecology. We have added several departmental directed studies, senior thesis, and honors courses to our curriculum.

In February, 2006, the BAC faculty moved to reinstate the DARS check for three credits of social sciences.

We continue to struggle with the issues surrounding the development of specifically BAC courses, such as a Directed Studies or Senior Thesis. The major block to the development is that BAC is staffed by faculty whose appointment and primary responsibilities are in other departments and programs. Thus, any BAC courses are easily cross-listed with other departments, but a unique BAC course would be an overload for the instructor.

IMPROVED ADVISING: Based on the very welcome recommendation that resources for improved advising be made available, we have gratefully expanded the BAC advising program. The ICBE office staff and the Biology Advisor provide outstanding advising assistance concerning the advisability of the BAC major, the desirability of multiple majors, and the intricacies of the DARS reports. (Since about 2004, the DARS report has become the students official record of progress.) The ICBE staff have also developed an excellent web page for the major, with all the required forms, information, and links to other programs. Faculty advisors are able to focus on curriculum strategies, upper-level courses, career consultation, and dealing with unusual problems that require use of our newly-revised exceptions form.

The ICBE staff now assist the program by advising and signing up students with an advisor at the time the major is declared. This new procedure has led to a more equitable and appropriate distribution of students among advisors.

INSTITUTIONAL IMPROVEMENTS: As recommended in 1995, the L&S Dean now appoints the BAC Chair annually in consultation with the BAC Committee of Advisors. In this time of transition, the BAC chair still reports directly to the Dean and Associate Dean and participates in the L&S Chairs and Directors meetings when invited. However, as the ICBE evolves, some administration of the BAC chair may be assumed by the Director of that program.

The program is most grateful for ability to attract a BAC chair with the current level of clerical and advising assistance, the supplies supplement, and the month of summer salary. We have found ways for BAC students to major in CALS departments, and we continue to recruit faculty from CALS and other non-L&S programs, to enrich our program.

BAC AND THE FIVE GOALS OF THE UW-MADISON'S STRATEGIC PLAN

GOAL ONE: PROMOTE RESEARCH

- **Research program goals, priorities and challenges:** We encourage our students to participate in research -- directed studies, senior theses, study abroad. Service learning opportunities provide an even wider range of possibilities for experiencing research and application of knowledge in society.
- **Comparative standing of department, sub-areas, individual faculty & staff:** This is the only program of its kind in the US.
- **Benefits to society, including local, state, national & international communities:** The breadth of the BAC program produces well-educated students with experience in the liberal arts, natural history, whole organism biology, ecology, and conservation biology. Our goal is to nurture citizens with the tools necessary to make informed decisions when faced with environmental issues and to participate in conservation biology careers.
- **Faculty recruitment & retention:** We rely on the commitment of our faculty to contribute to conservation education. This commitment is above and beyond responsibilities to home departments. At this time, recruitment & retention is a minor issue for the program. The supplies and summer salary arrangement for the chair make recruitment of a chair at least feasible.
- **Strategies for encouraging & enhancing research:** The faculty advisors, our web site and the excellent ICBE and Biology advisors all inform and encourage students to participate in directed studies, senior theses, internships, and study abroad programs focused on research opportunities. The ICBE staff also e-publish a monthly newsletter containing the latest research opportunities.
- **Interdisciplinary/cluster impacts on research:** The BAC program benefits from quality hiring in the many home departments from which we draw our faculty.
- **Resources:** The most important BAC resources are the good will of the faculty and the enthusiasm of students for conservation biology. The resources made available to the chair (supplies allocation, summer salary) are key to recruiting new chairs over time. Also crucial to the BAC program is the advising provided by the ICBE office staff and the Biology advisor. BAC resources include a chair's office in the ICBE complex (Old Genetics Building), access to the ICBE Director, and clerical assistance from the ICBE office staff.
- **Strategies for periodic evaluation & planning for the future:** With the assistance of the ICBE office staff, the BAC faculty meets annually to evaluate the BAC program and to plan for the future. Research has a relatively low priority in these discussions, below curriculum and recruitment of new advisors.

GOAL TWO: ADVANCE LEARNING

Goals priorities & challenges for the BAC degree program: The Biological Aspects of Conservation (BAC) program is a popular L&S baccalaureate major in which students gain

broad experience in biological and social sciences related to environmental and ecological disciplines, with a central focus on applied and theoretical aspects of conservation biology. Our students are typically committed to conservation of natural resources or environmental policy development, and who prefer an overview of theoretical ecology. This is the major for students who love conservation topics, without calculus, organic chemistry, or physics. In our program, students learn the languages of environmental studies, conservation biology, and natural history, they gain expertise with the biology of at least one major group of organisms, and many of them gain hands-on experience through Directed Studies, Senior Thesis, and/or study abroad at biological field stations.

Upon graduating, a BAC major will be able to speak and write intelligently about:

- General principles of biology, chemistry, the physical environment, ecology, and evolution.
- The biology of at least one group of organisms.
- The role of human society in conservation.
- Principles of conservation biology.

Beginning in May 2005, we asked our graduating seniors to respond to an exit survey. Results of this survey were discussed at our annual faculty meeting in March 2006, and will be used on a continuing basis to redesign the faculty's offerings, expectations, and program assessments.

Assessment of student learning in the major: In general, BAC relies on individual host departments to assess student learning, via course grades. In the last two years, the ICBE staff have performed a survey of graduates. Although the number of responses is still low, this survey provides an indication of student satisfaction with the BAC program.

Size, completion rates & time to degree: See Table in the Supplementary Material. The average time to degree from Fall 1999-Summer 2004 for students who entered as first year undergrads is 4.39 years (http://apa.wisc.edu/JLM/TimeToDegree_Majors.pdf).

Credits taught for general education requirements or other service: BAC does not teach any of its own courses.

Teaching load & course assignment policies: The level of BAC advising responsibilities are assigned by the ICBE staff, based on feedback from the chair and the advisors. The staff are sensitive to requests from the advisors for more or fewer advisees.

Policies for deployment of faculty, academic staff, & TAs to meet departmental teaching responsibilities: When students declare their intent to major in BAC, they have the right to choose their faculty advisor. However, most students are guided by the ICBE staff and then assigned to an advisor, based on student interest and faculty expertise and availability.

Procedures for evaluating curricula & improving the degree program & instruction: Throughout the year, the chair collects suggestions from BAC faculty and the advising staff as to new opportunities or problems with the existing curriculum. Appropriate changes are then brought to the faculty for their approval by the faculty or chair at the annual meeting.

Criteria for admission to the major: Declaration of intention by a student enrolled in at the UW-Madison.

Effectiveness of student advising & mentoring: This is a good idea. We will explore how to find out how well we are advising and mentoring.

Measures of student quality (e.g., placement in professional positions in the major): Since 2005, we have used results of the exit (graduation) survey as our guide. As data accumulates, we will have an indication of our student quality. At this time, we see that at least some students go on to graduate programs or desirable professional positions.

Faculty & staff teaching evaluations, awards, & honors: We rely on the home departments deal with faculty & staff evaluations.

Graduate Student Support: None.

Training, mentoring & evaluation of TAs: None.

Instructional innovation (residential learning programs, out-of-classroom learning, service learning, technology-enhanced teaching):

Although BAC does not teach courses of its own, we do encourage students to participate in a research, service-learning, and study-abroad programs. For example, of the Fall 2005 graduates, there were 4 students who had participated in 699 Directed Studies courses (in Botany, Geology, Zoology). In the Spring of 2006, expected graduates participated in 3 Senior Thesis (Botany, Zoology), 3 Senior Honors Thesis (Zoology), and in 17 699's (Animal Science, Anthropology, Botany, Comparative Bioscience, Environmental Studies, Zoology).

From the Fall of 1990 to the summer of 2006, there were 156 BAC Majors who participated on a UW-Madison study abroad program. The most popular destination was Costa Rica, followed by Australia (according to Kelly Haslam, Study Abroad Advisor, International Academic Programs). We encourage our Majors to participate in these field study programs.

Curricular development (Credit Outreach & other Extended Day Timetable; Honors, Capstone and/or Certificate Programs; first-year Interest Groups; Small Course Initiative): Students have been requesting a specific BAC seminar-like course, in which they would be exposed to the broad outline of conservation biology, be given guidance as to the possibilities of the major, and develop a bond with other BAC students. A plan for this course will be discussed during the next year and at our annual faculty meeting.

The BAC capstone seminar will potentially be case-based, focused on a particular practical conservation problem. Of course, the issue here is finding the faculty willing to take responsibility for the course – because ours is a program in which faculty participate in addition to their regular departmental duties. One possibility is to enlist 1-2 of the Conservation Biology/Sustainable Development students to run it, with a titular BAC faculty person overseeing it.

We have also failed to offer the Bot / Zool 639-640 capstone course these past several years, both for lack of students (one year) and lack of faculty availability, since the retirement of Professor Baylis.

GOAL THREE: ACCELERATE INTERNATIONALIZATION

Goals, priorities, & challenges in this area: It is sometimes difficult for students to get appropriate credit for international courses when the credits are transferred to the UW Madison.

The BAC chair is working with ICBE, the International Studies office, and host departments, to facilitate these transfers of credit.

Integration of international issues within courses: Our mission statement, and the personal preferences of many of the BAC advisors (faculty and staff), directs our students toward international research and/or field stations or courses.

Involvement with the International Institute, area and/or international studies activities and program development.

Recruitment and retention of international students, faculty, & staff: BAC currently depends on the home departments for this recruitment and retention.

Integration of international students, faculty & staff into departmental activities and access to services: BAC students meet with our excellent staff and faculty advisors to discuss their degree requirements, curriculum, and their plans for the future.

International partnerships and collaborations with educational institutions, and public or private sector entities: BAC students make use of international partnerships and research collaborations, but the program does not have a formal relationship with such organizations.

GOAL FOUR: AMPLIFY THE WISCONSIN IDEA

Members of BAC:

1. Participate in non-credit outreach activities (e.g. workshops, continuing education programs, reading groups, public lectures, and participation in the Speakers Bureau).

Responses from faculty included:

Consult regularly with government officials and DNR staff on issues of climate change, and give public and public school lectures on climate change. Work with citizen's groups and agencies regarding the Badger Army Ammunition Plant decommissioning. Did the Conversations in Science lectures run through the Science-is-Fun program (including a lecture at Edgewood College and an educational segment on local TV). Field questions from homeowners about controlling yellow jackets and bees, and get media exposure on bee & wasp control every year in late summer, when the populations peak. This year, bee & wasp control was featured on the front page of the WSJ and had a segment on channel 27. Several faculty participate in the Speakers' Bureau, and others give an occasional lecture at the Arboretum. Several give one or more (up to 8 in one case) public talks and/or workshops per year to Middle School & High School teachers (e.g., at the Geography Summer Institute, UW Eau Claire), and to non-academic audiences.

2. Cooperate with School of Education teacher training programs or other K-12 educational partners. Responses included:

Speak annually in a Madison West High School classroom on issues of evolution and religion. Give 6-8 public lectures and workshop participation opportunities per year, on environmental topics, to Middle School and High School teachers through the Geography Summer Institute (at UW Eau Claire), as well as giving 2-3 presentations per year in Madison Schools. Established

and taught 2 new courses specifically aimed at HS science teachers: Bot / Zool 450 - Ecological case studies: A Midwestern approach (a web-based e-course), and Bot Zool 459 - Ecological field techniques (an Arboretum based field course). At least two of the BAC faculty have had their graduate students participate in the NSF-KTI education training program. One student developed a behavior lab using crickets and took it around to dozens of schools in southern WI; another developed materials for teaching environmental topics for a semester at sea program.

3. Encourage student participation, via service learning or internships. Don Waller successfully inserted the recommendation of participation in intern programs into the BAC curriculum, and has connected innumerable students over the years to internships & service learning opportunities. Dodson has developed an extensive service learning program, focused on community-based directed studies in environmental and ecological areas: Zoology 699 and Z677. This program gives college credit to roughly 50 undergraduates per year, many of the BAC majors. Professor Zedler also arranges for students to get college credit for internships, by directing undergraduates to internship possibilities with environmental groups, and especially to opportunities in field ecology in conjunction with his own research projects. Several BAC faculty regularly mentor students during participation in internship programs.

4. Contribute to Wisconsin's educational, economic, social and cultural development. All BAC faculty contribute to society by teaching WI students and doing research that reflects well on campus. In addition, faculty responded that they: participant in a research project that is in support of an eco- label program and write books focusing on Wisconsin and international environmental issues.

5. Communicate and consult with government, business, and industry. BAC faculty have variously consulted with the WI asst attorney general, DNR staff, WI legislators and other politicians, and the US Fish & Wildlife Service on issues related to climate change and on issues related to endangered plant habitat designations, recovery plans, and wildland fire, and consulted with companies such as S.C. Johnson and Harnischfeger. BAC faculty serve on NSF panels and work with NSF policy makers, and on special committees, such as the US National Committee of the IUBS. We regularly work with government agencies and policymakers through NSF and BAC faculty make active contributions to NGOs (e.g., The Nature Conservancy, Conservation International, Defenders of Wildlife, Sierra Club, Habitat Education Center, Environmental Law and Policy Center, the Rewilding Institute, Midwest Invasive Plant Network etc..). BAC faculty give testimony as expert witnesses in environmental court cases and before the WI State legislative committees, governor task forces, DNR committees, U.S. Senate & House of Reps. We often give informal talks to restoration ecology businesses and citizen groups.

6. Connect with alumni. Responses from BAC faculty included: regular invitations to alumni to speak to classes on topics within their expertise, participation in an interview for the archival project UW is doing about faculty, and opportunistic interaction with alumni, including with donors to the UW Foundation, but nothing organized or regular. BAC from at least two home departments have a newsletter that goes out to our alumni. We hear regularly from former students, and always encourage them to stay in touch (both before & after they graduate – we are working with the BAC staff to find a way to formalize these contacts.

GOAL FIVE: NURTURE HUMAN RESOURCES

Communicates its mission, policies and procedures to all department members:

Welcomes and orients newcomers to the department and to the University:

Exhibits respect for all faculty, staff and students: In the past 2-3 years, our excellent staff have developed and maintained an excellent web page at:

http://www.biology.wisc.edu/Academic_Programs/BAC/index.asp. The staff also produce a weekly email newsletter, and we all meet at our annual BAC meeting. The BAC staff and some faculty are active in welcoming and orienting newcomers to the department and to the University. The office staff is available for campus visitors/advising, there is an ICBE Majors Welcoming social event that is advertised as part of campus Welcome Week activities, and the BAC major is represented at L&S/CALS Majors Fairs on campus.

We have no formal means to assess our success in this area. Suggestions? We keep open office hours (7:30 to 4:30) to allow faculty and students ready access to the office.

Encourages participation by all concerned groups in departmental governance: processes and structures: We have no formal process for encouraging this participation. All faculty and staff are invited to the annual meeting, and to any other program meetings held during the year.

Evaluates and enhances the effectiveness of its policies and procedures: We have no formal procedure for this evaluation. On the other hand, we have little in the way of policies and procedures.

Aligns the budget with its goals and objectives: Our budget is quite small, and any alignment is accomplished at the annual meeting, or by the chair, via email consensus with the BAC staff and faculty.

Aligns merit and review processes with its goals and objectives: NA.

Recruits and retains members of under-represented groups: We believe ICBE would provide some travel funds, should an advisor wish to help recruit targeted undergrads.

Responds to challenges in hiring and retaining faculty and staff: BAC does not hire. Although we have risen to retention challenges (concerning volunteers in our program) in the past, we seem to be a fairly static group at present.

Facilitates collegial relationships: We depend on our annual meeting, and the fact that BAC is a program run by volunteers.

Encourages professional development:

Faculty: The home departments provide mentoring and evaluation-from assistant professor through post-tenure review.

Academic Staff participate in the monthly L&S Advisors Consortium. The staff represent BAC at biology advisors meetings. Staff are strongly encourage to attend campus seminars/informational meetings (i.e., Query Library, Wiscape, etc.) that enhance our ability to serve our faculty and students. This year the two

BAC staff were promoted, based on years of service, to the next title in their pay series.

Classified Staff: BAC has none.

Students: BAC has recently been given permission to use the Maude and Roland Becker Scholarship to fund environmental education. We are still working on how to best use his scholarship. BAC faculty and staff are strong advocates of the career centers on campus, and often direct students to those specialists.

Allocates resources for professional development: BAC's "parent" ICBE has provided some funds to enhance professional development of office staff, and this assistance would probably also be available to staff, who have yet to request it.

OTHER QUESTIONS

2006-2007 Review Questions for the Biological Aspects of Conservation (BAC) Baccalaureate Degree Program.

1. Program mission, goals, and assessment.

The BAC response to these questions are given above, in the introductory statements of the Internal Review document.

2. Program Administration.

Internal management: The BAC internal management is the responsibility of ICBE. The current staff is excellent. If we had a concern about internal management, I assume we would ask the BAC chair to talk to either the staff person or to the ICBE Director.

Assessment: Our 2006 Annual Assessment report to L&S is attached as SUPPLEMENTAL MATERIAL at the end of this Internal Review.

Budget and Resource Management: Aside from the one month of summer salary for the BAC chair, and the supplies contribution to the BAC chair, the program does not have a budget. The summer salary and the supplies allocation are now managed by ICBE.

The relationship with ICBE and with L&S continues to develop. Until this year, the BAC chair did not realize that he was invited to the Dean's meetings for chairs and program chairs. The current BAC chair has been involved with the continued evolution of what has turned into ICBE. We now depend on ICBE for our advising and clerical staff support. If we had additional needs for the program, we would make them known to the ICBE Director.

Relationships with cooperating Departments and connections to other programs are handled by individual advisors. Some of the advisors are active in the Madison Ecology Group, and others have been taking an active role in developing more efficient interactions with International Studies, IES, the slowly-evolving effort to create an environmental major, and even with outreach such as the agreement with the College of the Menominee Nation.

3. Challenges.

Curriculum: As described above in the Internal Review document, the BAC advisors review the curriculum once a year at our annual meeting. This is mainly the responsibility of the chair, but the advisors have the opportunity to suggest and/or approve changes. The advisors would be happy to have our Category III requirements evaluated for relevance by an outside review. These requirements, and the courses that fulfill the requirements, are listed on the BAC web site.

If there is to be a BAC capstone course, then there will probably have to be rewards to induce someone to teach the course.

Faculty and Staff are identified and recruited in different ways. The Staff are hired and fired by the ICBE Director. The faculty are identified via discussion at our annual meetings. Then, it is a duty of the BAC chair to invite the faculty person to join our program. We currently appear to have a sufficient number of advisors, so we have not added a new member for several years.

Budgets: The current budget is sufficient for encouraging a faculty member to volunteer for the position of chair, and to compensate the chair for time spent on the program. The lack of any support for the chair was a major challenge at one time, but the current policy is working well, at least for the current chair.

If a BAC capstone course is instituted, it is probable that an inducement, such as a month of summer salary, would be needed to encourage the faculty to take on this additional teaching.

Coordination among cooperating departments is a minor challenge for BAC, compared to the serious issues for other programs, such as Biology. This is probably because BAC asks relatively little of its advisors, allowing them to contribute to BAC out of their love for conservation education, without suffering excessive consequences from their home departments.

4. Future Opportunities.

It is difficult to see how BAC resources could be used more effectively. We have few resources, but also few needs, because the program does not hire its own faculty or staff, or have needs for funding courses.

Changes are always a possibility, but at this time, there is not a consensus that major changes are needed in the BAC degree program. This consensus may change if and when an environmental major or program is established.

It would be exciting to have a BAC capstone course.

BAC attracts students from among a cohort that is also attracted to a large number of biological sciences on campus. Some students prefer our major, because it is relatively less quantitative, and it encourages a broader curriculum than do other majors.

SUPPLEMENTAL MATERIALS

L&S BAC ANNUAL ASSESSMENT REPORT

16 October 2006

Size, completion rates & time to degree: The average time to degree from Fall 1999-Summer 2004 for students who entered as first year undergrads is 4.39 years

(http://apa.wisc.edu/JLM/TimeToDegree_Majors.pdf).

Year	Total Grads	With Distinction	Honors in BAC	Comprehensive Honors	Honors in Liberal Arts	Double Majors	Triple (or more) Majors	IES Certificate	GPA
1995-1996	75	11	0	0	0	43	0	18	
1996-1997	90	9	2	0	0	55	0	13	
1997-1998	102	9	0	0	0	64	1	42	
1998-1999	90	15	1	0	0	56	1	40	
1999-2000	105	15	2		1	57	3	44	
2000-2001	74	13			1	42	5	24	
2001-2002	95	15	1	3	2	65	2	34	
2002-2003	63	13	1	1		33	2	28	
2003-2004	80	14		1	2	36	3	33	
2004-2005	53	8		1	2	26	3	22	Spring 2005 = 3.14 , Summer 2005 = 2.84

COLLEGE OF LETTERS & SCIENCE
UNIVERSITY OF WISCONSIN

ANNUAL ASSESSMENT REPORT

PROGRAM OVERVIEW: Biological Aspects of Conservation.

23 May 2006

Stanley Dodson, Chair

The Biological Aspects of Conservation (BAC) program is a popular L&S baccalaureate major in which students gain broad experience in biological and social sciences related to environmental and ecological disciplines, with a central focus on applied and theoretical aspects of conservation biology. Our students are typically committed to conservation of natural resources or environmental policy development, and who prefer an overview of theoretical ecology. This is the major for students who love conservation topics, without calculus, organic chemistry, or physics. In our program, students learn the languages of environmental studies, conservation biology, and natural history, they gain expertise with the biology of at least one major group of organisms, and many of them gain hands-on experience through Directed Studies, Senior Thesis, and/or study abroad at biological field stations.

YEAR	DEGREES CONFERRED	EXIT SURVEYS RECEIVED	GPA
2002-2003	63	-NA-	
2003-2004	80	3	
2004-2005	53	19	3.14 Spring, 2.84 Summer

As BAC becomes integrated into ICBE (starting in 2004-2005), the new and exceptionally qualified staff have made major contributions to the program. For example, the major now has an up-to-date web page linked to other biological majors and resources on campus. We have initiated a majors' exit survey and we are collecting data in an organized manner. The staff handle most assignments of new majors to advisors, give advice on L&S requirements, assist in transferring and accepting credits from courses taken off campus, and advise students concerning field and lab experiences.

Learning objectives or goals

Upon graduating, a BAC major will be able to speak and write intelligently about:

- General principles of biology, chemistry, the physical environment, ecology, and evolution.
- The biology of at least one group of organisms.
- The role of human society in conservation.
- Principles of conservation biology.

Beginning in May 2005, we asked our graduating seniors to respond to an exit survey. Results of this survey were discussed at our annual faculty meeting in March 2006, and will be used on a continuing basis to redesign the faculty's offerings, expectations, and program assessments.

Strategies for measuring students' performance on program-level goals

The BAC has no courses or faculty of its own, and depends on the host departments for their assessment of the success of their courses, as well as for the faculty to teach the courses. BAC advisors contribute their time and energy to the program over and above their regular departmental responsibilities. The BAC program uses only course grades as a measure of student performance.

Students are required to choose a BAC advisor when they declare the major. Meetings with the advisor provide students with experienced guidance in their areas of interest. These meetings often result in participation in field courses, study abroad, and/or participation in laboratory research or service-learning.

Year	Average GPA of Graduates	Number of responses to Graduation Survey	Preparation for next Career Step. 1-5 scale	Overall Satisfaction with BAC. 1-5 scale
2004-2005		3	4.0	4.3
2005-2006		19	3.58	4.05

Statement on efforts to measure students' performance on program-level goals

Students have been requesting a specific BAC seminar-like course, in which they would be exposed to the broad outline of conservation biology, be given guidance as to the possibilities of the major, and develop a bond with other BAC students. A plan for this course will be discussed during the next year and at our annual faculty meeting.

The BAC capstone seminar will potentially be case-based, focused on a particular practical conservation problem. Of course, the issue here is finding the faculty willing to take responsibility for the course – because ours is a program in which faculty participate in addition to their regular departmental duties. One possibility is to enlist 1-2 of the Conservation Biology/Sustainable Development students to run it, with a titular BAC faculty person overseeing it.

We have also failed to offer the Bot / Zool 639-640 capstone course these past several years, both for lack of students (one year) and lack of faculty availability.

Thoughtful discussion:

BAC students who do not meet with their advisors regularly have been receiving little guidance in their major, other than the statement on the web site or in the Undergraduate Catalog. This works well for self-motivated students, but our graduation surveys suggest that some students would benefit from an all-majors BAC annual meeting or course. The ICBE staff have offered to organize such a meeting, and the faculty will, in the next year, be exploring the possibility of a seminar.

All data from student records and the graduation survey are communicated to all BAC advisors. The BAC chair is responsible for an annual meeting of the faculty, at which changes to the program are often discussed and acted on.

The BAC faculty is finding the graduation survey instructive, as the ICBE staff are continuing to find ways to induce greater student participation.

For several years, a group of environmentalists and environmental scientists have explored the possibility of an environmental major. The BAC chair has represented the program in this process. It is obvious that BAC, along with several environmental and ecological majors and programs in L&S and CALS, has a stake in the nature of the new environmental major or program. BAC may see changes in its goals in order to accommodate the new major.

The BAC program has at least one all-faculty meeting each year, and we have recently been meeting in February. This meeting provides the annual deadline for assessment innovations.

If you would like additional information, please contact:

Stanley Dodson
444 Birge Hall
262-6395
sidodson@wisc.edu