

UNIVERSITY OF MAINE SYSTEM NEW PROGRAM PROPOSAL

I. Full program title.

Ph.D. in Anthropology and Environmental Policy

II. Program objectives.

A. Narrative description of program rationale.

As we enter the 21st Century, a variety of environmental specters threaten Earth's populations. Greenhouse-gas emissions are changing global ecology, disease patterns, and land-use. Ocean fisheries and forests in many parts of the world, including Maine, are in precipitous decline. Loss of agricultural land in combination with population increases may well result in widespread famines in the near future. There are also growing problems associated with acid rain, loss of wildlife and biodiversity, soil erosion, the depletion of energy and other resources, and environmental degradation.

These problems affect people, but people and their decisions are also the cause of them. Many, moreover, are global in origin but local in their effects. Demands on forests and fisheries are international, for example, but the environmental consequences are felt locally in over-cut woodlands and depleted fisheries. Climate is affected by human activity at a global level, but climate change will have very different effects in different regions of the globe. Since Maine is a natural resource state, the global origins of these threats are particularly relevant to the people of Maine, their culture, and their society.

There is a dire need, in sum, to direct basic and applied research to understanding human interactions with the environment and to comprehend the cultural—that is, the international as well as the national—dimensions of these interactions and their consequences. Social scientists have an extremely important role to play in assisting state, national, and world decision makers in understanding these problems and finding solutions to them. Currently, some economists and political scientists are working with policy makers, but few social scientists are trained to understand the relevant physical science, conduct research among local populations around the world, and on the basis of this work devise policies that take into account the social and cultural implications of policy decisions at both local and international scales.

Anthropology is exceptionally well positioned to address these neglected dimensions of environmental policy. First, anthropologists draw their data from all known human societies. For more than a century, social anthropologists have been conducting extended periods of fieldwork in communities around the world, while physical anthropologists and archaeologists have used meticulous excavation to investigate and analytically

reconstruct those of the past. Second, anthropologists are trained to understand and cohesively integrate all of the different realms of society: they examine not just the ecological or economic realms but also the social (i.e., kinship and association), political, and ideological (i.e., the magic, religious, and symbolic) realms. Third, they have conducted comprehensive research into how humans interact with environments and deal with environmental change both in the present as well as the past.

As a result of this work, anthropologists have built up robust models and explanations of similarity and variance across cultures. They are unusually well equipped to investigate and understand responses to environmental change by people whose cultural backgrounds may be radically different from those of the western world. They have a detailed knowledge of how environment shapes cultures, and of how cultures shape their environments. And they are able to devise policies that take cultural differences into account in devising and managing environmental solutions.

In light of this expertise, the anthropology department at the University of Maine proposes a unique Ph.D. program that will engage students in cutting-edge research: a) on the way in which social relations, social organization, cultural perceptions, and ecological behavior affect the causes and consequences of local, national, and global environmental change; and b) to devise social and cultural dimensions of policy that mitigate the negative environmental consequences of this change while safeguarding or promoting human well being. Areas of environmental policy to be addressed will include (without being limited to): global climate change, energy resources, marine resources, eco-tourism, forestry resources, land-use, water management, and pollution control.

B. General program goals (limit to 3-5 major items maximum).

1. To provide future environmental policy makers with an understanding of global cultural diversity and the importance of the human cultural dimension in enacting, implementing, and executing successful environmental policy.
2. To engage future environmental policy makers in the interdisciplinary framework essential to bridge social science and environmental science.
3. To provide UMaine with a signature program centered on our strengths within the social and environmental sciences and policy analysis.

C. Specific student outcomes or behavioral objectives.

The program will engage students in a multi-disciplinary framework bridging environmental sciences and policy while focusing on the

sociocultural impacts of, and responses to, local and global environmental change. Specifically, it will combine a set of core anthropological courses in social and cultural theory, anthropological methodologies in qualitative and quantitative approaches, policy development, and policy analysis with methodological and specialized courses tailored to the interests of individual students.

The proposed program will provide students with skills saleable outside as well as within the academy. We envision students finding positions in state, national, and international institutions that deal with environmental management and change, in private business, as well as in university departments of anthropology and environmental sciences.

D. Accountability.

This program will be individually tailored to fit the needs of each future policy maker. Although all students will be trained in policy and interdisciplinary social/environmental sciences, some students will need more training in anthropology and some will need more training in environmental sciences. The program will be focused on individualizing graduate training rather than on churning out large numbers of students. By national standards for Ph.D. granting departments in anthropology, this program will be small, so special care will be taken to have social and natural scientists from other small Ph.D. programs review our program. A full external program review will take place after five years. The program itself will conduct internal budgetary and curricular reviews in years two and five as well.

III. Evidence of program need.

Anthropology and Environmental Policy. In response to growing awareness of the global environmental crisis, we need to train environmental policy makers who understand not only how ecosystems interact or environment changes but also comprehend the complexities and intricacies of diverse global cultures and how humans impact the environment and ultimately influence policy. Environmental understanding alone will not lead to successful policy changes. Successful environmental policy involves analysis at all levels – the ecological, economic, social, political, and ideological. Our current global environmental crisis needs comprehensive, interdisciplinary solutions. Our program in Anthropology and Environmental Policy seeks to provide such solutions.

UMaine has focused increasingly on issues related to environment and policy, and a number of initiatives have emerged over the last few years (e.g., the Sustainability Solutions Initiative, the School of Policy and International Affairs program, participation in CINAR to help NOAA solve marine environmental problems). Despite these developments, there is currently no

place on campus where a social science student can get a policy Ph.D. degree focused on environmental issues, nor is there opportunity for science students in environmental policy graduate programs to get training in the underpinnings and implications of cultural and social organization for policy. Nationally, the proposed program is unique; it would allow UMaine to build in a currently unoccupied niche, and it would offer pedagogical opportunities to other programs on campus.

Anthropology in the State of Maine. Maine is one of just 13 US states without a Ph.D. granting anthropology department in its university system. Currently, any student from Maine wishing to pursue an anthropology Ph.D. must leave the state.

Strategic directions at the University of Maine. The proposed program will advance a number of goals of the Strategic Plans recently developed at the University of Maine. With reference to the *University's Strategic Plan, 2006-2011*, the program (i) identifies an area of emerging research activity and a potential niche program that involves interdisciplinary coordination and prepares students for professional as well as academic positions (Strategic Goals 4.2; 5.2); (ii) increases the number and visibility of interdisciplinary opportunities for undergraduate and graduate students and advances graduate enrollment in a manner that takes advantage of the University's strengths and underutilized potentials (Strategic Goals 1.1.2; 1.4.7; 5.2); and (iii) increases research opportunities for undergraduate students (Strategic Goal 1.1.1).

With reference to the *Task Force Report on Graduate Research, Education, and Scholarship at UMaine*, the program is in the social sciences, which are targeted as one of the "strategic and largely untapped" areas of potential growth at UMaine (Charge Issue 2). In addition, it (i) addresses exciting new intellectual challenges where research funding is available, a demand for graduates exists, and pressing needs of Maine, the nation, and the world can be met (Charge Issue 2b); and (ii) contributes to a more balanced distribution of graduate programs, capitalizes on cross-disciplinary strengths, and serves the Peterson's recommendation to evangelize, develop, and "advocate for a more inclusive graduate community" (Charge Issues 2a). Also, (iii) the pressing nature of climate and other environmental problems will attract a significant funding base in the future (Charge Issues 2c, 4).

External reviewer recommendations. Noting the exceptional quality of UMaine's Anthropology Department, the last external review strongly recommended that we consider a Ph.D. program. The trick was to achieve a program that could draw on the skills of a comparatively small department to mount a worthwhile and workable program. A Ph.D. program in Anthropology and Environmental Policy achieves this goal.

A. For 2-year programs, indicate potential employers who have requested the program and their specific employment projections.

NA

B. Detailed survey of similar programs that are offered within the University System, other higher education institutions or other agencies within the State.

Within University System and State. This program will result in UMaine having the only graduate program in Anthropology in the University System. There are no other anthropology and environmental policy programs in the nation, let alone the state.

Within Other Higher Educational Systems. In 1993, the Department of Anthropology was granted Intent-To-Plan permission for a niche Ph.D. program in Anthropology and the Environment. Due to budget problems at the time, the resources necessary to advance this initiative were unavailable, and units at other campuses such as Indiana and Georgia were subsequently able to leapfrog UMaine, attracting multi-million dollar extramural funding and establishing themselves as leaders in this field. What the Department perceives now is an opportunity to build on the core features of that initial program with the additional strengths in policy the department has built over the last decade, thereby regaining momentum lost to other institutions. With the addition of a focus on anthropology and environmental policy, we would provide UMaine with a signature program that is not found anywhere else in the nation.

Nationally there are six Anthropology Ph.D. programs with some similarities to the program we are proposing. However, only two of those are offering degrees in ecological and environmental anthropology, and both of these programs differ from ours in important respects.

1. The University of Georgia's Anthropology Department has a Ph.D. program specializing in ecological and environmental anthropology. Like the University of Maine, the University of Georgia is a Land Grant and Sea Grant institution, that has a number of schools and departments emphasizing the environmental sciences. This gives them the capacity to offer Anthropology Ph.D. candidates the option of taking a certificate program in an allied area: ecology; agriculture; forestry; environmental ethics; behavioral ecology and economic decisions; conservation; and community, agricultural and natural resources. Thus, a student could take a Ph.D. in environmental anthropology and a certificate in one of these specialized areas. In this respect, the University of Georgia program has some similarities to our proposed program as we are planning to offer students the opportunity to take a Ph.D. in environmental anthropology with a required specialized sub area.

2. The Anthropology Department at the University of Washington has a large generalized Ph.D. program that offers degrees in three principal anthropological sub fields: archaeology, biocultural anthropology and sociocultural anthropology. The department also offers students optional specializations in environmental anthropology, medical anthropology and global health that students can pursue in conjunction with their program in one of the major subfield programs. Only students choosing to get a Ph.D. in the sociocultural track in combination with the environmental specialization would take a series of courses comparable to those in our proposed program. As in our program, students in the UW program in sociocultural anthropology with an environmental specialization would be expected to take courses in one or more of these ancillary fields, e.g. medicine, public health, forest resources, ocean and fisheries sciences, geography, or political economy.

3. Indiana University has the “Anthropological Center for Training and Research on Global Environmental Change.” This center gives graduate students and faculty training in remote sensing and satellite technology. This center does not offer a degree or a certificate program. Its staff is currently interested in changes in land cover and land use, deforestation in the Amazon Basin, population and the environment.

4. The University of South Florida offers a Ph.D. in Applied Anthropology. This program applies anthropology to the solution of a wide range of current problems, including infectious diseases, poverty, and issues based on race and ethnicity. Although the editor of *Ecological Anthropology* is on the USF Anthropology faculty and a few students earn degrees on environmental topics, ecological and environmental anthropology is not the specialty of the department, and the department does not have any program in this specialty.

5. The University of Colorado offers a Graduate Certificate Program in Environment, Policy, and Society to give students in a variety of graduate programs across the University interdisciplinary training in the social sciences linked to environmental problems. The certificate program requires 18 hours of courses, and only 6 of them may be in the student’s home discipline. The Anthropology Department at the University of Colorado does not offer a degree in ecological anthropology or any specialization in this field over and above this interdisciplinary certificate program.

6. The University of Arizona Department of Anthropology requires all Ph.D. students to choose a minor in addition to their major focus (e.g., archaeology, cultural anthropology, physical anthropology). This can be done by taking courses in: (1) another subfield of anthropology, (2) another UA disciplinary unit, or (3) A “synthetic concentration.” One of the synthetic concentrations is “Ecological and Environmental Anthropology.” Although UA has some faculty who have done a good deal of research in ecological anthropology, it

needs to be stressed that this synthetic concentration is a graduate minor—not the focus of the department or its graduate program.

Of all of these programs, only the Anthropology Departments at the University of Georgia and the University of Washington are offering Ph.D.s with a concentration in ecological or environmental anthropology. None are offering training in environmental policy, and their programs have no specific policy component, although they are emphasizing the solution to practical problems. In addition, UGA doesn't have anything comparable to the UMaine Climate Change program. UW has the Quaternary Center, but our proposed program would require students to have specialized subareas, whereas at both UGA and UW, the certificate and specialization programs are optional.

C. Enrollment projections for five years.

This is a small, quality-based, niche program that individually tailors anthropology and environmental policy courses, research, and internships to individual students, their backgrounds, and their expected outcomes. We plan on starting with 1-2 funded students with the potential for increasing by 0-2 students per year, up to a total of 5-6 students over the course of five years, dependent on grant funding. This is the maximum student load given current faculty numbers and departmental resources. Numbers of students beyond these levels could increase given additional TA, RA, and faculty support and funding through the UMS or UMaine beyond what is requested in this program proposal.

IV. Program content.

A. Outline of required and/or elective courses (not syllabi):

The curriculum is centered on an understanding of human society and culture in cross-cultural perspective and of their central role in implementing successful environmental policy. Anthropology courses are the backbone of the program.

Students may enter the program with a Bachelor's or Master's degree. All students will take the Core Curriculum consisting of 21 student credit hours. The rest of the curriculum will be individually tailored depending on their background coming into the program, environmental focus area, and whether they are interested in national or international environmental policy issues. Courses in policy and basic methodology will be dependent on courses students have taken previously.

Students entering the program with a Master's degree will need to take **36 SCH**. Students entering the program with a Bachelor's degree will need to

take **60 SCH.**

CORE CURRICULUM. Cross-Cultural Human Dimension Courses (21 student credit hours):

- ANT 520 Cultural Dimensions of Global Environmental Change (will be moved from ANT 490)
- ANT 521 Anthropological Dimensions of Policy Development and Analysis (to be added)
- ANT 530 Theory of Social Organization and Culture (to be added)
- ANT 410 Conservation Anthropology: The Socio-cultural Dimensions of Environmental Issues (will be moved from ANT 250)
- SMS 555/ANT 555 Resource Management in Cross-Cultural Perspective
- ANT 420 Human Impacts on Ancient Environments
- ANT 415 Environmental Justice Movements (will be moved from ANT 270)

Environmental Policy Courses:

- EES 324 (offered at grad level) Environmental Protection Law and Policy
- PAA 627 Environmental Policy and Management
- ECO 450 International Environmental Economics and Policy
- SMS 553 Institutions and the Management of Common Pool Resources
- REP 581 Sustainable Resource Systems and Public Policy
- PHI 432 Environmental Philosophy and Policy
- HTY 577 Environmental History
- ANT 5XX Environment and Health
- PRT 480 Wilderness Management
- WLE 470 Wildlife Policy and Administration
- WLE 520 Natural Resources Policy
- FTY 446 Forest Resources Policy
- FTY 617 Forest Policy Problems
- PAA 520 Policy Studies
- HTY 479 United States Environmental History

Methodology Courses:

- ANT 462 Numerical Methods in Anthropology
- ECO 473 Resource Economics and Policy Applications of GIS
- INT 527 Integration of GIS and Remote Sensing Data Analysis in Natural Resource Applications
- SIE 509 Principles of GIS
- SIE 510 GIS Applications
- INT 5XX Survey Methodology (develop methods and survey course with a combination of faculty)
- INT 5XX Qualitative Analysis (develop methods and survey course with a combination of faculty)

Environmental Areal Courses:

The program will have five environmental focus areas. Students will choose at least one of these areas in which to specialize. Courses within those areas will be chosen by the student's committee advisors.

Climate Change
Marine Sciences
Ecology
Forestry
Resource Economics

Thesis Credit:

ANT 699 Thesis

Background Courses:

The program will admit students who have an anthropological/social science or an environmental science education. Depending on the particular student's previous training, they may need to take undergraduate background courses in other areas they have not previously covered. Additionally, language proficiency may be required given context of study. Background courses taken at the 400 level or above will count toward the SCH needed for the Ph.D. if appropriate. Undergraduate courses at the 300 level and below will not count toward the SCH needed for the Ph.D.

B. Development of new courses and/or what they may displace:

The Department of Anthropology does not currently have a graduate program, although faculty members in the department are affiliated with a number of graduate programs across campus. Two undergraduate courses (**ANT 250** Conservation Anthropology: The Socio-cultural Dimensions of Environmental Issues and **ANT 270** Environmental Justice Movements) will be enriched to the 400 level so that graduate students can take them. One course will be moved to the graduate level (**ANT 490** Cultural Dimensions of Global Environmental Change). These changes will allow our undergraduate majors to take courses with graduate students, thereby elevating their curricular experience. These course movements will not result in new faculty assignments.

Two new courses will need to be developed (**ANT 521** Anthropological Dimensions of Policy Development and Analysis and **ANT 530** Theory of Social Organization and Culture). One new course (**ANT 5XX** Environment and Health) would be an excellent, but not necessary, addition to the curriculum and would be taught by a departmental faculty associate. These courses will be taught as needed as unpaid overload, with course buy-out monies, or by other arrangement.

Two methods courses (**INT 5XX** Survey Methodology and **INT 5XX** Qualitative Analysis) are important and needed in other units across campus as well. These two courses would be developed with a combination of faculty associated with the program and would benefit graduate students in a number of programs. The School of Policy and International Affairs is developing a course in Qualitative Analysis, and we have discussed developing a Survey Methodology course with the School of Forest Resources.

C. Type of research activity, if any, in program design

and

D. Nature of independent study, clinical experience, and/or field practicums employed in curriculum design

National/International Areal Research Project and Internships:

The program will have both a national and an international component, depending on the area(s) in which the student would like to focus.

On a national level, the program is particularly geared toward Environmental Policy issues in Maine. Local research options are provided through individual faculty members in the program, as well as through projects associated with the Margaret Chase Smith Policy Center and the Senator George Mitchell Center for Environmental and Watershed Research. One excellent avenue for internships is through the diverse statewide community involving venues provided through Cooperative Extension. Many of these internships could be paid if students work/intern at Bryant Pond or Tanglewood.

On an international level, the program specializes in educating students on the diversity of cultures and social systems around the world. International research will involve extra study in that particular culture and language. Research options are provided through individual faculty in the program as well as through projects associated with the School of Policy and International Affairs. International internships can be provided through a variety of venues depending on the focus area.

E. Impact of program on existing programs on the campus

The Anthropology and Environmental Policy program will unite currently disparate environmental policy courses into a cohesive program. It will offer courses of interest to students in other programs, and our students will be able to take courses in those programs. We envision that some students will study in more than one program as they develop their expertises and hone their interests. UMaine has a strong environmental focus in a number of colleges, departments, and programs. These programs have been consulted and most

are willing partners in the development of this program. Our program will provide an important addition to current offerings: the human social and cultural component in implementing successful environmental policy. The addition of advanced students in this area will benefit all environmental programs. Given the current budgetary situation, we need to focus on our strengths, and draw from important contributions and offerings in other programs.

V. Program resources.

A. Personnel.

The core of the program is already in place. It consists of a group of internationally recognized departmental personnel, extremely active in research and publication in international journals and presses and in securing prestigious grants and scholarships. Many departmental faculty members have cross-appointments with centers of excellence such as the Climate Change Institute, the School of Marine Sciences, the Canadian-American Center, and the George Mitchell Center, and experience in producing interdisciplinary degrees with an anthropology focus (interdisciplinary Ph.D.s, the M.S. in Quaternary and Climate Studies, and the M.S. in Marine Policy). This cross-appointment model establishes a unique framework on which to build.

Faculty involved in the program are in the Department of Anthropology and include other faculty whose research interests include environmental policy issues. Participating faculty vitae are in Appendix I.

James Acheson

Professor of Anthropology and Marine Sciences
Cooperating Professor in the School of Policy and International Affairs

Paul (Jim) Roscoe

Professor of Anthropology
Cooperating Professor of the Climate Change Institute
Cooperating Professor in the School of Policy and International Affairs

Kristin Sobolik

Professor of Anthropology and Climate Change
Associate Director, Climate Change Institute

Daniel Sandweiss

Professor of Anthropology and Climate Change
Associate Provost and Graduate Dean

Stephen Hornsby

Professor of Geography and Canadian Studies
Director, Canadian American Center

Darren Ranco

Associate Professor of Anthropology
Joint appointment with the Senator George Mitchell Center for
Environmental and Watershed Research
Coordinator of Native American Research

Lisa Neuman

Assistant Professor of Anthropology and Native American Studies

Brian Robinson

Assistant Professor of Anthropology and Climate Change

Constanza Ocampo-Raeder

Assistant Professor of Anthropology
Cooperating Professor in the Climate Change Institute
Cooperating Professor in the Ecology and Environmental Sciences
Program

Greg Zaro

Assistant Professor of Anthropology and Climate Change

Marcella Sorg

Research Associate, Margaret Chase Smith Policy Center
State of Maine Forensic Anthropologist
Faculty Associate in Anthropology

Teresa Johnson

Assistant Professor of Marine Policy
Cooperating Professor of Anthropology

Alice Kelley

Research Assistant Professor of Climate Change Institute
Cooperating Professor of Anthropology

Mario Teisl

Director, School of Policy and International Affairs
Professor of Resource Economics

Linda Silka

Director, Margaret Chase Smith Policy Center
Professor of Resource Economics

Jonathan Rubin

Professor of Resource Economics and Policy
Joint appointment in the Margaret Chase Smith Policy Center

Stewart Smith

Professor of Resource Economics

Paul Mayewski

Director, Climate Change Institute
Professor of Climate Change

Robert Lillieholm

Associate Professor of Forest Policy

Malcolm Hunter

Libra Professor of Conservation Biology
Professor of Wildlife Ecology

Ed Lavery

Associate Professor of Public Administration

Aram Calhoun

Associate Professor of Wildlife Ecology

Jessica Leahy

Assistant Professor of Human Dimensions of Natural Resources

John Daigle

Associate Professor of Forest Recreation Management

James Wilson

Professor of Marine Science

Richard Judd

Col. James C. McBride Professor of History

Roger King

Associate Professor of Philosophy

1. Specific effect on existing programs of faculty assignments to new program.

The Ph.D. program in Anthropology and Environmental Policy will mean additional departmental responsibility for graduate students, added to an already active undergraduate program. There will be no new faculty assignments, and all teaching faculty in the program will be working on graduate courses as overloads, buy-outs, or other arrangements. Meeting these increased responsibilities will require realignment of anthropology faculty resources and a gradual increase in faculty members in the Ph.D. focus area by the time the program admits its full complement of graduate students. This realignment and development will occur by replacing faculty retirements in areas geared toward the Ph.D. program, through opportunity hires (one completed in AY09), and/or by incorporating currently existing UMaine faculty or researchers in appropriate areas of interest as joint appointments (one currently under consideration). The entire process of adding faculty in the area of Anthropology and Environmental Policy will be a gradual, 'ramping-up' implementation involving calibrating replacement positions in ways that can contribute to the Ph.D. program without endangering commitments to the undergraduate program.

Even when the full complement of personnel is in place, the department will still be small by national standards. The lack of size, however, will be offset by the focused nature of the program and the interconnections with other disciplines and institutes.

B. Current library acquisitions available for new programs.

Library holdings are generally adequate in anthropology and in many of the fields that will support this program. Depending on the precise directions taken in the future, some new journals and books will be required, though we

anticipate that part of this upgrading also will significantly benefit other departments on campus.

C. New equipment necessary for new program and plan for its acquisition and implementation.

Equipment needs for this program are either in place or can be acquired through normal grant channels.

D. Additional space requirements, if any, including renovations.

This program does not require additional laboratory space. With one and a half floors of South Stevens Hall allotted to the Anthropology Department, we anticipate few difficulties in accommodating additional personnel and facilities for the immediate future.

E. Extent of cooperation with other programs, both on the initiating campus and other – campuses.

There will be extensive interaction with other environmental and policy units and faculty at UMaine. Just as successful environmental policy cannot happen without the social and cultural component, neither can it happen without the environmental component. Students in the program will take courses in other units, faculty of other units may be involved in student research and theses, and students will be involved in state, national, or international internships with other UMaine units such as Cooperative Extension, The Margaret Chase Smith Policy Center, and the School of Policy and International Affairs.

In addition, this program is particularly suited to cross-training students in other programs as well. There are many UMaine environmental units and programs that offer Master's degrees, such as the M.S. in Marine Sciences in the School of Marine Sciences, the M.S. in Quaternary and Climate Studies in the Climate Change Institute, the M.A. in Global Policy in the School of Policy and International Affairs, the M.S. in Forest Resources in the School of Forest Resources, the M.S. in Ecology and Environmental Science in the School of Ecology and Environmental Science, the M.S. in Wildlife Ecology in the Department of Wildlife Ecology, and the M.S. in Resource Economics and Policy in the School of Economics. Anthropology faculty members are already affiliated with many of them, provide graduate teaching and training in these units, and currently serve on or advise their graduate student committees.

Units Involved in Program:

Units/Individual Contacts

Climate Change Institute

Paul Mayewski, Director, Professor of Climate Change
Kristin Sobolik, Associate Director, Professor of Anthropology
and Climate Change

Paul “Jim” Roscoe, Professor of Anthropology, Cooperating
Professor of Climate Change

Dan Sandweiss, Professor of Anthropology and Quaternary
Studies

Brian Robinson, Assistant Professor of Anthropology and Climate
Change

Constanza Ocampo-Raeder, Assistant Professor of Anthropology,
Cooperating Professor of the Climate Change Institute

Greg Zaro, Assistant Professor of Anthropology and Climate
Change

Alice Kelley, Research Assistant Professor of Climate Change,
Cooperating Professor of Anthropology

School of Marine Sciences

Peter Jumars, Director, Professor of Marine Sciences

Jim Acheson, Professor of Anthropology and Marine Sciences

Teresa Johnson, Assistant Professor of Marine Policy, Cooperating
Professor of Anthropology

James Wilson, Professor of Marine Science

School of Policy and International Affairs

Mario Teisl, Director, Professor of Resource Economics

Jim Acheson, Professor of Anthropology and Marine Sciences

Paul “Jim” Roscoe, Professor of Anthropology

Stephen Hornsby, Professor of Geography and
Canadian Studies

Paul Mayewski, Professor of Climate Change

Roger King, Associate Professor of Philosophy

School of Economics

George Criner, Director, Professor of Resource Economics

Mario Teisl, Professor of Resource Economics

Linda Silka, Professor of Resource Economics

Jonathan Rubin, Professor of Resource Economics and Policy

Stewart Smith, Professor of Resource Economics

Margaret Chase Smith Policy Center

Linda Silka, Director, Professor of Resource Economics

Marcella Sorg, Research Associate, Faculty Associate of
Anthropology

Jonathan Rubin, Professor of Resource Economics and Policy

Cooperative Extension

John Rebar, Director

Doug Babkirk, Associate Director

School of Forest Resources

Robert Lilieholm, Associate Professor of Forest Policy
Jessica Leahy, Assistant Professor of Human Dimensions of
Natural Resources
John Daigle, Associate Professor of Forest Recreation
Management

Department of Wildlife Ecology

Malcolm Hunter, Professor of Wildlife Ecology
Aram Calhoun, Associate Professor of Wildlife Ecology

**Senator George J. Mitchell Center for Environmental and
Watershed Research**

Darren Ranco, Associate Professor of Anthropology, Joint
Appointment in Mitchell Center

Canadian-American Center

Stephen Hornsby, Director, Professor of Geography and
Canadian Studies

Department of Public Administration

Ed Laverty, Associate Professor of Public Administration

Department of History

Richard Judd, Col. James C. McBride Professor of History

Department of Philosophy

Roger King, Associate Professor of Philosophy

VI. Total financial consideration.

A Ph.D. program in Anthropology and Environmental Policy will be an opportunity for UMaine to attract and retain motivated graduate students interested in helping solve the most pressing problems of our global society. This would be a signature program for UMaine because it would be based in existing research in productive, environmentally based units, the faculty and infrastructure are already in place, and no other such program exists in the nation. UMaine is well positioned to mount this distinctive program because of the presence of several internationally recognized units to which it would be closely linked (see above). Several members of the department have long-standing involvements with other UMaine scientists already working on environmental policy issues. This network of collaborators demonstrates that the interdisciplinary research and teaching required of the proposed program is not just an idea but a proven reality.

The merits of this program rest on the importance of training people to help solve current national and international problems using an understanding of cultural diversity combined with data-driven analysis to help improve the human condition. Financial gain will be modest, but gain for all humans could be immense.

A. Estimate of anticipated cost and anticipated income of the program for five years.

The faculty and equipment necessary to implement this program are already in place so there is no anticipated cost.

The anticipated income is relatively modest as the program will be small with a projected number of 5-6 total graduate students over the course of five years. Depending on how these students are funded, the tuition income generated from these students ranges from \$7,822/year for a 9 credit hour per semester in-state student to \$20,620 for a 9 credit hour per semester out-of-state student. Estimating a maximum of five out-of-state students in year five of the program, the range of income generated in an individual year would be anywhere from \$7,822 - \$103,100. Income would decrease if students were funded internally rather than with external grants. Additionally, students who have taken and passed their comprehensive exam will only need to pay 1 credit per semester so the income range could change depending on how many students are in that post-comp category.

Numbers of students -- and therefore income -- beyond these levels could increase given additional TA, RA, and faculty support and funding through the UMS or UMaine beyond what is requested in this program proposal.

B. Detailed information on first-year costs, including:

1. New personnel requirements (include employee benefits);

No new personnel are required.

2. First-year revenue and identity of source;

First-year revenue will be modest and includes tuition generated from 1-2 graduate students.

3. How operational costs are to be absorbed into current campus operating budget over a 5-year period;

No new personnel are required at the advent of the program, although faculty will need to be replaced, if lost, in the anthropology and environmental policy arena. Most courses currently exist, and if new courses need to be developed they will operate as unpaid overload, buy-outs, in conjunction with other faculty affiliated with the program, or other arrangements. This is a small, quality-based, niche program focused on a low number of select, motivated students. The impact of this program is not financial, either in

income or expense, but is in the importance of such trained students to global impact.

4. What additional funding is required to support the program (identify the source);

Support for graduate students in the new program is being developed. We have a CLAS funded TA to help with ANT 101 and 102 (1200+ students per year). This TA will be allocated within the Ph.D. program. In addition, we have long had associations with the Climate Change Institute and the School of Marine Sciences and have had a number of anthropologically trained graduate students supported by RA positions. Also, anthropology faculty are part of larger campus funding initiatives such as the NSF EPSCoR Sustainability Solutions Initiative, the School of Policy and International Affairs, and an NSF-IGERT proposal, in association with other CCI faculty, all with potential for support of graduate students in our area of interest.

5. Lifetime of outside or independent funding and plan for how and when – becomes part of E&G budget.

The Department of Anthropology has been highly successful in obtaining grants to support its research activities. Over the past 6 years, members have attracted over \$2.2 million in support of research, travel, fellowships, student assistance, and equipment, and if a graduate program were in place for training graduate students then student support could be written into future grants. Good doctoral students are research and funding multipliers, so we envision our program starting small and becoming larger as students participate in faculty research and help generate outside funding and granting opportunities.

C. Program evaluation

A. A post audit of an approved new program must be made after two years.

The program will undertake a review at the end of the second year as well as a five year review.

VII. A. Submitted By:

Kristin D. Sobolik 11-5-09

Paul (Jim) B. Roscoe 11-5-09

James Acheson 11-5-09

B. Approved By:

College of Liberal Arts and Sciences Date

Dean and Associate Provost for Graduate Studies Date

Provost Date

President Date

APPENDIX I
Potential Reviewers

Elinor Ostrom (if available)

2009 Nobel Laureate in Economic Sciences
Arthur F. Bentley Professor of Political Science
Professor of Public and Environmental Affairs

Workshop in Political Theory and Policy Analysis
Indiana University
513 North Park Avenue
Bloomington, IN 47408-3895
812-855-0441
ostrom@indiana.edu

Richard Scaglione

Professor of Anthropology
Director of the Asian Studies Center
Research Associate at the Carnegie Museum of Natural History

Department of Anthropology
3302 WWPH
University of Pittsburgh
Pittsburgh, PA 15260
412-648-7372
scaglione@pitt.edu

Courtland L. Smith

Professor Emeritus of Anthropology
Marine Resource Management
College of Oceanic and Atmospheric Sciences

Department of Fisheries and Wildlife
Department of Anthropology
Oregon State University
Corvallis, OR 97331-6403
541-737-3858
smithc@onid.orst.edu

APPENDIX I (continued)
Potential Reviewers

Victoria Lockwood
Professor of Anthropology

Anthropology Department
Southern Methodist University
Campus PO Box 750336
Dallas, TX 75275-0336
214-768-4022
vlockwoo@smu.edu

APPENDIX II
Vitae of Faculty Involved in the Program
(see V.A.)

James Acheson

Professor of Anthropology and Marine Sciences
Cooperating Professor in the School of Policy and International
Affairs

Paul (Jim) Roscoe

Professor of Anthropology
Cooperating Professor of the Climate Change Institute
Cooperating Professor in the School of Policy and International
Affairs

Kristin Sobolik

Professor of Anthropology and Climate Change
Associate Director, Climate Change Institute

Daniel Sandweiss

Professor of Anthropology and Climate Change
Associate Provost and Graduate Dean

Stephen Hornsby

Professor of Geography and Canadian Studies
Director, Canadian American Center

Darren Ranco

Associate Professor of Anthropology
Joint appointment with the Senator George Mitchell Center for
Environmental and Watershed Research
Coordinator of Native American Research

Lisa Neuman

Assistant Professor of Anthropology and Native American Studies

Brian Robinson

Assistant Professor of Anthropology and Climate Change

Constanza Ocampo-Raeder

Assistant Professor of Anthropology
Cooperating Professor in the Climate Change Institute
Cooperating Professor in the Ecology and Environmental Sciences
Program

Greg Zaro

Assistant Professor of Anthropology and Climate Change

Marcella Sorg

Research Associate, Margaret Chase Smith Policy Center
State of Maine Forensic Anthropologist
Faculty Associate in Anthropology

Teresa Johnson

Assistant Professor of Marine Policy
Cooperating Professor of Anthropology

Alice Kelley

Research Assistant Professor of Climate Change Institute
Cooperating Professor of Anthropology

Mario Teisl

Director, School of Policy and International Affairs
Professor of Resource Economics

Linda Silka

Director, Margaret Chase Smith Policy Center
Professor of Resource Economics

Jonathan Rubin

Professor of Resource Economics and Policy
Joint appointment in the Margaret Chase Smith Policy Center

Stewart Smith

Professor of Resource Economics

Paul Mayewski

Director, Climate Change Institute
Professor of Climate Change

Robert Lilieholm

Associate Professor of Forest Policy

Malcolm Hunter

Libra Professor of Conservation Biology
Professor of Wildlife Ecology

Ed Laverty

Associate Professor of Public Administration

Aram Calhoun

Associate Professor of Wildlife Ecology

Jessica Leahy

Assistant Professor of Human Dimensions of Natural Resources

John Daigle

Associate Professor of Forest Recreation Management

James Wilson

Professor of Marine Science

Richard Judd (vitae not included, on sabbatical)

Col. James C. McBride Professor of History

Roger King

Associate Professor of Philosophy