

**Sir Wilfred Grenfell College,  
Memorial University of Newfoundland**

**Academic Program Review**

**Environmental Studies**

**B.A. Degree Program**

**May 5, 2005**

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## **PREFACE**

This self-study report is the product of meetings of the members of the Environmental Studies Program Unit, including student representative Stephen Dicks, held bi-weekly during the 2003-2004 Academic Year and continued weekly in the Fall Semester 2004. Some statistical information was compiled by the Secretary of the Social Science Division, Sylvia Osmond. Telephone interviews with graduates of the program were conducted by Stephanie Balsom. Invitations to comment on the Program were sent to the Environmental Science Program at SWGC and the Adventure Tourism Program at the College of the North Atlantic.

## **BACKGROUND: SIR WILFRED GRENFELL COLLEGE**

Sir Wilfred Grenfell College (SWGC) was established in 1975 as a regional campus of Memorial University of Newfoundland offering the first two years of a number of Memorial's undergraduate Arts and Science degree programs. SWGC began its transformation into a degree-granting institution in 1988 with the development of a Bachelor of Fine Arts programs in Visual Arts and Theatre. Since then, SWGC has developed Bachelor of Arts degrees in English, Environmental Studies, Historical Studies, Humanities, Social/Cultural Studies, and Psychology. Bachelor of Science degrees are offered in Environmental Science (Environmental Biology and Environmental Chemistry), Psychology, and General Science. A Bachelor of Nursing Degree is offered in conjunction with the Western Regional School of Nursing. In addition to offering degree programs, SWGC continues to serve as a feeder to degree programs at Memorial and other universities. Full-time enrolment at SWGC is about 1300 students (including Nursing students) with students drawn primarily, though not exclusively, from Western Newfoundland and the Northern Peninsula.

In developing degree programs, SWGC has been guided and constrained by the principle that SWGC should be distinctive and not duplicate programs available on the larger St. John's campus. As well, with the exception of the Fine Arts programs, program planners have generally had to operate on the assumption that no new faculty positions can be created to carry out the programs. These constraints have encouraged the development of several multidisciplinary programs.

The gradual development of SWGC as a degree granting institution is a continuing process. Proposals for degrees in Tourism, Sustainable Resource Management, and Business are being actively pursued. (The Tourism program was approved by the College Academic Council on April 6, 2005.) As well, the College administration is seeking greater autonomy, and the College Academic Council is in the process of recommending a new name for the College to reflect the changing nature of the institution.

## Strategic Framework and Vision

The primary goal of the College is to provide a liberal arts education. The Strategic Framework for Memorial University includes the following goal:

*to strengthen Grenfell College as a liberal arts and science institution offering degree programs tailored to provide opportunities complementary to those available at the St. John's campus ... this goal will necessitate the refinement and promotion of the College's distinctive character.... [T]he distinctive liberal arts and science alternative provided by Sir Wilfred Grenfell College" is "an important element" of the University's recruitment plan.*

The 2001 **Strategic Plan for SWGC** includes the following mission statement:

*Sir Wilfred Grenfell College is committed to the pursuit of liberal education as a means of improving the quality of life and contributing to the economic well-being of the whole community.*

Sir Wilfred Grenfell College's **Statement of Academic Purpose** (reprinted in the Memorial Calendar) provides an explanation of the meaning of a liberal education:

*At Grenfell College, a liberal education means a critical and open-minded pursuit of knowledge providing students with the intellectual tools to enable them to respond to a rapidly changing world. A liberal education marks the start of preparation for a career and it may lead to graduate work in a number of fields. In a broader sense, it is intended to build a foundation for social, cultural and recreational interests that will help students move towards a meaningful personal and professional life. Academically, the aim of Grenfell College is to enable students to be open to new ways of thinking and to gain a lasting intellectual self-confidence so that they may have both the ability and the desire to be life-long learners.*

The "vision statement" in the SWGC Strategic Plan indicates that interdisciplinary programs will be one of the ways in which distinctive liberal arts and science programming will be offered:

*Grenfell College in the first decade of the 21<sup>st</sup> Century will offer an undergraduate university experience characterized by a striving for excellence in a small college setting. More specifically, Grenfell will deliver liberal arts and science education and professional education in the fine arts in an interactive, personalized learning environment with an emphasis upon interdisciplinary programming and activities. The College will be known for its core program, its commitment to excellent teaching, its strong student-centred philosophy, and for its attractive physical setting. Grenfell faculty will exemplify scholarly and creative achievement and the College will maintain a mutually supportive relationship with the external community. Although most Grenfell students will come from Newfoundland and Labrador, a significant number will come from*

*other parts of Canada and the world. The College will have a distinct residential character, effective learning support systems and a vibrant student life. Grenfell College will be an integral part of Memorial University of Newfoundland, with strong links to the St. John's Campus, but will exercise considerable autonomy over its own affairs.*

### **Administrative Structure**

As a campus of Memorial University of Newfoundland, Sir Wilfred Grenfell College is governed by the academic rules and regulations of the University Senate. Programs and new courses have to be approved not only by the College Academic Council but also by the Senate. The College Principal reports to the Vice-President (Academic). The office of the Principal includes a Vice-Principal, an Associate Vice-Principal (Research), and a Director of Administration and Finance. There is an Administrative Head for each of the four Divisions of the College (Arts, Fine Arts, Science, and Social Science) who reports to the Vice-Principal. Each Degree Program has a Program Chair who is responsible, according to the Collective Agreement, for the "orderly, effective and efficient operation of the program" including advising the Administrative Head on matters pertaining to the College Degree Program.

The Environmental Studies Program is administered under the Division of Social Science. The 2003-2005 Collective Agreement specifies that the Environmental Studies Program Unit includes the following disciplines: Geography, Political Science, Economics, Anthropology, Folklore, and Environmental Studies. [The exclusion of Human Kinetics and Recreation appears to be an oversight]. Faculty members in the disciplines of Anthropology and Folklore are also members of the Social and Cultural Studies Program Unit (although in practice only Drs. Bartels and Ashton are considered members of the Environmental Studies Program Unit as well as the Social and Cultural Studies Unit) while Dr. Iams (Environmental Science) is a member of both the Environmental Studies and Environmental Science Program Units.

### **THE DEVELOPMENT OF THE ENVIRONMENTAL STUDIES PROGRAM**

After about three years of regular meetings of a committee composed of faculty from a variety of disciplines, consultations with various Departments on the St. John's campus, and the receipt of positive reviews from faculty at other universities, the Environmental Studies program was approved by the University Senate in 1996 with the first students entering the program in the Fall Semester, 1997. The program developers were committed to taking an interdisciplinary approach that would include a very broad range of disciplines in the social sciences and humanities. This inclusiveness was expanded when the College Principal, Katy Bindon, suggested that the program include what came to be known as the Outdoor Environmental Pursuits concentration. The parallel development of an Environmental Science degree focusing on Environmental Biology and Environmental Chemistry has resulted in a distinctive environmental focus for SWGC. Environmental Studies is not offered on the St. John's campus and Environmental Science is only offered at the graduate level.

## **The Academic Purpose of the Environmental Studies Program**

In the proposal for adoption of the Environmental Studies program, the following statement of the academic purpose of the Program was included:

*The aim of the Environmental Studies Program is to encourage students to develop a broad and integrated understanding of environmental issues, problems, and possible solutions. By taking courses from a variety of academic disciplines, students will have the opportunity to develop an understanding of various perspectives and approaches that are useful in environmental analysis. In addition to a substantial common core of courses that will provide students with a broad background in environmental studies, students will choose an area of concentration. The Environmental Perspectives concentration will provide an opportunity for students to develop a deeper and more comprehensive theoretical understanding of environmental problems. This concentration will be of particular interest to students intending to pursue further studies in the social sciences or related areas. The Outdoor Environmental Pursuits concentration will provide students with practical experience through which they will deepen their understanding of environmental issues. Some courses will explore the theory and practice of various outdoor skills in a manner that respects fragile wilderness environments. Other courses in this concentration will focus on the ways in which the principles of sustainable development can be applied to the tourism industry. Thus, this concentration will introduce students to outdoor skills that can be useful in wilderness-related environmental research, adventure tourism, and sustainable outdoor recreation management.*

The justification for the establishment of an Environmental Studies program at SWGC included the desirability of equipping students with an understanding of the environmental challenges facing the world. It was also noted that the location of SWGC has many advantages for the Environmental Studies program. The economic bases of the region (including forestry, fishing, and tourism) are well-suited for environmental studies. The natural environment is one of the finest in Eastern Canada and offers terrain of national significance for a variety of outdoor pursuits such as skiing, hiking, and kayaking. Easy access to a varied environment and closeness to Gros Morne National Park provide many opportunities for student learning and faculty research.

Corner Brook is also becoming a centre for environmental research. Located on campus are the Canadian Forest Service, the Western Newfoundland Model Forest, and the Humber Arm ACAP. Funding was provided in the 2005 provincial budget to fully operationalize the Institute for Biodiversity and Ecosystem Science at Sir Wilfred Grenfell College. Nearby is the Geospatial Research Facility, the Aquatic Centre for Education and Research, and the Newfoundland and Labrador Wildlife Division. The campus is within easy driving distance of the Gros Morne Discovery Centre and the Bonne Bay Marine Station. The Government of Newfoundland and Labrador is committed to establishing a Centre for Environmental Excellence in Corner Brook in

which Sir Wilfred Grenfell College will play a leading role (see Appendix L). Funds were allocated in the 2005 provincial budget for a master plan and feasibility studies to create the Centre. As well, Sir Wilfred Grenfell College was successful in its application for a Canada Research Chair (Tier II) in Environmental Economics in November 2004. Efforts are currently underway to recruit a suitable candidate.

## **THE RELATIONSHIP BETWEEN ENVIRONMENT STUDIES AND ENVIRONMENTAL SCIENCE**

There have been suggestions made on various occasions that there should be a closer relationship or even a merger of the Environmental Studies and Environmental Science programs. The Report of the Review Panel on the Environmental Science Program (December 2003) concluded that *"it is inappropriate that environmental programs at Grenfell College of MUN involve two disconnected units: environmental studies and environmental science. Given the limited availability of such critical resources as highly qualified personnel, space, and equipment, it would be much more appropriate to house all environment-related teaching under a single roof, which might be named "The School of the Environment".* In particular, Recommendation 3 of the Report was that *"the Principal of Grenfell College should initiate a process to advance the integration of all environmental programs under a single interdisciplinary unit, tentatively named the School of the Environment."*

The Environmental Studies Unit supports the development of a closer relationship between the Environmental Studies and Environmental Science programs including, for example, the development of interdisciplinary courses that would benefit students in both programs. As well, we support, in principle, the idea of a School of the Environment that would include both programs as well as the proposed new Tourism and Sustainable Resource Management programs (and possibly the Business program). However, caution should be exercised before proceeding with any merger of the Environmental Studies and Environmental Science programs. The Report of the Review Panel of Environmental Science Program found that there are "interpersonal and academic disconnects between the biology and chemistry streams" of the Program and that "most faculty members and students refer to themselves as being "biologists" or "chemists" with "little academic intercourse and collaborative endeavour between the biology and chemistry streams". The difficulties experienced in attempting to merge scientific disciplines into the Environmental Science program suggest that merging Environmental Studies with Environmental Science could be problematic at this time.

*Recommendations: A School of the Environment should be established at Sir Wilfred Grenfell College that includes Environmental Studies and Environmental Science along with the Sustainable Resource Management and Tourism programs that are currently being developed. Cooperation should be actively encouraged among these programs including the development of courses designed for and taught by those in different programs, the creation of joint appointments where appropriate, and a review of prerequisites to allow more students to avail of courses in different programs.*



## **Relationship to Other Institutions**

The College of the North Atlantic (CNA), Corner Brook Campus, has an Adventure Tourism Diploma Program that overlaps, to some extent, the Outdoor Environmental Pursuits concentration offered in the Environmental Studies Program at SWGC. In recognition of this, an articulation agreement is in place that allows those who have completed the Adventure Tourism Program to be granted sixty credit hours towards the Environmental Studies degree. Students from CNA taking the Outdoor Environmental Pursuits concentration receive credit for the five required courses in the Concentration plus eighteen unspecified credit hours towards the concentration requirements. Those taking the Environmental Perspectives concentration receive twenty-one unspecified credit hours towards the concentration requirements. All students entering with advanced standing under the articulation agreement are required to take the Environmental Studies core courses with the exception of Environmental Studies 1000 and Geography 1000. This arrangement is satisfactory (with graduates of the CNA program performing well) although greater efforts could be made to recruit graduates from CNA.

## **THE STRUCTURE OF THE ENVIRONMENTAL STUDIES PROGRAM**

### **Degree Requirements at Sir Wilfred Grenfell College**

The Bachelor of Arts and Bachelor of Science degrees at SWGC require the completion of 120 credit hours (the equivalent of 40 one-semester courses) including:

- a core program consisting of :
  - 30 credit hours in designated Writing courses including 6 credit hours in first-year English,
  - six credit hours in Quantitative Reasoning and Analysis Courses, and
  - a breadth of knowledge requirement consisting of six credit hours from each of three groups (humanities, social sciences, and sciences)
- a major consisting of a minimum of 36 credit hours in a single discipline or 72 credit hours in an interdisciplinary area. The major must include a minimum of 12 credit hours in 3000-level courses, 6 credit hours in 4000-level courses and 3 credit hours in a 4000-level senior project
- a minor consisting of a minimum of 24 credit hours. Students choosing an interdisciplinary major (such as Environmental Studies) do not have to complete a minor. A student may not use the same course to satisfy the requirements for both a Major and a Minor.

For Environmental Studies Majors, three of the required core courses are designated Writing courses along with fourteen of the optional courses in the Perspectives concentration and ten of the optional courses in the Pursuits concentration.

Three of the required courses are designated Quantitative Reasoning and Analysis courses. The required Philosophy course and the optional Religious Studies course qualify as Group A (humanities) courses. Most of the courses in the Program are Group B (social science) courses. Twelve of the options courses in both concentrations count as Group C (science) courses. Thus, the core program requirements do not generally pose a problem for Environmental Studies Majors and do not usually reduce the number of electives available to students. However, the requirement that the same course may not be used for both a Major and a Minor effectively precludes Environmental Studies Majors from obtaining a Geography Minor.

The general SWGC requirement that six credit hours are needed at the 4000 level for a B.A. or B.Sc. in addition to the Independent Project creates a problem for the Environmental Studies program. Because there is only one 4000 level course offered at this level in the Environmental Perspectives concentration other than the required fourth year seminar, this makes Environment Studies 4000 (Environmental Impact Assessment) *de facto* a required course for Perspectives students. The Academic Studies Committee, SWGC has approved a proposal to rename Environmental Studies 3010-3029 (Special Topics in Environmental Studies) Environmental Studies 4020-4039. This will allow a special topics course in Ecological Economics (to be offered in the Winter Semester 2006) to count towards the 4000 level requirement. However, given limited resources, it is uncertain whether any special topics courses will be regularly offered.

*Recommendation: Consideration should be given to changing the SWGC major regulations to require a sufficient number of courses at the 3000 and 4000 levels taken together rather than having separate requirements for these two levels.*

Sir Wilfred Grenfell College also offers Honours degrees in Environmental Science, General Science, and Psychology (in both Arts and Science). The Honours degree requires the completion of 120 credit hours including a minimum of 60 credit hours in the major (including the submission of a thesis or dissertation) and, where applicable, not fewer than 24 credit hours in the minor.

### **The Environmental Studies Program Requirements**

The Environmental Studies Major requires a minimum of 72 credit hours consisting of

- A core of ten courses :

Economics 2010 (Introduction to Microeconomics)  
 Environmental Studies 1000 (Introduction to Environmental Studies)  
 Environmental Studies 2000 (Introduction to Mapping, Remote Sensing and Geographical Information Systems)  
 Environmental Studies 3000 (Issues in Environmental Economics)  
 Environmental Studies 3001 (Environmental and Resource Management)  
 Environmental Studies 4010 (Seminar in Environmental Studies)  
 Environmental Studies 4950 (Independent Research Project)

Geography 1000 (Introduction to Physical Geography)  
 Geography 3222 (Research Design and Quantitative Methods) [This course was formerly numbered Geography 2220.]  
 Philosophy 2809 (Environmental Ethics)

The core required courses are intended to reflect the basic knowledge and skills that are expected of all program graduates. The required introductory course is intended to familiarize students with the field of study. The senior seminar is intended to provide an opportunity for students to integrate the knowledge derived from the different disciplines associated with the Major.

- And a concentration of 14 courses in either Environmental Perspectives or Outdoor Environmental Pursuits:

Anthropology 3080\* (Third World)  
 Anthropology 3083 (Cultural Crises & the Environment)  
 Biology 2041 (Modern Biology & Human Society II)  
 Biology 2600 (Principles of Ecology)  
 Chemistry 1001 (General Chemistry II)  
 Chemistry 1200 (General Chemistry I)  
 Earth Sciences 1000 (Earth Systems)  
 Earth Sciences 1002 (Concepts & Methods in Earth Sciences)  
 Environmental Science 2261 (Survey of Environmental Chemistry)  
 Environmental Science 2360 (Geological Hazards & Natural Disasters)  
 Environmental Science 2370 (Global Environmental Change)  
 Environmental Science 2371 (Oceanography)  
 Environmental Studies 3010-3029 (Special Topics in Environmental Studies)  
 Environmental Studies 4000 (Environmental Impact Assessment)  
 Folklore 2401\* (Folklife Studies)  
 Folklore 2600 (Regional Folklore)  
 Forestry 1010 and 1011 (Introduction to Forestry)  
 Geography 1001 (Introduction to Geography II)  
 Geography 2001 (Cultural Geography)  
 Geography 2102 (Physical Geography)  
 Geography 2302\* (Economic Geography)  
 Geography 2425 (Natural Resources) [Formerly numbered 3325]  
 Geography 4405\* (Outdoor Recreational Resources & Planning)  
     **or** Human Kinetics and Recreation 3555 (Outdoor Recreation Management)  
 Human Kinetics & Recreation 3565\*\* (Tourism/Commercial Recreation)  
 Human Kinetics & Recreation 4575\*\* (Recreation Ethics, Issues & Trends)  
 Political Science 3550\* (Politics and the Environment)  
 Political Science 3731 (Environmental Policy)  
 Religious Studies 3880 (Spirituality and the Earth)  
 Sociology 2120\* (Technology and Society)

**Note:** \* Can only be used in the Environmental Perspectives concentration.

\*\* Can only be used in the Outdoor Environmental Pursuits concentration.

### **Environmental Perspectives Concentration**

There are no required courses beyond the core for students taking the Environmental Perspectives concentration. Students can choose among thirty courses to fulfil this requirement provided that at least seven of these courses are at the 3000 or 4000 level. The optional courses include a diversity of environment related courses in the social sciences (two in Anthropology, one in Environmental Studies, two in Folklore, five in Geography [excluding Geography 4405 that has never been offered and is being deleted from the program], two in Political Science, and one in Sociology), twelve in sciences (four in Biology, two in Chemistry, two in Earth Sciences, and four in Environmental Science), and one in humanities (Spirituality and the Earth). Two introductory Forestry courses are listed, although their availability is dependent upon the fate of the two-year pre-forestry program.

### **Outdoor Environmental Pursuits Concentration**

In addition to the common core, students taking the Outdoor Environmental Pursuits concentration are required to take three outdoor activities courses that provide hands-on experiential learning (EVST 2210, EVST 2220, and EVST 3210) as well as courses focusing on the leadership and management of recreational activities (HKR 3565 and 4575). The three activities courses have limited enrolments for equipment and safety reasons

In addition, students are required to take nine courses from a list of twenty-five options. The Pursuits options are similar to the Perspectives options with the exception that two Human Kinetics and Recreation courses are included while the following courses are not included: Third World, Folklife Studies, Politics and the Environment, Economic Geography, and Technology and Society. Of the nine optional program courses that students have to take, three must be at the third or fourth year level.

*Comment: The rationale for excluding five social science courses from the Outdoor Environmental Pursuits Concentration options is not clear.*

*Recommendation: Anthropology 3080, Folklore 2401, Political Science 3550, Geography 2302, and Sociology 2120 should be added to the options list for the Outdoor Environmental Pursuits concentration.*

### **Are Concentrations Desirable?**

Some concerns have been expressed that the division of SWGC programs into concentrations creates problems for the efficient and cost-effective delivery of programs while limiting the choices available to students. In the case of the Environmental Studies program, it does not appear that "de-streaming" would provide for more efficient

allocation of faculty as a single faculty member provides almost all of the courses in the Outdoor Pursuits concentration.

*Recommendation: Consideration should be given to allowing students in Environmental Perspectives to utilize a limited number of Outdoor Environmental Pursuits courses as options.*

### **Past Changes**

The Environmental Studies Program Unit has engaged in a continuing reassessment of the program offerings since its establishment. These changes include a reduction in the number of required core courses from 17 to 10 by moving Anthropology 3083, Environmental Science 2370, Environmental Studies 4000, Folklore 2600, Geography 1001, Geography 2102, Geography 3325, and Political Science 3731 to the options lists for both concentrations. Environmental Studies 3001 was added to the required list to ensure that students have a good understanding of Geographical Information Systems. As well, a number of 1000 and 2000 level Science courses (Biology, Chemistry and Earth Science) have been added to the options list along with a "special topics" sequence. The requirement that students in the Perspectives concentration take Geography 3901 (State of the Earth) has been dropped.

## **PROGRAM DELIVERY**

### **Required Courses**

All of the core Environmental Studies courses are offered at least once a year with the exception of Philosophy 2809 and Environmental Studies 3001 which are offered on an every second year basis. Three of the courses that are required in the Outdoor Environmental Pursuits program (EVST 2210, EVST 2220, and EVST 3210) are offered annually. The other two required courses (HKR 3555 and HKR 4555) are offered on an every second year basis.

In the case of Economics 2010 and Geography 1000, multiple sections are offered because of the attractiveness of these courses to non-majors and their use in other programs. Problems of students being unable to take these courses have arisen (and will be a more serious problem for Economics 2010 if the proposed programs in Tourism, Sustainable Resource Management, or Business are adopted at SWGC unless a second economist is hired). In 2004, Environmental Studies 1000 also had to turn away a small number of students. Philosophy 2809 is only offered on an every second year basis which has created problems for students seeking to graduate in a timely fashion. One possible solution to this problem would be to require that students take one of Philosophy 2809, Religious Studies 3880, and Political Science 3550; the latter two courses include some discussion of environmentalist ideas. Alternatively the development of a course in Environmental Thought could be incorporated into this requirement.

*Recommendation: Consideration should be given to replacing the requirement that students complete Philosophy 2809 with a requirement that students be required to take at least one of Philosophy 2809, Religious Studies 3880, or Political Science 3550.*

Although the Geography faculty members at SWGC feel that the two course Introduction to Geography (Geography 1000 - required; Geography 1001 - optional) provides a solid basis for further courses in this field, the St. John's Geography Department now offers a single broad introductory course (Geography 1050). This creates some difficulties for students moving between the two campuses. Replacing Geography 1000 and 1001 with a single first-year Geography course would reduce the number of sections of first-year Geography allowing the required Environmental Studies 3001 along with Geography 2302 to be offered on an every year basis and allow the offering of an additional Geography course such as Geography 3250 (Introduction to Remote Sensing) that would be useful both for Environmental Studies Majors and Geography Minors. As well, it would likely have the effect of increasing enrolments in 2000-level Geography courses.

*Recommendation: Consideration should be given to replacing Geography 1000 and 1001 with Geography 1050 as a core Environmental Studies course.*

### **Optional Courses**

Most of the optional courses for the concentrations are regularly offered at least on an every second year basis. The "special topics" sequence will be used for the first time in Winter Semester 2006 to offer a course in ecological economics as a follow-up to the course in environmental economics.

Problems regularly arise in Perspectives concentration in terms of the availability of the required seven 3000 and 4000 level optional courses. As a result of Geography 3325 being renumbered Geography 2425, only seven courses (excluding the special topics sequence) are offered at this level. Three of these (Environmental Studies 4000, Political Science 3550, and Human Kinetics and Recreation 3555) are generally only offered every second year. As well, Religious Studies 3880 and Anthropology 3083 have not been offered when the instructor was on sabbatical. The Academic Studies Committee, SWGC, has approved a proposal to reduce the number of required optional courses at the 3000 or 4000 level to five. If adopted, this would not affect the total number of courses required by this concentration, but would increase the opportunity for students to take more Science courses as part of the program.

The Pursuits concentration requires three of five upper level options (excluding the special topics sequence), two of which (HKR 3565 and HKR 4575) are offered only every second year.

## Enrolments

Total enrolment in the Environmental Studies program has gradually increased. For example, as of February 2005, there were forty-six declared majors registered in courses compared to thirty-six in 2000 (Sir Wilfred Grenfell College Fact Book, 2003). As Table 1 indicates, the Environmental Studies program ranks in the middle of the degree programs offered at the College.

**Table 1. Enrolment in Degree Programs at Sir Wilfred Grenfell College, February 2005.**

Psychology	107
Visual Arts	83
Theatre	75
English	70
Environmental Biology	52
Environmental Studies	46
Social/Cultural Studies	32
General Science	23
Environmental Chemistry	20
Historical Studies	17
Humanities	6

**Source:** Web for Faculty, Report Menu. Available at <http://www3.mun.ca>. Accessed on February 10, 2005.

Note: Figures include only majors who were registered in the Winter 2005 semester.

Fifty students have graduated from the program from May 2000 (the first graduating class) to May 2005.

Generally, the courses in the Environmental Studies program have achieved reasonable levels of enrolment (see Appendix D) with some classes filled to capacity. Several of the 3000 level courses have attracted good enrolments because of their appeal to students in other programs and to students with a general interest in environmentally-related issues. Although enrolments in the courses for the Outdoor Pursuits concentration have tended to be small, the two 2000-level outdoor activities courses have recently had to turn away students because of the limitations imposed by safety and equipment considerations. We anticipate that if the Tourism program is approved, there will be at least a marginal improvement in enrolments in the Human Kinetics and Recreation courses.

## CONTRIBUTION TO OTHER PROGRAMS

Students taking a Major in Environmental Science are required to take at least two of the following courses that are part of the Environmental Studies program:

Anthropology 3083  
 Economics 2010  
 Environmental Studies 3000  
 Philosophy 2809  
 Political Science 3550  
 Political Science 3731  
 Religious Studies 3880

As well, Environmental Science Majors and Honours are required to take at least three courses from a list of nine that includes Environmental Studies 2000. Proposed changes to the Environmental Science (Biology) program will allow students the choice of utilizing Environmental Studies 3001 towards their degree. Courses in the Environmental Studies Program can also be used as options in the Historical Studies and Humanities Majors as well as the Canadian Studies Minor.

## **STAFFING**

The adoption of the Environmental Studies Program has not involved the hiring of any additional faculty even though the original program proposal suggested that additional hiring should be considered as the program developed. The implementation of the Environmental Studies Program has resulted in reducing course offerings in participating disciplines particularly in the one-person disciplines of Political Science and Economics.

Officially, there are five faculty that are exclusively located in the Environmental Studies Unit (two in Geography and one in each of Economics, Human Kinetics and Recreation, and Political Science) as well as three faculty members whose appointment is shared with another Program Unit (Anthropology, Environmental Science, and Folklore). In reality, John Ashton (Folklore) will be unavailable for many years because of his responsibilities as Principal. Other members of the Program Unit have responsibilities to offer introductory level courses in their discipline as well as courses for other Major and Minor programs. Depending on the precise method of calculation, the Program involves the equivalent of about four to four and a half full-time faculty members.

Six of the eight faculty members in the Program Unit hold tenured appointments with the other two in tenure-track positions. There are currently no per course or sessional positions. With one exception, the members of the Program Unit are in their fifties or sixties. Two faculty members are currently eligible for early retirement. Within the next five years, the Program may have to find replacements for most of its current members.

The Program also has one Instructional Assistant who is involved in the Outdoor Pursuits courses, functions as the laboratory instructor for the GIS courses, and is responsible for equipment inventory and maintenance



## **POTENTIAL PROGRAM DEVELOPMENT**

### **Honours Degree**

We have had several exceptionally good students in the program. Such students are worthy of an Honours degree which would be of assistance in pursuing graduate studies and would provide recognition for their efforts. In our view, taking a minimum of seventy-two credit hours in Environmental Studies provides a strong background in this subject area. We suggest that the course requirements for an Honours degree in Environmental Studies should be the same as for the Major except that a two-semester research paper be substituted for the one-semester independent project. The Honours degree would, therefore, involve a total of seventy-five credit hours in the program.

The adoption of an Honours degree would involve minimal additional time and resources. The only additional cost would be the higher stipend provided to an Honours supervisor. We anticipate that only one or two students a year would undertake the Honours paper; thus the increased workload for faculty would be manageable.

*Recommendation: An Honours degree in Environmental Studies should be adopted, with the program unit having the right to restrict the number of Honours students in any year.*

### **Co-op Program**

The development of a co-op program would be highly desirable to give students practical and career-oriented experience. There are a number of potential employers in the region and in the province who could be expected to avail of the opportunity to utilize co-op students. SWGC has investigated the possibility of a College-wide co-op program, but the decision to establish such a program has been placed on hold because of the financial implications. Even if a full-scale internship program is not adopted, providing opportunities for students to gain course credit for short placements (for example, on the model of the Political Science Department in St. John's and the proposed Tourism program at SWGC) would be desirable.

*Recommendation: The development of a co-op or internship program for students in the Environmental Studies program should be actively considered.*

## **The Impact of Other Programs Being Developed at SWGC**

### **Sustainable Resource Management**

The Academic Plan adopted by the College Academic Council included a recommendation that a Sustainable Resource Management program be developed. The draft proposal (November 28, 2004) states that the objective for this program is:

*...to integrate principles of environmental theory with current technologies. Employing an interdisciplinary approach in the program, students will be introduced to a wide spectrum of resource values, contexts and applications. Local industries (such as forestry, tourism, mining, fisheries) will be used as a basis from which to position the realities of sustainable resource management within the larger framework of local, regional and global issues. The principles of sustainability will provide guidance and shape to a program that is envisioned as developing the problem-solving skills and broad knowledge base that result from an integrated liberal arts and science education that is the foundation of the College's Academic Plan. Students will synthesize and apply resource management strategies and frameworks from a wide variety of disciplines and perspectives.*

A committee to develop this program has been meeting since January 2002 and has developed a proposal that has been submitted to the SWGC Academic Planning Committee. Although Sustainable Resource Management could be offered as a new concentration within the Environmental Studies Program, the program planners have followed the advice of Principal Ashton that special government funding for this program would be more readily available if it were a new degree program.

The core courses in the Sustainable Resource Management proposal include nine from the Environmental Studies program (almost all of which are core EVST courses). In addition, a substantial number of options courses for the SRM program (of which students choose five) are drawn from courses utilized by the Environmental Studies program. Thus, although the Sustainable Resource Management program would likely attract some students who would otherwise take an Environmental Studies major (particularly in the Perspectives concentration), its effects on enrolments in courses that are part of the Environmental Studies program would not generally be large. Of course, if the Sustainable Resource Management program attracted students who would not have otherwise attended the College, enrolments in some Environmental Studies program courses would increase.

If adopted, the Sustainable Resource Management program would provide a number of new courses (including environmental planning and management, risk assessment and management, renewable and non-renewable energy, and environmental law) that could enhance the range of courses available to Environmental Studies students. However, since many of the courses in the Sustainable Resource Management program would be taught by faculty members currently attached to the Environmental Studies program, it is essential that new hirings be made to support the SRM program. Given that the Sustainable Resource Management would overlap heavily with the Environmental Studies Program (particularly the Perspectives concentration), it would be essential to clarify the differences between the two programs.

*Recommendations: If a Sustainable Resource Management Program is approved, courses in that program should be available as options to students in the Environmental Studies program. An appropriate number of new faculty positions should be created for*

*the Sustainable Resource Management program so as not to add to the strain on the Environmental Studies Program.*

## **Tourism**

The plan to establish a new undergraduate program in Tourism at SWGC provides a potential opportunity to expand the course offerings of the Environmental Studies program. In particular, the Tourism proposal (March 2005, p. 4) suggests that Tourism 3210 (Interpretation of Natural Resources), Tourism 3211 (Interpretation of Cultural Resources), Tourism 3220 (Conservation Planning), and Tourism 3230 (Parks and Protected Areas) could be cross-listed with Environmental Studies. These courses would provide a valuable addition to the Environmental Studies program. However, as they cannot be taught with the current faculty resources in Environmental Studies, we recommend that if the Tourism program is approved, one of the proposed five new positions be a cross-appointment with Environmental Studies. In addition, there are a variety of proposed Tourism courses dealing with topics such as sustainability and ecotourism that should be of interest to Environmental Studies students.

We anticipate that the implementation of the Tourism program would have a positive effect on enrolments in some Environmental Studies courses particularly in the Outdoor Environmental Pursuits concentration. Indeed, the development of a new minor in Environmental Studies focusing on outdoor environmental and recreational activities would likely be attractive to some students taking the Tourism major.

If the Tourism program is adopted and courses in Tourism made available to Environmental Studies students, Human Kinetics and Recreation 3565 (Tourism/Commercial Recreation) would no longer need to be offered as an option in the Outdoor Environmental Pursuits concentration. Instead, the faculty member teaching that course could teach Human Kinetics and Recreation 3505 (Adventure Programming) or a new course in Adventure Tourism which would be a valuable addition to both Tourism and Outdoor Environmental Pursuits.

*Recommendations: If the proposed Tourism program is implemented, Tourism 3210 (Interpretation of Natural Resources), Tourism 3211 (Interpretation of Cultural Resources), Tourism 3220 (Conservation Planning), and Tourism 3230 (Parks and Protected Areas) should be cross-listed with Environmental Studies and added to the lists of optional courses. One of the five new positions proposed for the Tourism degree should be cross-appointed with Environmental Studies. The proposed prerequisites for Tourism courses should be modified to make various Tourism courses available to those majoring in Environmental Studies. Human Kinetics and Recreation 3565 (Tourism/Cultural Recreation) should be replaced by a course in Adventure Programming or Adventure Tourism as an optional course in the Outdoor Environmental Pursuits concentration and available to Tourism majors. A new minor in Environmental Studies focusing on outdoor environmental activities should be developed.*

## **Business Studies**

The development of a Business major at SWGC would have a few implications for the Environmental Studies program. Courses such as Green Business and Environmental Law might be useful to both Business and Environmental Studies students, particularly if the Business Studies program is conceptualized as part of the School of the Environment. As well, the adoption of a Business major would, undoubtedly, add substantially to the sizable number of students taking Economics 2010 and 2020, thus necessitating additional sections.

*Recommendation: The adoption of degree programs in Tourism, Sustainable Resource Management, or Business Studies should be accompanied by the hiring of a second Economist.*

## **EVALUATION OF THE ENVIRONMENTAL STUDIES PROGRAM**

### **Comparison to Environmental Studies Programs at Other Canadian Universities**

Our review of Canadian universities through a web search and the annual listing in *Alternatives* found that there were seventeen universities that offered a B.A. or B.E.S. in Environmental Studies as a major, honours, or equivalent (leaving aside some cases where environmental studies was part of a geography degree). In Atlantic Canada, Mt. Allison is the only other university offering a B.A. in Environmental Studies.

The inclusion of outdoor environmental pursuits in the SWGC's Environmental Studies degree could be considered unique in Canada. The University of Alberta, Augustana, offers courses in outdoor pursuits through its Physical Education Department with three of these courses qualifying for the Environmental Studies requirement of an outdoor experience or practical course. Lakehead University offers a degree in Outdoor Recreation, Parks and Tourism with one course from this program acceptable towards its Environmental Studies degree. It also offers a joint degree in Geography and Outdoor Recreation.

It is difficult to evaluate the Environmental Studies Program at SWGC by comparing it to other university-level Environmental Studies programs in Canada as there is a wide diversity in the characteristics of Environmental Studies programs. Unlike single-discipline degrees, there is no clear pattern of course offerings.

The diversity of Environmental Studies programs in Canada can be seen by examining the core (required) courses at other universities (see Table 1).

**Table 2: Core (Required) Courses in Canadian Environmental Programs**

Augustana (Alberta)	Evolution and biodiversity; human activities and the natural environment; principles of ecology
Bishops	Introduction; human geography; physical geography; pre-calculus;

	introduction to computer science geographical techniques and analysis; GIS; seminar
Brock (Honours)	Sustainability; applied environmental policy; environmental economics; ethics, equity and environmental thought; environmental legislation; statistics
Carleton	Interdisciplinary science; introduction; laws of nature; human impact on environment; environmental ethics; research methods; nature and environmental studies; colloquium
Lakehead	Issues (Geography); philosophy; ecology; seminar
Manitoba	Technical communication skills; geography of environmental changes; ethics and environment; environmental economics; ecology; statistics dynamic earth (geology); biodiversity; conservation and restoration; environmental responsibilities; critical thinking and the environment
McGill	Global environment; society and environment; evolving earth; knowledge, ethics and environment; research design; environmental thought
Mt. Allison	No core
UNBC	Ecology; chemistry; microeconomics planning, environment and people; contemporary political issues; GIS; environmental policy; environment and society; cartography and geomatics; environmental history; Canadian government and politics; sustainable communities; EIA; human ecology; northern environments; women and environmental studies; cultural geography; global resources; first nations resources management; environmental law; environmental planning; professional ethics; ecological economics; social research methods
Ottawa	Biology (intro.); microeconomics; physical environment; society and environment; ecology; environmental economics; research methods; natural resource management,
Queen's	No required courses
Toronto (Innis)	Introduction; national and international environmental policy-making; culture and nature; environment and human health; public policies and environment
Toronto, Mississauga	Environment; ecology; resource management
Trent	Environment and resource studies; environment and resource science
Victoria	Introduction; political ecology; ethnoecology; ecological restoration; statistics
Waterloo (Honours)	Introduction; issue analysis and problem solving; research methods; field ecology; sustainable environment and resource systems; greening the campus and community; approaches to environmental decision-making; research project; development of environmental thought
Winnipeg (sustainability stream)	Environmental biology; chemistry and society; economic theory; environmental economics; atmospheric science; earth science; statistics; urban environment; environmental ethics; research project; public administration; public policy; human-environment interaction; environmental sustainability

York	Approaches to environmental studies; workshop; paradigms in environmental studies; methods; applied environmental science
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**Source:** University web sites.

**Note:** The lists of required courses can be somewhat misleading as a number of programs require that students take a course or courses out of a list of somewhat similar courses (for example, requiring that students take one or more designated science courses or a choice of courses in sociology and related disciplines).

Generally, the SWGC core could be viewed as differing from most other programs in its requirement of two GIS-focussed courses. Several programs have one or more required science (aside from geography and economics) courses. Of these, the ecology course would seem to be particularly relevant. However, at SWGC, the inclusion of the existing second year ecology course (currently on the options list) would necessitate requiring students to take the two first year biology courses.

### **Basis of Evaluation**

Ideally, an Environmental Studies degree allows students to combine basic scientific understanding of the natural processes that affect the quality of the environment and the effects of human activities on the natural environment with an awareness of the political, economic, social, and cultural factors that affect how governments, societies, and individuals think about, relate to, and deal with environmental problems. Consideration of ethical problems and systems of ideas and beliefs related to human interaction with the environment and different approaches to resolving environmental problems should also be included to provide a comprehensive understanding and evaluation of environmental problems and possible solutions.

The Environmental Perspectives concentration at SWGC was designed to provide a multidisciplinary perspective on environmental issues that would promote an understanding of the multiple dimensions of environmental problems and solutions. The alleviation or resolution of environmental problems is not simply a matter of developing better scientific knowledge or managerial techniques. Political, economic, social, cultural, and ideological factors are also very important in understanding how environmental issues are handled and how they can be resolved.

The Outdoor Environmental Pursuits concentration was designed to provide an understanding of environmental issues through a focus on outdoor recreational activities. In addition to the core environmental courses and many of the same optional courses as the Environmental Perspectives concentration, the Outdoor Environmental Pursuits concentration includes practical self-propelled outdoor activities based on a respect for the natural environment and courses in the theory and practice of recreation.

## The Fulfilment of Objectives and Potential New Courses

How well does the Environmental Studies program at SWGC fulfil these objectives?

In terms of providing an understanding of environmental problems and solutions, a major strength of the Environmental Studies program is the inclusion of a wide variety of different disciplinary perspectives.

In terms of methodology, the Environmental Studies program includes a course in Research Design and Quantitative Methods that provides students with knowledge of basic statistics with a focus on research applications, two courses that focus on Geographical Information Systems, and a course in Environmental Impact Assessment. It would be useful, as well, to provide students with an opportunity to develop skills in qualitative methods and to take a course in the techniques of remote sensing

*Recommendations: Folklore 2100 (Methods in the Social Sciences) which is currently offered at SWGC should be added to the optional courses lists. Geography 3250 (Introduction to Remote Sensing) should be added to the options list. This course is not currently offered at SWGC. Alternatively, if the proposed Sustainable Resource Management program is implemented, SRM 4000 (Remote Sensing, Image Interpretation and Resource Management) should be added to the Environmental Studies options lists.*

Although the Environmental Science courses along with the courses in Physical Geography are very useful, the scientific understanding of students could be improved. The optional Ecology course, which is of particular relevance, has two first-year Biology courses as prerequisites and thus is not available to many students. The first-year laboratory-based courses are not strongly oriented to environmental topics. More generally, a substantial proportion of the courses offered by the Environmental Science program are in the disciplines of Biology and Chemistry and thus do not necessarily provide an ecosystem-based approach to the environment. The environmental impact assessment course offered as an option within the Environmental Studies program could be improved by incorporating a more substantial element of scientific analysis. It may be noted that the Environmental Science self-study proposed the addition of a new course, Environmental Science 3060 (Impact Assessments and Environmental Audits). In our view, the bringing together of students in the two programs in one or two environmental impact assessment courses utilizing faculty from both programs would be highly desirable. The scientific skills of students could also be enhanced by the inclusion of field courses that involve sampling, measuring, monitoring, and evaluating natural processes and the human impact on the environment.

*Recommendation: Consideration should be given to incorporating more scientific material in the Environmental Impact Assessment course through collaboration with the Environmental Science faculty. This might involve developing a two-semester Environmental Impact Assessment course that would be open to students in both programs.*

*Recommendation: Consideration should be given to the removal of prerequisites for Biology 2600 (Principles of Ecology) and prerequisites for other Science courses should be reviewed to remove any unnecessary hindrances from students in Environmental Studies taking these courses.*

Understanding the political and legal dimension of environmental issues is limited primarily to the optional courses Political Science 3731 (Environmental Policy) and Political Science 3550 (Politics and the Environment). The policy course focuses on the policy process particularly in the Canadian context with some analysis of international environmental treaties and the trade-environment nexus. The Politics and the Environment course focuses on the broader political context including the ideas of environmentalism, the environmental movement, the organization and activities of environmental groups, and environmental attitudes.

Because some students have little or no understanding of politics and government, Political Science 1000 (Introduction to Politics) could be added to the list of optional courses so as to provide background that would be useful to the more advanced courses in environmental policy and politics. Although there is some discussion of environmental law in the Environmental Policy course, a dedicated course in Environmental Law (as is contained in the Sustainable Resource Management program proposal) would be a useful optional course for those planning a career related to the environment or resource management (see Appendix C).

*Recommendation: Political Science 1000 (Introduction to Politics) should be added to the optional courses lists. This course is currently offered on a regular basis.*

*Recommendation: A new course in Environmental Law should be offered. (This has been included in the proposal for the Sustainable Resource Management program.)*

The economic dimension needed for understanding environmental issues and solutions is provided by the required Environmental Economics course. Students are also required to take the introductory micro-economics course to provide the background needed for environmental economics. As well, a course in economic geography is an option in the environmental studies program. However, the program has been lacking a course in ecological economics which provides a more holistic approach to understanding the interconnection of economic, social, and ecological considerations. A course in Ecological Economics will be offered in Winter Semester 2006 as a special topics course, but there is no guarantee that this course can be offered on a regular basis given the demands on the single member of the Economics discipline. A course in risk assessment and management would also provide useful career-oriented skills to students.

*Recommendation: Consideration should be given to regularly offering courses in Ecological Economics and Risk Assessment and Management which would be an upper level option for students in both Concentrations. Both of these courses are included in the proposal for the Sustainable Resource Management program.*



The social and cultural context of environmental issues is provided by courses in Technology and Society, the Third World, and Cultural Crises and the Environment along with the Cultural Geography course and the Folklife and Regional Folklore courses. The development of a course in environmental sociology would be desirable although, to some extent, this topic is treated in the sections of the Politics and the Environment course dealing with the environmental movement and environmental attitudes.

The area of ideas and ideology concerning the human relationship to the environment is covered to some extent by such courses as Environmental Ethics, Spirituality and the Earth, and Politics and the Environment. The development of a course specifically devoted to environmentalist thought (dealing in depth with such topics as ecologism, ecofeminism, deep ecology, bioregionalism, sustainable development, environmental citizenship, and ecological modernization) could provide students with a fuller understanding of the theoretical debates in the field of environmental studies and a more robust understanding of the broader issues raised by environmentalists.

*Recommendation: The development of a course in environmental thought should be considered.*

Finally, although B.A. programs are not generally oriented to providing practical, job-oriented skills, many students want to know how the Environmental Studies program will prepare them for jobs in the fields relating to the environment. The Outdoor Environmental Pursuits concentration has several courses that are directly beneficial to those seeking employment or pursuing business opportunities in the outdoor recreation and tourism fields. The development of courses in interpretation would be an important addition to those pursuing careers in such areas as tourism and parks management. (Courses in interpretation are included in the proposed Tourism degree.)

*Recommendation: A course in social, cultural, and historical interpretation should be developed. Alternatively, the course in cultural resource management that is included in the proposed Tourism and Sustainable Resource Management program could be used.*

*Recommendation: A course in natural interpretation should be developed. Alternatively, the course in natural resource interpretation included in the proposed Tourism degree could be used.*

*Recommendation: A course dealing with the management of parks and protected areas should be developed. Note: This course is included in the proposed Tourism degree.*

### **Course Deletions**

Geography 4405 (Outdoor Recreational Resources & Planning) will be deleted from the Environmental Perspectives options in the 2005-06 Calendar. It has never been

offered at SWGC and overlaps with HKR 3555 (Outdoor Recreation Management). Human Kinetics and Recreation 3565 (Tourism/Commercial Recreation) should be deleted if the Tourism degree program is implemented.

*Recommendation: Human Kinetics and Recreation 3565 (Tourism/Commercial Recreation) should be deleted if the Tourism degree program is implemented provided that Environmental Studies students are allowed to take relevant Tourism courses.*

## **Overlap**

We have identified little overlap in the Environmental Studies course offerings. Some topics such as global climate change are discussed in various courses. But, generally, different courses look at different aspects of a topic and provide differing perspectives. For example, Environmental Science 2370 (Global Environmental Change) looks in depth at the physical processes involved in global climate dynamics while Political Science 3731 (Environmental Policy) discusses the political problems involved in making and implementing policies to reduce greenhouse gas emissions.

## **Conclusion**

In combination with the core courses, the Environmental Perspectives concentration fulfils the goal of providing a diversity of disciplinary perspectives on environmental topics and issues. The Outdoor Environmental Pursuits concentration provides a general understanding of environmental topics issues, varied outdoor experiences, and courses dealing with outdoor recreational issues and management. These two concentrations have been developed without the creation of any new faculty positions due to the willingness of faculty to develop new courses outside their established areas of expertise – without any reduction in their workload. To some extent, participation by faculty in the Environmental Studies program has resulted in a reduction in the availability of first and second year courses in various disciplines.

While we believe that we have developed a good program with extremely limited resources, an expansion of faculty would be highly desirable. Care should be taken so that new programs being considered include hiring that would allow the environmental component of such programs to be staffed so as not to put a further strain on the existing resources of the Environmental Studies program unit. Further, as Sir Wilfred Grenfell College proceeds with its plans to increase student numbers particularly by national and international recruitment, consideration should be given to ensuring that a suitable range of courses in such popular areas of study as Economics, Political Science, Geography, and Sociology are available to students (at least at the 1000 and 2000 levels) even though degree programs are not offered in those subject areas

*Recommendation: The development of new courses in Environmental Studies should not lead to further reductions in the offering of important courses in other disciplines served by Environmental Studies faculty. If possible, new positions in Political Science, Economics, Geography, and Sociology/Anthropology (cross-appointed to Environmental*

*Studies) should be created so that involvement of faculty from those disciplines in the Environmental Studies program can be properly balanced with a desirable range of courses in those disciplines.*

Overall, we have suggested that the development of eight new courses (natural interpretation; social, cultural, and historic interpretation; environmental law; ecological economics; environmental thought; risk assessment and management; management of parks and protected areas; and remote sensing) in order to provide a more comprehensive and useful program in Environmental Studies. It should be noted, however, that with the exception of environmental thought, all of these courses have been proposed as part of new programs in Tourism and Sustainable Resource Management. Although the creation of one new course (assuming that these proposed programs are adopted) does not provide a strong justification for a new hiring, there has long been an acknowledgement that it would be highly desirable that a second political scientist be hired in order to offer courses in such areas as international relations and comparative politics. Likewise, the hiring of a second economist is justified by existing programs and enrolments regardless of the outcome of the proposed new programs.

## **STUDENT EVALUATIONS**

To assess student evaluations and opinions about the Environmental Studies program, a three page questionnaire was developed. The survey was administered during an Environmental Studies 4010 class in the Fall Semester of 2003 and 2004. The fourteen responses represent most of the students who had completed three or more years of the program at that time. Of the fourteen students, nine were in the Perspectives concentration and five in the Pursuits concentration. A detailed summary of the student evaluations is available in Appendix B.

The evaluations of the Environmental Studies program were strongly positive. For example, all students said that they would recommend the program to a student entering university with interests similar to their own, and thirteen of the fourteen said that the program met their expectations. Likewise, almost all respondents felt that the program would be useful in achieving career objectives and made a major contribution to their general education. Among the improvements suggested by students were the development of an Honours program, more experiential learning (through such means as a co-op program and field courses), and more practical or career-oriented courses in areas such as environmental management. There were a number of strongly positive statements about the quality of professors and the interdisciplinary nature of the program, although a small number of students felt that courses in Philosophy, Folklore, and Religious Studies were not particularly useful.

To determine the educational and employment experiences of program graduates, a telephone survey was conducted in October 2003. Some additional information was supplied by faculty and staff who had been in contact with graduates. No information was available on one graduate and information on some of the other graduates was

incomplete. It should be kept in mind that it is too early to assess the educational and career paths of recent graduates.

Thirteen of the twenty-seven graduates pursued further education. Geography and GIS were the most popular (5); others pursued studies in coastal zone management (3), education (3), civil engineering (1), and technical studies (1). Twelve graduates were employed in occupations directly related to environmental studies such as a conservation project, the Atlantic Coastal Action Program, natural areas planner, protected areas association, forest campaigner for the Sierra Club, environmental consulting, Parks Canada, and instructional assistant for Environmental Studies. Seven graduates were employed in fields not directly related to Environmental studies including teaching, RCMP, Oxfam, landscaping, call centre, and hotel clerk. Three were full-time students, and five were unemployed.

**APPENDIX A: SUMMARY OF RECOMMENDATIONS**

1. A School of the Environment should be established at Sir Wilfred Grenfell College that includes Environmental Studies and Environmental Science along with the Sustainable Resource Management and Tourism programs that are currently being developed. Cooperation should be actively encouraged among these programs including the development of courses designed for and taught by those in different programs, the creation of joint appointments where appropriate, and a review of prerequisites to allow more students to avail of courses in different programs.
2. Consideration should be given to changing the SWGC major regulations to require a sufficient number of courses at the 3000 and 4000 levels taken together rather than having separate requirements for these two levels.
3. Anthropology 3080, Folklore 2401, Political Science 3550, Geography 2302, and Sociology 2120 should be added to the options list for the Outdoor Environmental Pursuits concentration.
4. Consideration should be given to allowing students in Environmental Perspectives to utilize a limited number of Outdoor Environmental Pursuits courses as options.
5. Consideration should be given to replacing the requirement that students complete Philosophy 2809 with a requirement that students be required to take at least one of Philosophy 2809, Religious Studies 3880, or Political Science 3550.
6. Consideration should be given to replacing Geography 1000 and 1001 with Geography 1050 as a core Environmental Studies course.
7. An Honours degree in Environmental Studies should be adopted, with the program unit having the right to restrict the number of Honours students in any year.
8. The development of a co-op or internship program for students in the Environmental Studies program should be actively considered.
9. If the Sustainable Resource Management Program is approved, courses in that program should be available as options to students in the Environmental Studies program. An appropriate number of new faculty positions should be created for the Sustainable Resource Management so as not to add to the strain on the Environmental Studies Program
10. If the proposed Tourism program is implemented, Tourism 3210 (Interpretation of Natural Resources), Tourism 3211 (Interpretation of Cultural Resources), Tourism 3220 (Conservation Planning), and Tourism 3230 (Parks and Protected Areas) should be cross-listed with Environmental Studies and added to the lists of optional courses. One of the five new positions proposed for the Tourism degree should be cross-appointed with Environmental Studies. The proposed prerequisites for Tourism courses should be

modified to make various Tourism courses available to those majoring in Environmental Studies. Human Kinetics and Recreation 3565 (Tourism/Cultural Recreation) should be replaced by a course in Adventure Programming or Adventure Tourism as an optional course in the outdoor environmental pursuits concentration and available to Tourism majors. A new minor in Environmental Studies focusing on outdoor environmental activities should be developed.

11. The adoption of degree programs in Tourism, Sustainable Resource Management or Business Studies should be accompanied by the hiring a second Economist.

12. Folklore 2100 (Methods in the Social Sciences) which is currently offered at SWGC should be added to the optional courses lists.

13. Geography 3250 (Introduction to Remote Sensing) should be added to the options list. This course is not currently offered at SWGC. Alternatively, if the Sustainable Resource Management program proposal is implemented SRM 4000 (Remote Sensing, Image Interpretation and Resource Management) should be added to the options lists.

14. Consideration should be given to incorporating more scientific material in the Environmental Impact Assessment course (EVST 4000) through collaboration with the Environmental Science faculty. This might involve developing a two-semester Environmental Impact Assessment course that would be open to students in both programs.

15. Consideration should be given to the removal of prerequisites for Biology 2600 (Principles of Ecology) and prerequisites for other Science courses should be reviewed to remove any unnecessary hindrances from students in Environmental Studies taking these courses.

16. Political Science 1000 (Introduction to Politics) should be added to the optional courses lists. This course is currently offered on a regular basis.

17. A new course in Environmental Law should be developed. (Note: This course has been proposed for the Sustainable Resource Management program as SRM 4003).

18. Consideration should be given to regularly offering a course in Ecological Economics. (Note: Ecological Economics will be offered as a special topics course in Winter Semester 2006 and is included in the proposal for the Sustainable Resource Management program as SRM 3001).

19. Consideration should be given to offering a course in risk assessment and management. (Note: This course is included in the proposal for a Sustainable Resource management as SRM 4002.)

20. The development of a course in environmental thought should be considered.

21. A course in social, cultural, and historical interpretation should be developed. (Note: a course in cultural resource management is included in the proposals for the Tourism and Sustainable Resource Management programs)
22. A course in natural interpretation should be developed. (Note: a course in natural resource interpretation is included in the proposal for the Tourism degree.)
23. A course dealing with the management of parks and protected areas should be developed. (Note: a course in parks and protected areas is included in the proposal for the Tourism degree).
24. Human Kinetics and Recreation 3565 (Tourism/Commercial Recreation) should be deleted if the Tourism degree program is implemented provided that Environmental Studies students are allowed to take relevant Tourism courses.
25. The development of new courses in Environmental Studies should not lead to further reductions in the offering of basic courses in other disciplines served by Environmental Studies faculty. If possible, new positions in Political Science, Economics, Geography, and Sociology/Anthropology should be created so that involvement of faculty from those disciplines in the Environmental Studies program can be properly balanced with a desirable range of courses in those disciplines.

## Appendix B. Summary of Student Evaluation Survey Results

- Reason for majoring in Environmental Studies:

Interest in environment and environmental issues (7); interest in outdoors (2); ability to transfer from CNA (2); job opportunities (2); want to do something about the environment (2); interdisciplinary (1); prefer social sciences to sciences (1)

- Why chose SWGC rather than another institution for program:

Close to home (11); low cost (8); small campus; small classes (6); excellent professors (3); quality of environment (2); reputation (1); services (1); program availability (1); CNA equivalency agreement (1)

- Did program meet your expectations?

Yes (13); in certain areas (1); no (0)

- Topics or skills that should be given greater emphasis:

Environmental impact assessment (2); GIS/Mapping (2); outdoor pursuits (2); sustainable development (1); global issues (1); resource management (1); presentation and speaking skills (1); business (1); statistics (1); qualitative analysis (1); hands-on experiences (1).

- Additional courses/topic areas that should be offered:

Map and compass (2); map interpretation/cartography (2); resource management (2); meteorology (1); appropriate technology (1); oceanography (1); business (1); statistics (1); waste management (1); wildlife protection (1); parks (1); forestry (1); environmental impact assessment (1); land use planning (1); traditional ecological knowledge (1); applied; job-related (1); biology (1).

- Courses not particularly useful:

Philosophy 2809 (4); Folklore (3); Religious Studies 3880 (2); Anthropology (1); Recreation (1); EVST 1000 (1)

- Career goals:

Resource management (2); planning (2); parks (2); professor/teacher (2); environmental management (1); environmental education (1); environmental law (1);



environmental policy (1); RCMP/wildlife enforcement (1); “make world more concerned about the environment” (1); undecided (3)

- Plan to continue education after graduation?

Yes (9); uncertain/maybe (6).

Areas of study after graduation:

Business; MSc in remote sensing; Masters of Marine Studies; Masters; Resource management; Geography; Education; Environmental Studies; Masters GIS or natural resource management; environmental engineering; environmental studies; and law.

- How useful do you think that the EVST program will be in achieving your career objectives?

Very useful (7); useful (2); opened mind to different issues and methods (1); have become educated in many fields (1); learned enough to go on to something else (1)

- How important a contribution has the program made to your general education?

All responded with some version of “very important”. Selected comments: "cannot even be expressed: unlike high school and CNA presented things as they really are"; “variety of different viewpoints”; “motivated me to further my education”; "more aware of important issues"; "great start"; “better presentation skills and liked support of faculty”; “program explores many areas”; "I learned so much over the four years"; "taught me new and interesting things about the environmental and world as a whole".

- Like about EVST program?

“Small class setting”; “very possible to learn a great deal and pursue your own goals”; “I really liked the outdoor pursuits courses, especially the expedition”; "Just about everything"; "the balanced view it takes on environmental issues": "I enjoyed the various courses that taught me more about the world yet allowed me to view the world through an environmentally aware sense”; “ the small class sizes through the program were very beneficial to me”; "the EVST program allows students to look beyond the physical causes and affects of environmental problems and reveals the social or political factors that are often involved. Further these social and political factors must be included in the development of an effective solution”; “Small class sizes, interesting professors (some exceptions apply)”; “interdisciplinary”; “a degree that allows you to build on (i.e. graduate studies)”; “I liked that it was a small group of people working together in an area of concern for everyone”; “the most significant factor was definitely the feedback from professors and the easy access of getting help”; it was not too hard, but it did challenge me”; “each area covered seemed just

as important as the others”; “many of the professors also seemed to care about you and did not treat you like a number”; “most of the profs. were excellent: willing to help and encouraged you to drop by with any questions”; “it gave me a broader view on global issues”; “broad perspective, variety of areas of interest to study, good, supportive faculty”; “I like that many of the courses deal with issues on a local level as well as global. Makes you know what is going on around you close and far away”; “EVST program allowed me to become a more confident public speaker as well as showed me the importance of research. Always be able to back up whatever you say. Also the courses offered are very broad so, for example, Political Science, Religious Studies, Science, Philosophy...all helped you open your mind to the different arguments that could be made for and against different issues”.

- Dislike about EVST program?

“Not enough specific case studies”; “should be more courses that are hands on. I like GIS and EIA because you apply your skills to situations. That is where you learn to think on your own”; “not enough courses each year”; “the Recreation courses”; “Philosophy courses are somewhat interesting but didn't learn much”; “I do not think the new regulations are a good idea”; “not a teachable at MUN”; “not enough practical hands on work; could have more field work and less tests”; “not a co-op program”; “should have a semester of studying abroad in a nation with large environmental issues”; “same issues keep rising with no new examples (i.e. Main River; Pine Marten)”; “many people still see a BA as having less credibility than a BSc - this can cause problems in the job market for EVST grads. However; if there was an opportunity for students to display their skills before leaving university our credibility could be improved. One possible way of doing this is through what Dr. Sabau calls a 'partnership of knowledge' with government departments”; “the Folklore courses”; “not considered a 'teachable' by MUN”; “lack of honours program”; “not much applied field work in perspectives”; “required courses often offered in the same time slots; during the same semester”.

- Suggestions for improvement:

“Emphasis on how EVST can be used in the outside world”; “better scheduling of courses”; “more staff, more resources, facilities for research, honours”; “teachable”; “degree in Geography and EVST”; “more Statistics courses”; “opportunities to display credibility, knowledge”; “addition of Honours program to enhance credibility of grads”; “more courses to help in career”; “masters program”; “more guest speakers”; “courses in kayaking canoe. and skiing throughout four years”; “more faculty to increase the choice among of courses offered”; “more hands on rather than theory courses”; “more courses in natural resource management - i.e. forest and water management”; “more global issues with specific case studies”; “try to get more courses that are strict environmental studies”; “1 or 2 work terms”.

- Would recommend EVST program?

Yes (14); one recommended CONA's adventure tourism program followed by the EVST program.

- Additional Comments:

“Prepared me for a Master's program”; I really enjoyed doing the program”;  
“there are a lot of great professors who helped me a lot”.

## Appendix C: Description of Proposed New Courses

### Environmental Studies 4xxx . Environmental Law.

This course will provide an introduction to environmental law at the national and provincial levels in Canada and its role in the protection of the environment. The effects of international environmental law and international trade agreements on domestic laws will also be considered.

#### Possible Outline:

1. Introduction: ecological principles, environmental ethics and the law
2. Jurisdictional issues in Canada: the federal system and aboriginal governance
3. The common law and the environment
4. Major national and provincial legislation
5. The law and the public: the concept of standing, strategic lawsuits against public participation, environmental bills of rights
6. Enforcement and compliance
7. Alternative dispute resolution
8. International environmental law and trade agreements

**Possible Text:** E.L. Hughes, A.R. Lusas, and W. A. Tilleman, *Environmental Law and Policy*, third edition. Toronto: Emond-Montgomery, 2003.

#### Supplemental Reading:

D. Boyd, *Unnatural Law: Rethinking Canadian Environmental law and Policy*. Vancouver: UBC Press, 2003.

J. Swaigen and D. Estrin, *Environment on Trial*, third edition. Toronto: Edmond-Montgomery, 1993.

## ENVIRONMENTAL STUDIES 4XXX. ECOLOGICAL ECONOMICS

**Calendar Description:** Application of ecological economics to the analysis of natural and cultural resources.

**Narrative:** Ecological economics is a new paradigm that emerged in the 1990s as an alternative to neoclassical economics. It places economic activity in the context of the biological and physical systems that support life; stresses the value of ‘natural capital’ (fossil fuels and living nature); advocates ‘strong’ sustainability and the ‘precautionary principle’ in the organization of economic activity; calls for limits to growth; and recommends an ‘optimal’ macroeconomic scale and the development of more comprehensive tools for measuring the effects of economic activity (e.g., environmental costing and accounting, the GPI or genuine progress indicator—to replace GDP,

ecological footprinting, carrying capacity). As a theoretical science, ecological economics needs an interdisciplinary approach (economics, ecology, environmental studies/science).

**Prerequisites:** ECON 2010, 2020 and EVST 3000.

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