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Departmental Self-Study: Environment and Society

February 2012

1. Department Profile

The Department of Environment and Society (ENVS) is one of three in the College of Natural Resources (CNR), created in 2002 upon reorganization of the College to offer teaching, scientific research, and outreach programs focused on interaction of humans with the natural environment. Our faculty and students apply concepts and methods from the social and the natural sciences, although the strength among our faculty and our programs lies mainly in our application of social science to environmental problems.

Our scholarship focuses on the complex and varied dynamics of human-environment interactions, with particular expertise in bioregional planning, conservation policy, human geography, land management decision-making, outdoor recreation, and sustainability at multiple scales. We work to improve citizen understanding and the effectiveness of policies and practices that affect the sustainability of environmental and human systems.

At the time of its formation, ENVS was the first academic department in a U.S. natural resources college to focus solely and broadly on the human aspects of natural resources and environmental management. Several western Land Grant universities have since followed suit. The department's foundation rests on a long history of attention to human-environment topics in the College of Natural Resources. For example, USU offered its first course in outdoor recreation management in the 1930s, and the CNR has been noted for its expertise in natural resource policy since it was a center of innovation for national forest planning in the 1970s and 1980s. In the late 1980s USU's Geography and Earth Resources program moved to the CNR from the College of Humanities, Arts and Social Sciences. The ENVS faculty that formed in 2002 was drawn from that program as well as the departments of Fisheries and Wildlife, Forest Resources, and Rangeland Resources.

Mission and goals

The Department’s three-fold mission is “to (1) promote scholarship and creativity in the discovery, synthesis, and transfer of knowledge relating to the human dimensions of natural resource and environmental management; (2) apply social science concepts and approaches to better understand human-environment interactions at a range of spatial scales; and (3) to enhance the effectiveness of policies, planning, and administrative processes that affect sustainable use of the natural world.”

To achieve the academic component of its mission, the department offers programs that are designed to provide undergraduate and graduate students with a balanced exposure to the social, physical, and biological sciences within an interdisciplinary framework. The program is designed to provide students with a working knowledge of the human aspects of ecosystems and a speaking knowledge of the biophysical aspects, as well as experience
using "state of the art" tools and techniques for integrating this knowledge. Research and outreach draw upon these programs, although as soft-money endeavors their content is dependent on funding opportunities and the ebb and flow of knowledge and public information needs.

**Academic Programs**

Environment and Society encompasses a broad spectrum of teaching, research, and outreach programs. We offer four undergraduate majors and minors, four Master's degrees, and a doctorate, while participating in one additional PhD and two other MS programs. We also administer two Master's-level certificate programs. Our faculty members conduct research in human dimensions of natural resource management and environmental sustainability, outdoor recreation and protected-area management, human-environment geography, and ecological aspects of land use. Five of our faculty members received salary and/or research support from the Utah Agricultural Experiment Station, and two serve as Extension specialists, one in recreation/nature-based tourism and the other in community sustainability. We also host the Institute for Outdoor Recreation and Tourism, an entity created by the Utah Legislature to implement research, outreach, and educational programs in recreation and nature-based tourism.

**Degrees offered.** The department offers undergraduate degrees in Environmental Studies, Recreation Resource Management, Geography (jointly administered with the Watershed Sciences Department) and Geography Teaching. There is also a minor associated with each of these degrees. We administer graduate degree programs in Human Dimensions of Ecosystem Science and Management (MS, PhD), Geography (MA, MS), Recreation Resource Management (MS), Bioregional Planning (MS), and we participate in the Master of Natural Resources program administered by the College of Natural Resources, as well as the interdepartmental MS and PhD programs in Ecology. We also administer two graduate certificate programs, one focused on the National Environmental Policy Act (NEPA) and one in Natural Resources and Environmental Education (NREE). Following are descriptions of each of the degrees and certificates.

**Undergraduate majors and minors.** The *Environmental Studies* BS degree is the department's most popular undergraduate major (Fig. 1). It is designed for students who wish to acquire a broad understanding of natural resources and human-environment relationships, along with the technical background needed to address environmental issues. Over the years the emphasis has begun to shift from training students for jobs involving human-environment issues related to public lands management (e.g., visitor center managers, environmental impact analysis) toward providing a broader understanding of the sustainability of natural and human communities. This shift reflects the interests and career aspirations of Environmental Studies majors, who are less likely than in past years to seek careers with federal land management agencies. Students have successfully prepared for jobs in environmental consulting firms, non-profit organizations, public land management agencies, and graduate degrees in environmental science/management, law, and business.
Fig. 1. Numbers of students with declared majors in degrees administered by Environment and Society, based on Registrar’s reports issued the third week of each semester.

The Geography degree, jointly administered with the Department of Watershed Sciences (WATS), is designed to provide a broad education built around new tools and new knowledge in geography that will be critical for a student’s future success. Students choose from one of three areas of emphasis: Human-Environment Geography, Geographical Analysis and Bioregional Planning, or Physical Geography. Although all three emphases draw upon course work from all three CNR departments as well as across the USU campus, primary responsibility for human-environment and planning courses lies with ENVS while WATS ensures that courses are available for students interested in physical geography and geospatial analysis. We also offer a broad minor in Geography, while WATS administers a more specific, technically oriented minor in Geographic Information Sciences.

Because geography is a core subject for Utah students in the ninth grade, we offer a Geography Teaching major in cooperation with USU’s Secondary Education program to meet the small but steady demand for geography teachers. As is the case for secondary education majors across the university, our department is responsible for content learning while the School of Teacher Education and Leadership (TEAL) provides instruction in teaching methods and student-teaching practicum. Because USU requires all secondary education majors in specific subjects (e.g., History, English, Physical Education) to complete a minor in a second content area, the Geography Teaching minor actually attracts more students than the major.
The **Recreation Resource Management** major prepares students for careers in planning and management of visitor use in wildland recreation settings, such as state and national parks, forests, monuments, and wilderness areas. Because such jobs require an understanding of the landscape, its natural resources, and the people who visit, the major offers courses in both the bio-physical and social sciences, along with an emphasis on communication and collaboration skills. There also is a Recreation Resources minor.

Unlike our other Bachelor’s degrees, we offer the Recreation Resource Management major statewide in cooperation with the university’s Regional Campuses and Distance Education office. Courses are delivered mainly through broadcast, with a few online or short-course options, by faculty at the Logan campus or USU’s Moab Education Center. One tenure-track assistant professor is based in Moab, which is also home to adjunct faculty members who deliver two required courses to USU campuses and distance-education centers across Utah.

**Graduate degrees and certificates.** For a relatively small department ENVS offers quite a few graduate degrees. This system has evolved to meet the demands of students who often prefer degrees whose names reflect the type of career they plan to pursue, and it also suits faculty members who may prefer that their graduate student advisees earn degrees with names that match their disciplines. We are able to do this efficiently because most faculty members participate in more than one degree program, and all degrees share courses.

Our MS degrees each require a minimum of 30 credits beyond the baccalaureate. Students can complete the degree through two options: Plan A, a traditional research thesis, or Plan B, a non-thesis, terminal degree culminating in a professional paper or project. Although the university also allows a Plan C (coursework only) option for the Master’s degree, ENVS does not offer that option. The PhD requires completion of 60 credit hours beyond the Bachelor’s degree, passing comprehensive written and oral exams, an approved research proposal, and successful defense of a research dissertation.

The MS and PhD in **Human Dimensions of Ecosystem Science and Management** (HDESM) are the department’s largest programs in terms of both students (Fig. 2) and faculty. With the pending elimination of the Recreation Resource Management doctorate (passed by the Faculty Senate Feb. 6, 2012 and awaiting Board of Trustees approval at this writing), HDESM is the only doctoral degree for which we are fully responsible, although we also participate in the Ecology PhD. The HDESM degrees were created in response to a growing demand for interdisciplinary scientists and environmental/natural resource professionals who understand both human and biophysical aspects of ecosystems and therefore better analyze policies and decisions that promote sustainability of both human and ecological communities in the U.S. or internationally.

The MS degree prepares students for doctoral study or for professional practice in natural resources and environmental management, outreach, policy, communication and extension positions. The doctoral program puts greater emphasis on basic theory and research methods in one or more social science disciplines, depending on the student’s interests, and prepares students for university teaching, research, and extension; agency and private organization research; or environmental consulting.
The Master of Science in **Recreation Resource Management** (RRM) is the oldest graduate degree among those we offer. Public lands recreation management has been taught at USU since the 1930s, when a recreation course in the Forestry curriculum is believed to have been the first of its kind in the western U.S. The university cemented its leadership in this field with the creation of graduate degrees in the 1960s. The program’s students went on to become many of the field’s leading scholars during the past 40 years. However, with the emergence of the broader field of “human dimensions of natural resources” in the 1980s and 1990s, and subsequent development of our HDESM degrees, interest has waned in the RRM doctoral program. No PhD student has completed that degree since 2000, as students interested in recreation management have preferred the broader scope of the HDESM doctorate. Accordingly we have proposed to eliminate the RRM PhD.

However, interest in the Master of Science has held steady and shows signs that it may begin to grow with the addition of a Moab-based faculty member who has connections to research and internships in a part of the state where recreation is internationally known and a linchpin of the local economy. Master’s degree students in the RRM program benefit from association with the Institute for Outdoor Recreation and Tourism (IORT, described below), and increasingly seek degrees in environmental education or outreach rather than in public land management, historically the goal of most students who matriculate.

Students seeking a graduate education in **Geography** currently have the choice to earn a Master of Science or Master of Arts. The sole difference between the two options is that students earning the MA must complete a foreign language requirement. The MA was intended to serve students interested in using the Geography degree as a pathway toward careers in foreign service or international development, but no student has completed the
program in a decade or more. We expect to propose elimination of the MA option in 2012, as we believe a new Peace Corps-affiliated MS program (see next paragraph) will address that need more effectively.

Enrollments in the Geography MS have fluctuated over the past two decades. During the 1990s and 2000s, enrollments were steady as students interested in geography education, geographic information systems (GIS), and remote sensing pursued the degree. However, our geography education expert retired, and in recent years the GIS/remote sensing market within Geography has decreased with maturation of the geospatial analysis field – students now find that their options are broader if they earn a degree in an area of scientific expertise (e.g., wildlife, recreation) and learn geospatial tools along the way. More recently we have seen increased interest in human-environment geography with the addition of two new faculty members in that area, and now our participation in the Peace Corps International MS program. In collaboration between USU and the Peace Corps, students take classes on campus for their first year of graduate study before serving a volunteer Peace Corps assignment overseas. They then return to campus for a fourth year to finish coursework and a thesis/project. One student entered the Peace Corps program in Fall 2011, and we have received several promising applications for admission in Fall 2012.

For more than a decade ENVS has offered a Master of Science in Bioregional Planning. The degree officially is offered jointly with the Department of Landscape Architecture and Environmental Planning; however, all but one student since the degree was created have completed their work in ENVS. Graduate education in bioregional planning is designed to prepare the student for work within a trans-disciplinary environment providing better alternatives for environmental decisions, policy, and implementation. With the rapid growth in the Intermountain Region, many communities lack necessary data on their environmental, cultural, and economic resources to make appropriate physical planning decisions. A primary objective of the Bioregional Planning program is to provide community decision makers with relevant information, including the production and evaluation of alternative futures, they can use to make informed decisions about the quality of growth for their community. Accordingly, students not only complete a suite of graduate-level courses, but they also join in a 10-credit, year-long “studio” where they complete real-world analyses that offer alternative futures scenarios to clients such as federal agencies or regional associations of governments. Students completing the Bioregional Planning degree have been in great demand for planning positions at various levels of local and state government.

The MS and PhD in Ecology is administered by the Ecology Center, an independent unit of the university that supports and coordinates ecological research and graduate education in the science of ecology, integrating the efforts of faculty and graduate students in three colleges and five departments including ENVS. Nine of the department’s faculty are affiliated with the Ecology Center and may direct graduate students in Ecology. However, only two have done so, directing projects that link ecological and social science to explain the dynamics of coupled natural and human systems. The degree requirements, set by a committee of the Center director and representatives from the five participating departments, are weighted toward the traditional biological, physical, and quantitative
roots of ecology, so in addition to completing those an Ecology student typically takes his/her electives from social science offerings taught by ENVS faculty.

The non-thesis Master of Natural Resources (MNR) program is designed specifically for natural resource professionals who are returning to school to advance their careers. Course work is developed around core competencies, three of which (administration, policy, and human dimensions) are covered in courses taught by regular or adjunct ENVS faculty. Students then complete a capstone experience that provides an opportunity to apply skills to real-world problems. While the College of Natural Resources administers the degree, its coordinator and one of its four core faculty members are part of the ENVS faculty. The degree emphasizes flexibility in course delivery options, including on-campus, online, and short-course classes. The MNR program is part of the multi-university Natural Resources Distance Learning Consortium; as a result, students enrolled at several other universities may take courses taught for the MNR, and USU students may enroll in courses offered by other institutions and apply them toward the USU degree.

The National Environmental Policy Act Certificate program prepares graduate students and natural resource and environmental professionals to meet the challenges of complying with and administering a law that affects most federal actions. ENVS and a private firm, the Shipley Group, have formed a partnership that allows USU students to complete courses taught by faculty from both entities in short courses held across the country. Participants must complete eight 1- to 2-credit courses plus a capstone, for a total of 12 credits that can be included among those used toward a Master’s degree in many USU programs. The NEPA certificate is often completed by students in the MNR program.

The interdisciplinary graduate certificate in Natural Resources and Environmental Education (NREE) likewise is intended to serve students in multiple degree programs, although for practical reasons most students who have earned the certificate have completed degrees offered in ENVS. The certificate requires 15-17 credits and is designed to provide a strong foundation that meets the needs of students whose career interests lie in the area of natural resources communication, environmental education, or interpretation. Currently we cannot offer a core course, Environmental Education (ENVS 5110) because we lost an instructor position due to budget cuts. Students may apply courses taught through the Teton Science Schools, Utah Society for Environmental Education, and Utah Conservation Corps, but we are only able to enroll students in the NREE program if they have completed those affiliated non-USU courses.

Extension and Outreach

Faculty members in ENVS manage two Extension programs, one in outdoor recreation and nature-based tourism and the other in community sustainability. In addition, the department’s staff includes five individuals whose soft-funded positions are primarily directed toward the communication of scientific findings or environmental concepts to laypeople and natural resource professionals. We also have been engaged in the outreach efforts of other USU entities, notably the Swaner Preserve and EcoCenter in Park City.
Originally established within the Department of Forest Resources in the late 1960s, the Institute for Outdoor Recreation and Tourism (IORT) languished with little funding or staff during the ‘80s and most of the ‘90s before the state Legislature in 1998 authorized a continuing funding stream that pays for a director and an ongoing program. IORT’s three-fold mission is to implement a research program focused on the social, economic, and environmental benefits and costs of outdoor recreation and tourism; provide an Extension outreach program; and offer opportunities for education and training in outdoor recreation and tourism management. The Institute operated an annual short course for mid-career professionals for many years until 2009, when USDA Forest Service funding was eliminated to reflect budget cuts and changing models of professional development within the agency.

Our Extension program is managed by two Extension specialists: Steven Burr, who also directs the Institute for Outdoor Recreation and Tourism, and Roslynn Brain, whose program covers community sustainability. Dr. Burr’s program is somewhat nontraditional in that its primary clientele is not county agents or private individuals. Instead he works with government agencies, non-governmental organizations, and tourism business groups to provide consultation services and training in outdoor recreation and tourism development. He also serves on several statewide boards related to tourism and recreation, and publishes a series of reports and fact sheets under the auspices of IORT. Dr. Brain joined the ENVS faculty as an Extension specialist in August 2011, filling a position created to assist Utah citizens in reducing their environmental “footprint” at the household, neighborhood, and community level. While Dr. Brain offers assistance for any means of achieving that goal, her activities currently emphasize recycling and local food networks.

In addition to these two faculty lines, the department employs several grant-supported staff members whose role is related to outreach. Barbara Middleton is an interpretation specialist in the Institute of Outdoor Recreation and Tourism, conducting data-gathering, planning, and design activities for interpretive signs and facilities. Summer Olsen is outreach coordinator for the Sagebrush Steppe Treatment Evaluation Project (SageSTEP), a region-wide research and monitoring program designed to provide land managers with information that can help them deal with significant threats to sagebrush ecosystems from wildfire, exotic annual grass invasion, and woodland encroachment. Her program includes management of a website, regular newsletters, creation of manager-focused outreach materials, and organization of field tours and meetings across the Great Basin. Three other ENVS employees (Olivia Salmon, Kimberly Struthers, and Emily Yost) are funded by the National Park Service to provide “science communication assistance” for the Service’s virtual science learning centers and inventory & monitoring networks, both of which have missions to translate new scientific findings in the parks to non-scientist audiences.

In addition to these formal outreach programs, a number of our faculty members have been engaged in public information/education activities. Associate Professor Layne Coppock, whose work in East Africa was funded by the US Agency for International Development, has participated in the distribution of several DVDs describing the outcomes and impacts of his research. Professor Joseph Tainter has discussed his work on sustainability and societal collapse in films (The 11th Hour), television (ABC’s Earth 2100, National Geographic Channel’s Collapse) and numerous print and radio interviews. Christopher Monz and Mark
Brunson have been interviewed by Utah Public Radio as well. Zhao Ma, Chris Monz, and Mark Brunson have presented their work to multiple groups of land managers and natural resource decision makers. An interview with Ann Laudati during a visit to Uppsala, Sweden, appears on the Nordiska Afrika Institute’s international development website.

Research

All of our faculty members have a role that includes some sort of research expectation, either directly within their assigned roles or as part of the Extension mission. Specific areas of expertise for each faculty member are outlined in Section 2 of this report. Areas of strength include: conservation policy; effects of global environment and social-political trends on livelihoods in the developing world; land managers’ and citizens’ adoption of environmental preferred practices; public attitudes toward environmental and natural resource topics; recreation visitor behavior and management; and the relationships between energy use, sustainability, and societal complexity. While the state of Utah and the Intermountain West remains a focal area for our work, especially in outdoor recreation, conservation policy, and landowner behavior, our researchers have conducted studies during the 2007-11 study period in Africa, Mexico, Hawaii, and across much of the U.S. Five of our faculty members (Brunson, Coppock, Laudati, Monz, Tainter) have been invited to discuss their research in international forums during the past two years, and one assistant professor (Radel) was a 2011 recipient of a prestigious NSF-CAREER grant.

Because a majority of our graduate students are funded through research assistantships, our research activities also contribute significantly to our graduate education program. Several of our faculty members recently have mentored undergraduate research projects, often helping to pave the way to post-baccalaureate experiences. For example, Danielle Babbel, a 2010 Geography grad, worked with Assistant Professor Claudia Radel studying the effects of transnational migration on rural land use in Mexico; her work led to a senior thesis project, also mentored by Dr. Radel, on recent immigrants’ experiences at Logan Regional Hospital. She is now in medical school in Oregon. Emilee Ballard, a 2011 graduate in Environmental Studies, worked with Mark Brunson on a project to plan and develop an interpretation plan and nature trail at the Swaner Preserve in Park City. Upon graduation she began working for Southern Utah University as an interpretive planner.

ISSUES AND CONSIDERATIONS: DEPARTMENTAL PROGRAMS

Mission and goals. In a just-completed university-wide survey of graduate students, one of our doctoral students commented, “My department is lacking in mission and focus, though I know this is being worked through.” This is a perceptive observation; it also may be an unavoidable circumstance. The original ENVS faculty roster was an artifact of the 2002 reorganization process. Some members embraced the novel idea of a social science department in a natural resources college; others did not, but felt they had no other option. Still others made the choice for personal reasons, though their expertise might not have fit obviously into ENVS. Only eight of our 17 faculty members have been here since the beginning, but the original fragmented nature of the department has had residual effects.
Since the department’s creation we have combined three intellectual traditions that overlap but don’t necessarily share a common focus: *human-environment geography*, part of a centuries-old basic academic discipline; *recreation resource management*, a very applied field that originally split off from forestry and human services disciplines; and “*human dimensions,*” a nebulous term that describes the use of methods and ideas from the entire sweep of social sciences to understand problems related to human interactions with the natural environment. While many of us think of ourselves as social scientists who study environmental topics, a few seek to truly walk a boundary between the social and natural sciences. Our CNR colleagues tend to call us “sociologists,” yet only one of us has a degree in that discipline (a Bachelor’s) and our highest degrees are in 10 different fields from Ecology and Engineering to Anthropology and Landscape Architecture. Thus when charting our future, we cannot draw on shared pasts.

It’s not clear how great a handicap this is. We struggle sometimes to describe to USU colleagues and administrators to explain how our mission and curricula are distinct from programs in the colleges of Humanities and Social Sciences, or Education and Human Services. On the other hand, in the past 10 years similar academic units have been created within natural resources programs at Colorado State, Idaho, Montana, Oregon State, and California-Berkeley, suggesting there is growing recognition of the need to bring together expertise from multiple disciplines to address problems related to human-environment interactions. Management literature suggests that organizations are more prone to failure if they have disparate and potentially conflicting goals. While we do not always hold the same views about what we should emphasize as a department nor what sorts of members we need to achieve our goals, we do share an overarching interest in human-environment problems and the value of an applied, problem-solving mission.

**Undergraduate majors and minors.** Four undergraduate majors and minors may seem too many for a department our size. Two of the majors, Environmental Studies and Recreation Resource Management (RRM), have seen their enrollments nearly double in size since 2007. Interest in Environmental Studies probably reflects overall university growth plus national trends. Growth in the RRM degree program includes addition of a distance-education option in 2010, although on-campus enrollment has also grown. The Geography and Geography Teaching majors have smaller enrollments and have not seen enrollment growth. (Enrollment trends and strategies will be discussed further in Section 4 of this document.)

Because of their interdisciplinary nature, requiring students to know something about a wide range of subjects, the Environmental Studies and RRM degrees are comparatively credit-heavy, requiring 78 and 69 credits, respectively. This could pose problems for staffing if we teach numerous small-enrollment courses, and for students if they get out of sequence and can’t make normal progress toward a degree. However, we offer very few low enrollment (<20 students) undergraduate courses because the two degrees share some offerings and several core courses are also required for other majors on campus. A number of the required courses can also be applied as General Education or University Studies credits. For that reason, and because we are able to offer almost every required class each year, students are able to complete degrees in a timely manner.
The Geography curriculum underwent a major overhaul during the 2009-10 academic year, creating a more up-to-date and rigorous program, and we believe we are seeing a resulting dip in enrollment that reflects this change and can be reversed as we market the new curriculum. Geography is a basic academic discipline, and even if we were to eliminate the majors we would have to offer some of the courses. Instead we are working to build the Geography program within the College. A physical geographer was added to the Watershed Sciences faculty in 2011, and ENVS is in the process of hiring a quantitative human-environment geographer who can bolster our GIS instruction capacity while also contributing to the Bioregional Planning graduate program.

Geography Teaching is a low-demand major, but costs us virtually nothing because the subject-matter courses are the same as for the Geography major, and the School of Teacher Education and Leadership handles methods and educational theory courses. Geography is a core subject in the 9th grade in Utah, so we anticipate there will always be a small but steady demand for teachers who specialize in that subject.

**Graduate degrees and certificates.** Excluding the Ecology MS and PhD, in which few ENVS faculty and students are likely to participate, the department now offers one PhD and four MS degrees. As with the undergraduate curriculum, there is enough overlap in content and skills needed for the graduate degrees that courses are shared across programs, reducing the apparent inefficiency of this approach. For example, Recreation Resource Management MS students almost always complete the core theory and methods courses for HDESM, as well as specialized courses in recreation behavior, ecological impacts, etc. Students typically choose RRM for a Master’s degree program if they intend to seek employment with a land management or parks agency where they believe the degree name will resonate, whereas students with a broader set of goals typically choose HDESM. For the PhD program, degree name is probably less important to career options than the type of dissertation research, one reason we felt it would be appropriate to eliminate the doctorate in Recreation Resource Management.

Unlike the undergraduate program, the Geography degree is only offered through ENVS, although there are geographers in both Watershed Sciences and Wildland Resources, which means there are students in other departments who fundamentally are pursuing graduate studies in geography but will earn degrees with other names. When ENVS was formed, the three geographers on the faculty had roles focused on undergraduate teaching, and the MS program barely limped along. With the addition of new faculty members who have active research programs, as well as creation of the Peace Corps option, that situation appears to be improving. We have more applicants for graduate study in Geography and are starting to see more extramural funding for student research that will allow students to attend USU more easily.

Bioregional Planning (BRP) is in a very different situation. Over its 12 years of existence the program has graduated a number of students who quickly find work as planners, thanks to the real-world experience they gain and the impressive number of awards that the annual studio projects have received from planning organizations. We've never really recruited for the program, partly due to its success and partly because we needed it to be...
small since only one faculty member (Richard Toth) directs the studio and chairs all thesis committees. Now annual enrollments are declining, in part due to a change in degree expectations that allows students to earn the MS more quickly. But we also have fewer applications. Professor Toth came to CNR in the 1990s with an agreement that his faculty position would revert to Landscape Architecture and Environmental Planning (LAEP) upon his retirement. LAEP remained a partner in the degree, but without a champion in that department no BRP students were trained there. Now interest is growing in LAEP thanks to new leadership and an influx of younger faculty with environmental planning interests. With the addition of a third geographer in ENVS, we hope to generate cross-departmental synergy that can maintain and strengthen the degree even after Professor Toth retires.

The NEPA certificate program is going strong but the NREE certificate is not, mainly due to the loss in 2009 of an environmental education instructor position. We hope to retain the certificate, but in the short term can only accept students who have taken a graduate course in environmental education through external collaborators such as the Utah Conservation Corps. In October 2011, a faculty position in environmental communication was identified as a priority for growth in the department, but in today’s budget climate it’s hard to estimate when we might be able to advertise for such a position.

**Research.** While we have a good record of extramural funding for a social science program at >$500,000 per year, we are located in a College of Natural Resources where other departments have opportunities to raise nearly 10 times that much, perhaps making us appear weaker than we actually are. One consequence is that funding for graduate students can be problematic. In CNR the expectation has always been that graduate education would be supported by outside grants and research assistantships. With a 2012 change in university policy that will reduce central administrative support for tuition awards, we anticipate a temporary decline in the number of new students we can recruit.

We also have a relatively young faculty, with five assistant professors among the 15 tenure-track positions. Some of these individuals are becoming well established, including one (Claudia Radel) who this year was awarded an NSF-CAREER grant in recognition of her strong work and ideas, but a relatively small proportion of our faculty are in the mid-career stage when extramural grantsmanship and publication rates are typically at their highest.

**2. Faculty**

The department includes 17 faculty members – 16 based here in Logan and one at USU’s regional education center in Moab – as well as 9 professional or administrative staff members. That number includes one faculty member of Instructor rank who delivers NEPA courses and coordinates the Master of Natural Resources program, and one Temporary Assistant Professor who teaches higher-enrollment undergraduate courses. All of our faculty members participate in our educational programs as instructors of one or more regularly scheduled classes.
Roslynn Brain, Assistant Professor. Dr. Brain arrived in August 2011 to begin work as the university’s Sustainable Communities Extension specialist. Her research and outreach interests focus on developing and improving strategies to encourage pro-environmental behavior change, with particular interest in the development of local food networks and recycling initiatives. She does not have a formal research role but does conduct research in support of her Extension activities. She teaches one course on sustainable living and communication about sustainability options, co-advises one MS student, and will mentor graduate students through the creation of one-semester “graduate Extension internships” for students interested in pursuing an outreach or Extension career.

Mark Brunson, Department Head & Professor. Dr. Brunson served as interim head of ENVS from July 2009-June 2011, then assumed the job permanently on July 1, 2011. In addition to his administrative role, Dr. Brunson maintains an active research program that explores the dynamics of coupled human-natural systems, mainly in rangelands and deserts. He studies the causes and consequences of human behaviors in natural environments, and feedbacks among human actions and environmental consequences. He advises 2 MS and 3 PhD students. Recent funding has come from two NIFA-Rangelands competitive grants, the USDA-USDI Joint Fire Science Program, Utah Agricultural Experiment Station, and several cooperative agreements from the National Park Service. He has taught a number of the department’s courses over the years and currently is responsible for the department’s orientation course for new undergraduates and a senior-level capstone, as well as graduate seminars on topics relating to socio-ecological systems.

Steve Burr, Associate Professor. Dr. Burr is an Extension specialist in nature-based tourism and directs the Institute for Outdoor Recreation and Tourism (IORT). He serves on various federal, state, and regional boards including the Bureau of Land Management’s Resource Advisory Council for Utah. His current research examines outfitter and guide activities on the region’s national forests; off-highway vehicle education; quantification of national forest visitation in northern Utah; and the environmental practices of Utah’s ski resorts. He advises 5 MS and 3 PhD students. His research is partially supported by line item funding for IORT, which does not cover research costs but offers some funding for graduate assistantships; additional funds typically come from state and federal agencies. He teaches a course in recreation policy and planning, advises RRM students attending the Logan campus, supervises internships, and is developing an online tourism course.

Robyn L. Ceuvorst, Assistant Professor. New to ENVS this year, Dr. Ceuvorst is based at USU’s Moab Education Center, where she is primary instructor for the distance-education Bachelor’s degree in Recreation Resource Management. In addition to teaching five courses per year and supervising internships for students across the state, she is establishing a research program on the attitudes, norms, and behaviors of recreation visitors and their implications for wildland recreation management. Her current projects examine visitors’ knowledge, norms, support, and experiences regarding tamarisk control in the Green and Colorado River corridors through Canyonlands National Park; collaborative, trans-boundary planning and management of the Indian Creek Special Recreation Area in southeastern Utah; and management of river recreation areas. She also chairs 2 Master’s thesis committees.
**Layne Coppock, Associate Professor.** Dr. Coppock’s research explores the human dimensions and applied ecology of rangelands and small farming systems to develop strategies for reducing poverty, better managing risk, and promoting sustainable natural resource use in highly stressed agro-ecosystems. He has focused on the rangelands of Utah as well as rangelands and farming systems of the developing world. In Utah he is studying drought management and carbon sequestration opportunities. His long-running research in East Africa culminated with a December 2011 paper in *Science* demonstrating how a livelihood-diversification program focused on women can lead to significant improvements in income, preservation of assets, and reduction of hunger. He was recently named CNR’s Researcher of the Year for 2012. Dr. Coppock has secured over $5 million in extramural research support as lead PI, primarily from the U.S. Agency for International Development along with USDA’s NIFA and SARE programs and the Utah Agricultural Experiment Station. He teaches a graduate orientation seminar and an undergraduate course, Environment and Society, focused on sustainability issues.

**Joanna Endter-Wada, Associate Professor.** Dr. Endter-Wada has expertise in natural resource policy and social science methodology. Her research focuses on conceptualizing and analyzing linkages between humans and biophysical aspects of ecosystems, with emphases on water, public land, forest resources, fisheries, and urban landscapes. She is currently studying the human dimensions of drought and climate change, urban landscape water use, and wetlands. The National Science Foundation, Bureau of Reclamation, and the Western Water Assessment (NOAA) are funding her current research projects. She advises 3 graduate students (1 PhD and 2 MS) in the Human Dimensions of Ecosystem Science and Management degree program and 17 graduate students in the Master of Natural Resources degree program. She teaches graduate courses in research methods and water law/policy.

**Nat Frazer, Professor.** Dr. Frazer is the newest member of the ENVS faculty, joining the department in January 2012 upon stepping down after six years as dean of the College of Natural Resources. During his time as dean, Dr. Frazer was active in USU’s sustainability efforts, heading the Sustainability Council and spearheading activities to increase course offerings and other educational initiatives, and fostering university programs to reduce carbon emissions and energy costs. In his new role, after completing a 2012-13 sabbatical leave with the Association of American Colleges and Universities, he will focus on teaching and research related to institutional sustainability and curricular issues.

**Adam Gibson, Temporary Assistant Professor.** Dr. Gibson joined the department in August 2011 in a position focused on undergraduate teaching. He teaches two of our larger required courses focused on human dimensions of natural resource management and has developed a new online graduate course on that topic for delivery to Master of Natural Resources (MNR) students.

**Judy Kurtzman, Program Coordinator & Instructor.** Judy Kurtzman is an instructor, student advisor, and program administrator for three programs serving primarily graduate students: the National Environmental Policy Act (NEPA) Certificate program; the 33-credit MNR degree program; and a Forest Service-sponsored program, Continuing Education in Ecosystems Management (CEEM), designed to prepare natural resources professionals to
meet the challenges of implementing ecosystem management. In addition she has remained involved over the past 11 years in research activities related to environmental and natural resource policy. As advisor to the MNR program she serves on more than 50 supervisory committees, and she teaches several NEPA short courses across the U.S.

**Ann Laudati, Assistant Professor.** Dr. Laudati is a geographer whose work seeks to expand contemporary understandings of armed conflict in the context of the wider social struggle over resources and livelihoods in the developing world. Through her continuing ethnographic fieldwork in the eastern Democratic Republic of Congo, she explores the role of secondary economies on shaping insecurity and violence in the region, the implications of pillaging and extortion within these parallel economies for food security and livelihoods, and how different social networks facilitate, resist, and transform violence through the existence of these alternative economic systems. This academic year Dr. Laudati developed a graduate course in international development, offered in conjunction with USU’s Peace Corps Master’s International program, and she teaches two upper-division geography courses. She advises 1 PhD and 3 MS students. She has received research support from private sources such as the Wenner-Gren Foundation for Anthropological Research and the Cactus and Succulent Society of America, as well as USU’s Office of Global Engagement.

**Zhao Ma, Assistant Professor.** A natural resource policy specialist, Dr. Ma seeks to understand decision-making by individuals and by public and private institutions with respect to natural resources, especially in the contexts of land use and conservation, and response to climate change. She explores how individuals view and respond to environmental changes at local, regional, and global scales, as well as what information, assistance, and incentives they need to make informed decisions; how and why institutions formulate, implement, and evaluate natural policies and programs at the local, regional, and national levels; and the interactions between individual and institutional decision making. Dr. Ma currently has 1 MS and 1 PhD student. The funds supporting her ongoing research projects have come from several sources, including the USDA Forest Service, USDA-NIFA, Utah Agricultural Experiment Station, Congressional earmark, and internal USU programs such as RC and SPARC. She teaches our core undergraduate policy class as well as a graduate seminar on conservation policy for private lands.

**Chris Monz, Associate Professor.** Dr. Monz’s research specialty is the relatively new field of recreation ecology, which explores the causes, consequences, and management of environmental impacts from outdoor recreation. In his current research he integrates biophysical science, social science, and transportation planning to assist national parks with visitor capacity determinations. He advises 1 MS and 2 PhD students. One of his recent MS graduates now works for the Forest Service, while the other is now in a PhD program in ENVS. Over the last 3 years, he has received over $500K in funding from the USDA Forest Service, National Park Service, US Fish and Wildlife Service, and the Paul Sarbanes Transit in Parks Program. He teaches two of the required Recreation Resource Management courses, on recreation behavior and natural resources interpretation, as well as a graduate seminar on recreation ecology.
**Claudia Radel, Assistant Professor.** Dr. Radel is a human-environment geographer whose research focuses at the nexus of development, the environment, and social inequalities. Her current research explores the changing nature of natural resource-based livelihood strategies for individuals, households, and communities in the rural global south. Current projects include ongoing research on gender, conservation, and agriculture in communities surrounding the Calakmul Biosphere Reserve in southeastern Mexico; and gendered labor out-migration and its relationship to environmental change in southeastern Mexico, northern highland Guatemala, and northwestern Nicaragua (funded by an NSF-CAREER grant). In addition to NSF she has received support through the American Association of University Women, USAID, and internal grant programs. She currently advises 1 MS student. She teaches an introductory World Regional Geography course, a course on Latin American geography, and has offered graduate seminars on social inequality and its effect on environment.

**Charles Romesburg, Professor.** Dr. Romesburg’s role is focused more on teaching than research, and his research interests coincide with his graduate student teaching interests. These include: conducting research about the use of research methods; teaching research methods yearly in the department’s graduate research methods course; conducting research about the preparation of graduate students for publishing; and teaching a graduate student seminar that prepares graduate students to publish. He currently advises 1 MS student. He teaches an undergraduate course on quantitative assessment, covers part of the required graduate research methods course as well as an advanced research practices course, and a 2-credit seminar on publication for graduate students.

**Robert Schmidt, Associate Professor.** Dr. Schmidt’s research and teaching are focused on the relationships between humans and wildlife. As a researcher he has worked on coyotes and sheep predation, wolf management in the West, Pacific green sea turtles, and urban wildlife. His current role in ENVS emphasizes teaching and undergraduate advisement. His time is split roughly 50-50 between the department and a separate administrative role as USU’s Academic Service-Learning coordinator, a position that reports to the Vice President for Student Services. He does not currently direct graduate student committees. Dr. Schmidt teaches a popular course on wildlife-human interactions, advises Environmental Studies majors, and teaches the orientation course for new students in the department.

**Joseph Tainter, Professor.** Dr. Tainter, an anthropologist by training, is well known for his books on the role of complexity in the collapse of societies, most recently in the context of the 2010 Gulf oil spill. His research interests include the evolution of complexity in human societies, sustainability, energy in society, innovation, and conflict. He currently is major professor for one PhD student and teaches two courses: the required graduate theory course for Human Dimensions of Ecosystem Science and Management students, and a senior/Master’s-level course on theory and measurement of sustainability.

**Richard Toth, Professor.** Professor Toth directs the MS program in Bioregional Planning, in which students develop skills for synthesizing and presenting information about social, biophysical and policy environments – including the production and evaluation of alternative futures – by which community decision-makers can make better-informed
decisions concerning the quality of growth for their community. His role includes coordinating a yearlong, 10-credit “studio” where students work in teams to address planning and sustainability questions in a real landscape for real clients. Currently he chairs 6 MS committees, with over 30 students completing the degree in the past decade.

**Faculty teaching loads.** A typical faculty appointment in Environment and Society is defined in the role statement as 50% evaluation weight for research, 40% weight for teaching, and 10% weight for service. While evaluation weight is not necessarily equivalent to effort or time allocation, the department head attempts to assign teaching loads that reflect the weight given to teaching in evaluations. Thus, assuming 18 credits as a full teaching load at USU, a 40% teaching appointment would include 7.2 credits. In practice, this normally means an ENVS faculty member is expected to teach three 3-credit courses in alternating years, and two 3-credit courses the opposite years. Ideally this would mean teaching two courses in a single semester each year, and teaching one alternate-year course in the opposite semester so that one term every two years could be devoted almost entirely to research (i.e., the faculty member’s primary role). Since not all role statements follow the 50-40-10 weighting structure, and some courses are not 3 credits, teaching loads vary from faculty member to faculty member. In addition, faculty members whose advising load is more than 30 students are given a reduced teaching load of one course per year.

**Other instructional assistance.** For the most part, ENVS courses are taught by regular faculty members, especially since budget cuts in 2009 led to the elimination of four part-time instructor positions. A required introductory course in recreation management has been taught by an adjunct faculty member based in Moab who also advises the distance-education RRM majors. A course on natural resource conflict, cross-listed with Sociology, is taught by a faculty member in the latter department. And an alternating-year course on Native Americans and the environment is taught by a History professor based at USU’s San Juan campus in Blanding.

The department’s budget for teaching assistantships is quite small, enough to cover 6-7 assignments per year. Even then, graduate teaching assistants are paid by the hour, and in a typical semester earn barely more than half what a research assistantship would pay. We generally reserve teaching assistantships for students whose major professors cannot fund a research assistantship for them and assign them to our largest lecture courses. Overall teaching assistant FTE is less than 2.0 per year.

**Student credit hours generated and faculty-student ratios.** Table 1 shows the distribution of student credit hours (SCH) generated in each term since Summer 2007 through Spring 2011. (Data for the 2011-12 academic year are not yet available.) Despite the growth in the number of declared Environmental Studies and Recreation Resource Management majors, we have not seen an increase in SCH. One reason is that incoming students spend much of their first two years completing General Education requirements and prerequisite courses such as Biology, Chemistry, and Statistics, so growth in course enrollments lags behind declared majors. Another reason is the retirement of two faculty members who tended to teach large lower-division courses. Geography classes, in
Table 1. Student credit hours generated (2007-2010), by course prefix [NOTE: 2011-12 data not available.]

<table>
<thead>
<tr>
<th>Year</th>
<th>Term</th>
<th>ENVS</th>
<th>GEOG</th>
<th>NEPA</th>
<th>USU</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>Summer</td>
<td>343</td>
<td>161</td>
<td>48</td>
<td></td>
<td>552</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>1,313</td>
<td>1,083</td>
<td>-</td>
<td>106</td>
<td>2,608</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>977</td>
<td>1,247</td>
<td>19</td>
<td>-</td>
<td>2,243</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2,633</td>
<td>2,491</td>
<td>67</td>
<td>106</td>
<td>5,403</td>
</tr>
<tr>
<td>2008-09</td>
<td>Summer</td>
<td>365</td>
<td>207</td>
<td>62</td>
<td>-</td>
<td>634</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>1,211</td>
<td>1,309</td>
<td>27</td>
<td>-</td>
<td>2,663</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>1,543</td>
<td>912</td>
<td>18</td>
<td>58</td>
<td>2,473</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3,119</td>
<td>2,428</td>
<td>107</td>
<td>58</td>
<td>5,770</td>
</tr>
<tr>
<td>2009-10</td>
<td>Summer</td>
<td>260</td>
<td>234</td>
<td>39</td>
<td>-</td>
<td>533</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>1,313</td>
<td>1,108</td>
<td>32</td>
<td>-</td>
<td>2,453</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>1,106</td>
<td>315</td>
<td>26</td>
<td>-</td>
<td>1,447</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2,679</td>
<td>1,657</td>
<td>97</td>
<td>-</td>
<td>4,433</td>
</tr>
<tr>
<td>2010-11</td>
<td>Summer</td>
<td>193</td>
<td>249</td>
<td>75</td>
<td>-</td>
<td>517</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>1,524</td>
<td>510</td>
<td>45</td>
<td>-</td>
<td>2,079</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>1,145</td>
<td>276</td>
<td>52</td>
<td>744</td>
<td>2,217</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2,862</td>
<td>1,035</td>
<td>172</td>
<td>744</td>
<td>4,813</td>
</tr>
</tbody>
</table>

In particular, show a decline in enrollments with the retirement of Dr. Ted Alsop, who taught large Physical Geography courses. That course is now taught by a Watershed Sciences faculty member. More generally, the decline in SCH from 2008-09 to 2009-10 reflects the need to cut several instructor positions to meet budget cuts. For the most part, the courses those individuals taught are no longer offered.

Faculty-student ratios can be calculated in several ways, but perhaps the most straightforward is to compare the total number of students who have declared majors in the department with the total number of faculty members who participate in our teaching program (through classroom instruction, internship supervision, graduate student mentoring, etc.). The results of this analysis are shown in Table 2. Instructors who taught part-time are counted as 0.25 or 0.5 depending on their contribution. The analysis shows that even with the reduced SCH after Spring 2009, we are operating more efficiently since budgets were cut, but ratios remain low enough to ensure students get personal attention.

Table 2. Ratio of full-time equivalent teaching faculty to students declaring ENVS majors.

<table>
<thead>
<tr>
<th></th>
<th>Fall 2007</th>
<th>Fall 2008</th>
<th>Fall 2009</th>
<th>Fall 2010</th>
<th>Fall 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of faculty</td>
<td>14.5</td>
<td>15.25</td>
<td>14.5</td>
<td>14</td>
<td>15.5</td>
</tr>
<tr>
<td>No. of majors</td>
<td>80</td>
<td>80</td>
<td>86</td>
<td>101</td>
<td>138</td>
</tr>
<tr>
<td>Faculty-student ratio</td>
<td>5.52:1</td>
<td>5.16:1</td>
<td>5.93:1</td>
<td>7.21:1</td>
<td>8.90:1</td>
</tr>
</tbody>
</table>
ISSUES AND CONSIDERATIONS: FACULTY

While we have had enough faculty members over the past few years to cover our course loads and student advising and mentoring needs, that was partly because we did not have to address sabbatical or medical leave requests, and partly because when Mark Brunson took over as department head a temporary faculty position was created to cover teaching of his two large-lecture courses. Funds for the temporary position will no longer exist after Spring 2012, and in 2012-13 the department also expects to accommodate two sabbatical and two maternity leaves. We will be able to cover those absences through increasing our use of graduate teaching assistants, reducing the frequency of courses taught more than once per year, and accepting substitute courses from other departments. In the long run, however, we will need to either expand the faculty, reduce the number of required courses, or both.

With respect to growth of the faculty, if funds become available our goals for the next five years are to expand our work at the forefront in understanding and communicating the societal implications of environmental sustainability – and in so doing to expand our capacity to serve society both locally and globally, but without neglecting our roots in land and resource management, planning, and human geography. An upcoming retirement in the next couple of years will result in our bioregional planner position reverting to the College of Agriculture, but we plan to maintain participation in that degree program by strengthening our geographic research about sustainability and its relation to alternative models for growth and development in Utah and the Intermountain West. Counting the search that is ongoing as this is written, our next anticipated hires are:

- **Human-Environment Geographer** – We will soon interview candidates for a position as an assistant professor that conducts geospatial analysis of human-environment interactions and will contribute to the Bioregional Planning program.

- **Environmental Communication/Interpretation** – This position will expand our expertise in sustainability and environmental education as well as visitor experience management.

- **Social-Ecological Systems Modeler** – This individual will explore complex human-nature interactions to enhance our capacity in emerging fields within sustainability science.

Because almost all of the department’s budget is devoted to salaries of tenured and tenure-track faculty or office staff assistants, it has been very difficult for us to make mandatory budget cuts over the past few years except by cutting teaching support, first by eliminating part-time instructor positions, and more recently by cutting 30% of the graduate teaching assistant budget. Without a source of funds to replenish this component of the budget, we will continue to struggle to meet short-term needs that should not be addressed by expanding or changing faculty assignments.
3. Staff

The department is supported by two office staff assistants and also includes two research associates and five specialists in outreach and communications (three of whom are not resident in Logan).

The office staff are Rebecca Hirst and Tracy Jones. Both began working for the department some time ago – Ms. Hirst in 2005 and Ms. Jones upon formation of the department in 2002. They know their jobs well, and office activities run smoothly.

Becky Hirst’s responsibilities are focused on three areas: student assistance, helping current and future graduate and undergraduate students make their way through the maze of university rules and regulations; public relations, including maintaining the department’s web pages and social media sites; and faculty support services. She is the College of Natural Resources 2012 Employee of the Year. Tracy Jones oversees departmental budgets and accounting, coordinates use of facilities and equipment, is responsible for managing paperwork for class scheduling and curricular changes, and serves as administrative assistant to the department head. She was the College’s 2010 Employee of the Year.

In addition, the department staff includes two research associates whose jobs are funded through extramural funding or budgets originating outside the department and college. Doug Reiter has been a research associate for the Institute of Outdoor Recreation and Tourism since the mid-1990s, also providing undergraduate and graduate student mentorship and occasionally assisting with instruction in recreation resource management. Diana Glenn is the department’s newest staff member, providing research assistance in the Urban Water Conservation Research Laboratory headed by Joanna Endter-Wada.

Five staff members are funded by grants to provide outreach and communications assistance. Barbara Middleton manages the Interpretation Lab, part of the Institute of Outdoor Recreation and Tourism. While her primary role is to provide assistance to private, governmental, or non-profit organizations wishing to develop environmental interpretive materials or displays, she also mentors students working on advanced interpretive projects. Summer Olsen is a professional staff member whose primary task is to serve as Outreach Coordinator for a large research project, the Sagebrush Steppe Treatment Evaluation Program (SageSTEP), currently funded by the Bureau of Land Management and National Interagency Fire Center. In addition to maintaining information media and creating projects for SageSTEP, and coordinating with the scientists from 10 different organizations who are part of the project, she has mentored undergraduate and graduate students conducting research or outreach projects related to rangeland restoration and conservation. She also has worked on smaller communications projects for the National Park Service (NPS). Finally, a series of NPS grants has supported three staff members – Olivia Salmon, Kimberly Struthers, and Emily Yost – who produce web-based and print materials about scientific findings about NPS units ranging from Yellowstone National Park to the southern Great Plains.
4. Students

**Undergraduate student experience.** Undergraduate student activities in the College of Natural Resources are largely coordinated at the college level. With fewer than 400 undergraduates across the three departments, we have long believed that an integrated approach to student engagement not only creates a small-college atmosphere within a larger university, but it fosters the kinds of cross-disciplinary understanding that is necessary for effective management of lands used to generate multiple values and services.

A central advising office handles many of the procedural details of student progress, leaving the faculty advisors for each major to handle degree-specific questions and provide mentoring about career, school, and so forth. Because most of our degrees have a lot of required credits – the 62-64 required credits in the Geography major is the smallest among the 10 undergraduate degrees in the College – students tend to spend a lot of time in the Natural Resources Building. A central foyer called the Atrium provides meeting, study, and conversation space, as does the Quinney Natural Resources Library, which includes a computer lab for CNR students only. A variety of student clubs exist, and it is not uncommon for an ENVS student to also be active in the Wildlife Society or Forestry Club, or for a student in the Wildland Resources Department to take part in activities of the Student Organization for Society and Natural Resources (an affiliate of the International Association for Society and Natural Resources, the professional society for research and teaching about human dimensions of natural resources and environment).

Classroom space is generally adequate for ENVS courses, which rarely require constant access to computers or laboratory space. Most classes are taught in “smart classrooms” that offer computer projection, VCR and DVD players. For courses broadcast to distance-education sites, the Regional Campuses and Distance Education (RCDE) office provides a student facilitator to help insure that students across the state and the instructor in Logan or Moab can communicate with each other in real-time. Despite efforts to improve the distance delivery technology, broadcast courses tend to be very unpopular with students on the Logan campus and we are looking for ways to transition to hybrid delivery methods that incorporate online and some face-to-face or broadcast components.

A fairly unique aspect of the ENVS undergraduate experience is our commitment to the use of “service learning” in our curricula. Academic Service-Learning is a credit-bearing educational experience where students: (1) gain a broader understanding of course content, (2) earn a deeper appreciation of the discipline, (3) help meet community needs, (4) reflect on service activities, and (5) develop an enhanced sense of civic responsibility. Many opportunities for service learning are available for USU students, and active participants can earn a certificate as a Service-Learning Scholar by completing 9 credits in courses that employ service-learning experiences, and then completing a capstone service project. ENVS typically leads the university in the number of Service-Learning scholars and courses, with options ranging from our introductory freshman orientation course to the senior capstone.
Table 3. Numbers of students enrolled in Environment and Society majors, 2007-12.

<table>
<thead>
<tr>
<th>Term</th>
<th>Envir Studies</th>
<th>Geography</th>
<th>Geog Teaching</th>
<th>Rec Res Mgmt</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2007</td>
<td>35</td>
<td>21</td>
<td>5</td>
<td>19</td>
<td>80</td>
</tr>
<tr>
<td>Spring 2008</td>
<td>33</td>
<td>25</td>
<td>3</td>
<td>15</td>
<td>76</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>30</td>
<td>24</td>
<td>3</td>
<td>23</td>
<td>80</td>
</tr>
<tr>
<td>Spring 2009</td>
<td>30</td>
<td>20</td>
<td>4</td>
<td>23</td>
<td>77</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>34</td>
<td>19</td>
<td>8</td>
<td>25</td>
<td>86</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>38</td>
<td>20</td>
<td>7</td>
<td>27</td>
<td>92</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>46</td>
<td>16</td>
<td>7</td>
<td>32</td>
<td>101</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>61</td>
<td>14</td>
<td>5</td>
<td>49</td>
<td>129</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>65</td>
<td>17</td>
<td>7</td>
<td>49</td>
<td>138</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>58</td>
<td>16</td>
<td>3</td>
<td>54</td>
<td>131</td>
</tr>
</tbody>
</table>

Admission to ENVS programs. Undergraduate students are admitted to ENVS programs if they meet USU freshman admissions standards or, when seeking to transfer from outside the university or another major within the university, if they have maintained a 2.5 GPA and have shown some aptitude through prior coursework for the breadth of natural and social science courses required in our majors. In addition to the university’s graduation requirements, students must have earned a grade of C- or better in all courses with an ENVS or GEOG prefix and must have a GPA of 2.5 or higher in all courses taught within CNR.

Our undergraduates typically are enrolled full-time (ranging from 73.8% in 2007-08 to 82.5% in 2008-09). The balance of male to female students is slightly tilted toward males (ranging from 61% in 2007-08 to 52% in 2009-10). Minorities accounted for 5.2% of declared majors in 2010-11 – the highest percentage in the years for which data are available – and we typically have 1-2 international students in any given year.

Courses taught in the department are generally well subscribed, but we do not offer the huge-enrollment courses taught in many other departments. Our most popular courses – Natural Resources and Society (ENVS 2340), Fundamentals of Natural Resource and Environmental Policy (ENVS 3010), Living with Wildlife (ENVS 3600), Human Dimensions of Natural Resource Management (ENVS 4000), and World Regional Geography (GEOG 1300) – are all taught to about 85-105 students in a typical year, partly because of classroom size restrictions and partly to ensure that students can get individualized attention if they need it. As noted in a previous section, student credit hours (SCH) decreased in 2009-10 with the retirement of two popular professors and elimination of several part-time instructor positions, but we expect to see that number rise again in 2011-12 due to an increase in the number of declared majors.

Over the period covered by this report, total enrollment in ENVS degrees (Table 3) has increased by 63.8%, far outstripping the growth in total USU enrollment of 18.7% during that same period. As noted previously, growth has been concentrated in two majors, Environmental Studies (65.7%) and Recreation Resource Management (184.2%), while enrollment in the two Geography majors has declined by a combined 27%.
Table 4. Numbers of undergraduates earning degrees, 2007-12, by term. (NOTE: Figures for Spring 2012 are projected numbers based on graduation applications received.

<table>
<thead>
<tr>
<th>Year</th>
<th>Term</th>
<th>Envir Stud</th>
<th>Geography</th>
<th>Geog Teach</th>
<th>Rec Res Mgt</th>
<th>Term total</th>
<th>Year total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
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<td>0</td>
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</table>

The large jump in RRM enrollment in Spring 2011 reflects the fact that this was the first term the degree was offered at campuses other than Logan. However, even without that increase both majors are attracting significantly more students than in the middle part of the last decade. Partly this undoubtedly reflects the growth in university enrollments nationally as well as at USU, and partly it probably indicates trends in student interests. These two degrees tend to attract more out-of-state students than many other USU programs, and many of those students probably are attracted by a university marketing campaign that emphasizes outdoor recreation opportunities. We have done little to market the degrees nor made changes that would greatly increase student attraction to either. If we wish to maintain this momentum, greater attention to marketing would be helpful.

Graduation rates and job placement. Again reflecting the delay between declaration of a major and completion of a degree, graduation rates (Table 4) have held fairly steady during the period covered by this report although projected Spring 2012 graduations suggest we are beginning to see an increase. The average number of students graduating each year from 2007-08 through 2010-11 is slightly below 20. However, there were more Fall 2011 graduates than has been the case in the past few years, and 17 ENVS students have filed for Spring 2012 graduation, matching the highest number during the past five years.

With the exception of Geography Teaching, degrees from ENVS are not targeted toward post-graduation employment in a particular occupation or economic sector. Instead, our students – especially in Geography and Environmental Studies – are encouraged to develop individualized programs of study designed to take them to innovative and non-traditional careers such as sustainability education, recreation entrepreneurship, or conservation planning. While the College has traditionally trained students for employment in public land management agencies, our graduates not only work for those agencies but also in local and regional government offices, private consulting firms, private businesses, and all manner of non-profit organizations.
In prior years the university conducted a telephone survey of graduates nine months after commencement, but this was discontinued after 2008, and we have not been able to resume it at the department level. In the 2008 survey (based on responses from 30 of 33 graduates in 2007) the surveys found that 9 (30%) were continuing their education (3 of them at USU; 8 of the 9 seeking Master’s degrees). Of those who were not in school full-time, 21 of 23 (91%) held full-time jobs, with 61% of those graduates reporting that the job was related in some respect to their degree. The median salary for those employees was reported as $37,062.

**Graduate student experience.** Graduate students in our MS and PhD programs are typically supported on extramural or university-funded research assistantships, although a limited number of graduate teaching assistantships are budgeted each year. A few students, especially in Bioregional Planning and Geography, choose to enroll without departmental financial support. Individual faculty members have the option whether to accept students without funding, and about half do so. We do not maintain a standard research assistantship rate, but instead allow professors to make arrangements with their students that reflect their ability to pay. Thus Master’s degree students may be making as little as $675 per month or as much as $1300 per month, with PhD assistantships typically worth a little bit more.

In addition, a group insurance program for graduate students is available whereby students who earn at least $675 per month through an assistantship or fellowship are responsible for one-quarter of the cost (about $1175 in 2011-12) while the other three-fourths is paid from the grants or fellowships that supplied the student’s monthly pay. Grant support has been augmented further by funds provided by the School of Graduate Studies to cover the full cost of tuition for doctoral students, or a waiver of the out-of-state portion of tuition for Master’s degree students, if they have a fellowship or assistantship paying more than $400/mo. for MS students or $675/mo. for PhD students. However, due to budget shortfalls this program has been curtailed for the 2012-13 academic year and beyond, with colleges and/or departments given a set amount that is likely to cover about 70% of the tuition need.

Graduate student desk space is located in faculty research labs or offices, or in the Janet Quinney Lawson (JQL) Building. Typically all grad student desks are occupied at any given time. Many professors provide desktop computers and/or printers for graduate student use – especially if the student’s work requires specialized statistical or analytical software – although increasingly students choose to use their own laptops instead.

Degree programs differ in terms of the expectations placed upon graduate students while they are in residence. Beyond the expectation of completing 30 credits for a Master’s degree, 60 for a doctorate, the Bioregional Planning, Ecology, and HDESM degrees have a suite of required theory and methods courses while Geography and Recreation Resource Management do not. All students are expected to attend weekly seminar presentations while they are in residence (enrolling for 1 credit once a year); to present their research ideas at an annual Graduate Pre-Project Symposium as well as complete a public defense of the thesis/dissertation; and to submit an article for publication prior to earning the degree.
Recruitment of graduate students is primarily accomplished at the individual faculty level. Over the years we have taken part in various recruitment-oriented events at the university level and within professional organizations, but we've found that these generate little additional interest in our programs. The best recruitment tools continue to be our website, our reputations, as built through publications and participation at scientific conferences, and widely advertising assistantship opportunities when extramural funding is available.

Meanwhile, graduate applications continue to outpace available funding for students in our degrees, with the possible exception of Bioregional Planning in 2011 and 2012. Admissions standards are consistent with those of the School of Graduate Studies: GPA of 3.2 or higher in the previous highest degree program and GRE scores above the 40th percentile in both the verbal and quantitative portions of the course. The university allows departments to request waivers of the GPA and GRE requirements, as well as for submission of three letters of recommendation before acceptance. A recent Graduate School report showed that 13% of active and admitted students in ENVS degree programs had been admitted with waivers of one or more of the three criteria – the lowest rate in the College and seventh-lowest among 46 degree-granting programs within the university.

Graduate student enrollment has held fairly steady during the past five years at just under 40 students (Table 5) despite the previously noted decline in the number of Bioregional Planning students. (NOTE: these figures do not include the fast-growing Master of Natural Resources program, which is administered at the college level although some ENVS faculty serve as mentors.) The primary factor regulating enrollment size is the funding available to assist graduate students with costs of living and tuition.

The targeted time for completion of MS degrees is 2-3 years (4 for the Peace Corps program), and 5 years (post-Master’s) for doctoral students. Most Master’s degrees are completed within this time (e.g., 7 of 8 HDESM students in 2009-11) but PhD students have remained in the program as long as 8 years. Partly this is because the university requires a relatively high number of credits (60 post-Master’s) to earn a doctorate; this requirement is currently under review. We do not have a system in place to track graduate students upon completion of their degrees.

Exit interviews conducted by the Graduate School show that most graduate students are satisfied with their degree programs, mentorship, and departmental staff. They are less satisfied with university-level rules and the amount of financial support available.
**ISSUES AND CONSIDERATIONS: STUDENTS**

Environment and Society is now in its 10th year of existence. The undergraduate curricula, with the exception of Geography, were largely built during the year prior to reorganization once the structure and composition of the new departments had become known. Changes in both students and employment markets tell us a thorough review and update is past due.

We know that markets for graduates have shifted as federal agencies – historically the employment goal for a majority of CNR students – face budget shortfalls that suggest there will be fewer job openings in years to come. At the same time, a predicted surge in retirements by Baby Boomer land managers may open up those markets, so it would be foolhardy to ignore federal employers either. Meanwhile, there are job markets that didn’t exist when the department was formed, including an ever-growing number of nonprofit groups as well as “green” businesses that didn’t exist a decade ago, and our degrees have not done all they could to keep up with those changes.

Moreover, our students themselves aren’t the same as those we thought we’d be serving when we reorganized the College. In Spring 2011 the co-instructors of ENVS 5000, the senior capstone for Environmental Studies and Recreation Resource Management majors, asked the 25 students enrolled where they expected to be immediately after graduation, and also what type of employment they’d ultimately like to obtain (Table 6). Only 20 percent expected to work for the traditional public land agency employers, while nearly one-third were hoping to find their “dream job” in the nonprofit or “citizen sector.”

**Table 6. Expected employment, immediately after graduation and ultimately, among Spring 2011 seniors.**

<table>
<thead>
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<th>Employment sector</th>
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<tr>
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<tr>
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</tr>
<tr>
<td><strong>Any job I can find</strong></td>
<td><strong>5</strong></td>
<td><strong>n/a</strong></td>
</tr>
</tbody>
</table>

Another concern from an educational standpoint is that in recent years it has become more difficult to take students out of the classroom and into the field – at one time an automatic expectation for natural resources courses. Increased concern about liability, as well as efforts to reduce course-specific fees, has made it more difficult to lease and drive vehicles for field trips. Meanwhile, students who work to meet the rapidly rising cost of tuition often resist taking field trips outside normally scheduled class hours. Thus while a few of our courses incorporate outdoor activities (ENVS 3600, Living with Wildlife; ENVS 4500, Wildland Recreation Behavior) others ask students to create their own outdoor
experiences and report about them as out-of-class assignments, or simply tell students about it in lectures. For distance-education students we’ve created a special field course in Recreation Monitoring and Assessment Techniques, currently held during a six-day period in May, but we’re not yet sure what to do for students who simply cannot make it to Southeast Utah for that course at least once in their undergraduate careers.

A second pedagogical concern relates to the delivery of courses for students enrolled in the Recreation Resource Management degree. Courses at regional campuses can be taken face-to-face, via interactive broadcast, or online. Because our regional campus faculty member, Robyn Ceuvorost, is based in Moab where the student population is relatively small compared to centers in Brigham City, Tooele, or Vernal, not many students can attend her classes in person. Instead most distance courses are broadcast to multiple sites. Ongoing issues with technology, as well as the impersonal nature of broadcast delivery, make this method less than optimal. We have tried to make distance courses available to Logan students as well – partly to increase flexibility for students who get out of synch with their programs of study, and in one case because there was no one available on the Logan campus to teach a required recreation class – but we’ve found that resistance to this form of delivery is especially high among Logan students who may feel that they’ve come to the main campus in part because they could get face-to-face instruction for all courses. Next year we will experiment with a hybrid form of delivery that mixes online and other teaching methods, and we hope this will alleviate these concerns.

Enrollment growth has been steady in Environmental Studies and Recreation Resource Management. So far we have been able to handle this growth, although we did have to add a second faculty advisor for Environmental Studies and may need also to reallocate our recreation advisees. We have discussed reducing credit requirements as part of a larger curriculum overhaul, and this could increase demand for these majors to a point where we begin to need additional course sections. An opposite problem exists in Geography, where the curriculum was expanded and strengthened to reflect current trends in the field, and enrollment dropped as a result. (Previously it was known on campus as one of the easiest majors at USU to complete, but this is no longer the case.) With the anticipated addition of a third geographer in 2012-13, we will be well-positioned to deliver the courses but need to attract more students to whom they will be delivered. A recent report from the Great Plains/Rocky Mountains section of the Association of American Geographers noted that most member institutions have enrollment growth, suggesting that we could as well with the development of a marketing/recruitment strategy that can highlight the advantages and career opportunities in Geography.

On the graduate student side, the biggest issue is funding. Access to grant funds is highly variable across the department, based on the match between expertise and extramural programs, yet we have few other sources of support for graduate research assistantships. The greatest need for non-grant funding is in the Bioregional Planning and Peace Corps MS programs, neither of which are structured in ways that make it easy to incorporate a typical assistantship (in Bioregional Planning because the projects are group efforts, and in the Peace Corps program because students spend one year on campus then depart for two, returning with an intention to complete a thesis based on the overseas experience).
In the short run, the sharp cutback in support for tuition assistance is a great concern for graduate student recruitment. If our first priority in funding is the students who are already in the program and were promised full or partial tuition waivers, then we do not expect to be able to offer waivers to incoming students in 2012-13. Over time we should be able to augment those funds through changing the way we write our grants, but we do not yet know the short-term effect on our ability to attract the most qualified applications to our programs.

5. Program Support

Facilities and equipment. The College of Natural Resources occupies all or part of several buildings on the north side of USU’s central campus. Faculty offices and laboratories are intermingled amongst the three departments – an initiative by a former dean to create an environment where potential collaborators from other CNR departments would naturally come into contact with one another more often, fostering cross-unit collaboration.

The ENVS main office and a majority of faculty offices are located in the Natural Resources (NR) Building, while one faculty office and several research spaces are within the adjacent Biology and Natural Resources (BNR) Building. Although our two main buildings do not have many classrooms, we are lucky to be able to teach most of our courses in either the NR or BNR buildings. Most classrooms and seminar rooms are equipped with computers and other educational technologies, and several can be used for broadcasting classes to distance-education sites. ENVS controls one classroom that can hold up to 35 people and is mainly used for graduate or upper-division courses.

Research spaces aren’t large for the most part, but everyone in the faculty has access to a research office or lab space of some sort. Faculty members are mostly responsible for obtaining their own equipment, but our needs are relatively small so this has not been a matter of great concern. Two research groups (geography/international development and outdoor recreation) share lab space. Aside from the three science communication assistants who work from home in Colorado, Michigan, and Wyoming, our professional non-tenure track staff have individual offices or work spaces as well.

Our faculty and students have been able to take advantage of research and educational facilities across Utah and beyond. These opportunities allow us to reach more people with our educational message, and to conduct research in field settings. These include:

The Swearer Preserve and EcoCenter consists of a 1,200-acre land trust in the Snyderville Basin near Park City, Utah, and a 10,000 square-foot, state-of-the-art facility dedicated to environmental and sustainability education. It was developed by a private foundation, then gifted to USU in 2010. The preserve protects critical wetland and foothill terrain in the heart of one of the state’s fastest-growing areas. Due to the theme of the education center, opportunities for connection to ENVS are myriad. One of our first collaborations was a year-long visitor experience and impact study conducted on the Preserve’s trails, combined with a study of interpretive materials and needs.
The *Ecology Center* and *Utah Agricultural Experiment Station* maintain nearby offsite facilities for plant and animal experiments and a student-run Organic Farm. These are available to ENVS faculty for research although they are used only occasionally due to the nature of our work, which is rooted primarily in the social sciences.

Farther afield, the *Canyonlands Research Center* (CRC) is a multi-institutional facility in southeastern Utah dedicated to long-term research on the interactions between climate and land use in arid and semi-arid lands. Utah State University has partnered with The Nature Conservancy and several state and federal agencies to develop and use the Center, located at the Conservancy’s Dugout Ranch property southwest of Moab near Canyonlands National Park. The center incorporates an 840,000 ac. study area encompassing federal, state, and private lands administered by the CRC’s signatories. A research facility is now in Phase I construction, with a nearby camping area provided for classes. During the first year of operation, one ENVS research project took place at the center in 2011, with another planned for the coming year, and a recreation field course is partially based there.

**Professional development.** The university has greatly expanded its professional development efforts in recent years, adding an Office of Proposal Development in the Office of Research and Graduate Studies, and a Teaching Academy for new faculty members. At the department and college level, funds increasingly are available for faculty members to take advantage of opportunities to attend conferences on teaching or other professional growth areas, but availability of those funds is not guaranteed and there is no account set aside for that purpose.

**ISSUES AND CONSIDERATIONS: PROGRAM SUPPORT**

One way we could benefit from additional support is to create an external advisory committee that could provide input on employment markets, opportunities for extramural funding or development, etc. One challenge will be to determine who might best serve in such a group, as the department’s mission and programs are so diffuse that it will be difficult to represent our breadth.

**6. Program Assessment**

The department Assessment Plan, adopted in 2002 and revised in 2009, has been based on two sources of information: student surveys administered in conjunction with course evaluations at the end of every semester, and exit interviews conducted with students when they complete their degree requirements.

The surveys have been based on an exercise conducted in our first year of existence, when we identified four broad learning goals that flowed from the department mission, and 34 learning outcomes thought to be important for achieving those goals. The assessment tool was designed to identify the extent to which we were meeting our goals and equipping students to achieve the learning outcomes. The goals stated that students who complete academic programs in ENVS would be able to: analyze complex, real-world problems;
understand and integrate ideas from the ecological, social, and physical sciences; sustain an increased desire for lifelong learning; and lead purposeful lives. The outcomes included attitudes and behaviors (e.g., exhibiting professionalism, engaging in processes of scientific discovery, having a sense of civic responsibility); skills and abilities (e.g., thinking logically and critically, employing scientific reasoning, using current information technologies, working cooperatively in teams or small groups); and knowledge areas (communication, computer skills, environmental policies, social science, etc.).

At the conclusion of each term, students in every course with an ENVS or GEOG prefix were asked to complete a survey in which they would rate the degree to which each of the 34 learning outcomes had been met by that course. Students were told that if a course had not met a particular objective that may be perfectly acceptable – no class can address all 34 objectives – and that the survey would help us assess the degree to which the course achieves the objectives it is designed to achieve (as identified by the instructor) and the degree to which the overall Environment and Society curriculum could address all 34 learning objectives.

In 2011 the university instituted a new course evaluation system created by assessment experts at the IDEA Center, a nonprofit organization whose mission is to help colleges and universities improve learning, teaching, and leadership performance. Like the ENVS surveys, the IDEA evaluations measure the extent to which each course meets the stated learning objectives, in addition to offering students a chance to rate the course itself. Therefore we have discontinued our use of the ENVS-designed survey.

To evaluate the extent to which the overall program is achieving its goals, we also have relied upon a second source of information: exit interviews. Graduate students are typically interviewed individually around the time of the thesis/dissertation defense, while undergraduates participate in focus group interviews during final exam week in their last semester. Students not only are asked about the four broad learning goals, but also what could be done to improve our success at achieving the learning goals and outcomes. They also can identify which courses and experiences were most and least helpful.

The most recent overall programmatic analysis of the learning outcomes assessments was made in 2009. It showed that a large majority of our courses were able to achieve the learning outcomes their instructors believe are most significant. However, we fell short in our ability to help students participate in public debate, improve writing effectiveness, and understand international environmental issues. Since then we have added another ENVS course to the university’s roster of Communications Intensive classes, and instructors have been encouraged to add more international content.

From exit interviews we identified that undergraduates would like more availability of required courses, and they perceive some overlap in course content. We have increased the availability of courses by making distance-education sections available in Logan, although students don’t like the broadcast format. We have discussed the course-overlap issue at some length but have not yet reached agreement on how to revise the curriculum to address this problem.
Appendix A.

Curriculum Vitae
ROSLYNN G. H. BRAIN  
5215 Old Main Hill * Logan, UT 84322-5215  
roslynn.brain@usu.edu * Ph: (435)797-0535 * Cell: (303) 514-8738

EDUCATION:

Ph.D.  Agricultural Education and Communication. GPA: 4.0 (December 2008)  
Concentration: Extension Education; Minor: Environmental Education  
Dissertation: Predicting Engagement in a Conservation Easement Agreement  
University of Florida, Gainesville, FL

M.S.  Rural Extension Studies. GPA: 4.0 (December 2005)  
Thesis: Agricultural Education and Consumer Awareness in Oxford County  
University of Guelph, Ontario (ON), Canada

B.A.H.  European Studies; Minor: German. Honours: With distinction (May 2004)  
University of Guelph, ON/University of Konstanz, Germany

PROFESSIONAL EXPERIENCE:

Assistant Professor, Sustainable Communities Extension Specialist. Utah State University, Logan, UT (August 2011-Present)  
- 75% Extension, 15% Teaching, 10% Service  
- Facilitate household, neighborhood, and community-level proenvironmental change.  
- Teach undergraduate/graduate sustainable living (ENVS 5570) course.

Naturalist Instructor. Yellowstone Association, Gardiner, MT (April-August 2011)  
- Updated and taught programs concerning Yellowstone’s natural, geologic, and cultural history. Programs varied in length from 1-6 days; participant age ranged from 12 months to 85 years.  
- Assisted wolf biologists in interpretation of Yellowstone's gray wolf (canis lupus) population.

After School Science Teacher. SpaceTime, Denver, CO (August 2010-March 2011)  
- Taught science-based workshops, camps and enrichment programs to kids grades K - 6th.  
- Facilitated science-based programs at SpaceTime events and assemblies.  
- Developed and taught afterschool science classes to various schools in the metro Denver area.

Summer Teacher/Naturalist. Great Smoky Mountains Inst. at Tremont, TN (May-July 2010)  
- Designed hands-on, experiential curriculum for youth and adults in outdoor settings.  
- Led backcountry hikes while teaching about biological and environmental sciences.  
- Created and implemented citizen science research programs on salamander, snake, and bird populations within the Great Smoky Mountains National Park.

4-H Environmental Educator. Rock Eagle 4-H Center, Eatonton, GA (March 2009-May 2010)  
- Worked in the State 4-H Office to secure grant funds and develop, implement, and evaluate statewide Extension programs.
• Taught environmental education classes for K-12th grade students.
  - Course topics ranged from lake ecology to forest management
  - Modified herpetology, lake ecology, and lake assessment curriculum
  - Conducted laboratory research, animal husbandry, and created fact sheets for wildlife & aquatics laboratories

TEACHING AND ADVISING AWARDS:
• 2008 North American Colleges and Teachers of Agriculture National Graduate Student Teaching Award, (2008, June)
• 2008-2009 University of Florida Graduate Student Teaching Award (2008, April)
• 2008 Jack L. Fry Award for Excellence in College Teaching (2008, April)

REFEREED PUBLICATIONS:

RECENT REFEREED PRESENTATIONS AND POSTERS:

INVITED PRESENTATIONS, WORKSHOPS AND GUEST LECTURES:
Brain, R. (2011, November). Sustainability theory and application. ENVS 2340: Natural resources policy and economics, Logan, UT.

Brain, R. (2011, October). *Environmental and health risks associated with plastic water bottles.* “Tapped” documentary and panel discussion, Logan, UT.

Brain, R. (2011, October). *Sustainable communities and USU Extension.* Presented at the Northern and Southern Region Extension Meetings: Kaysville & Richfield, UT.


**GRANT ACTIVITY:**

Brain, R., Hall, K., Wagner, K., & Beddes, T. (October, 2011). *Fostering Utah community supported agriculture opportunities.* $29,287.44. Submitted to Western SARE for the 2012 Professional Development Program.


**PROFESSIONAL SERVICE:**

- Committee member: Jeff Dzikowski, Co-Advisor: Colyn Kilmer.
- Advisor: Student Organization for Society and Natural Resources, College of Natural Resources, Utah State University (October 2011-present).
- Environment and Society Faculty Representative: Sustainability Council. Utah State University, Logan, UT (September 2011-present).
- President: Agricultural Education and Communication Graduate Student Association, University of Florida (2007-2008).
- Judge: State 4-H Public Speaking Contest, University of Florida (July 2007).
- Graduate Student Representative: Search and Screen Committee for Assistant or Associate Professor in Leadership Education, University of Florida (September 2006-February 2007).
- Facilitator: Latornell Research Symposium – Celebrating Communication for Social and Environmental Change, University of Guelph, Ontario, Canada (November 16-18, 2005).

**ADDITIONAL LANGUAGES:**

Fluent in German (oral and written)
MARK W. BRUNSON
5215 Old Main Hill, Logan, UT 84322-5215
(435) 797-2458 * fax (435) 797-4048 * Mark.Brunson@usu.edu

EDUCATION:
PhD, Forestry, Oregon State University, 1991
MS, Recreation Resource Management, Oregon State University, 1989
Post-baccalaureate study, Biology, University of Texas at San Antonio, 1979-81
BA (Honors), History, State University of New York at Binghamton, 1974

PROFESSIONAL POSITIONS:
2011- Professor and Department Head, Environment and Society
Faculty affiliate: Ecology Center, Utah Agricultural Experiment Station
2009-2011 Professor and Interim Department Head, Environment & Society
2005-2009 Professor, Environment & Society
2004-2006 Director of Undergraduate Education, College of Natural Resources
2002-2005 Associate Professor, Environment & Society
1997-2002 Associate Professor, Forest Resources
1992-1997 Assistant Professor, Forest Resources
1991-1992 Assistant Professor-Senior Research, Forest Resources, Oregon State Univ.

RESEARCH SPECIALIZATIONS:
Dynamics of socio-ecological systems; human behavior in natural environments;
anthropogenic disturbance dynamics in deserts and rangelands

PEER-REVIEWED JOURNAL ARTICLES (SINCE 2006):


**OTHER PUBLICATIONS:**


**COURSES TAUGHT (SINCE 2006):**

- ENVS 2340, Natural Resources and Society (3 cr.), 1998-2008
- ENVS 4000, Human Dimensions of Natural Resource Management (3 cr.), 2005-2008
- ENVS 5000, Collaborative Problem Solving for Envir and NR (3 cr.) 2011-
- ENVS 6300, Social and Environmental Psychology of Natural Resources (3 cr.), 2005-
- ENVS 6840, Graduate Orientation in Environment and Society (1 cr.), 2009-10
- ENVS 6900, Human Dimensions of Wildlife (2 cr.), 2008
- ENVS 6900, Translational Ecology (3 cr.), 2011 (co-taught)

**RECENT EXTRAMURAL SUPPORT (AWARDS SINCE 2006):**


National Park Service, Rocky Mountain National Park. "Workplace Implementation of Innovation/Adoption Strategies to Improve the Use of Science in Management Decisions," $19,151
National Park Service/Yellowstone Association (various awards), Support for Science Communication, Greater Yellowstone Science Learning Center, total $146,677.
USDA-NIFA (AFRI Rangelands). “A systems approach to seedling establishment on degraded rangeland: Managing ecological processes driving recruitment bottlenecks, co-investigator, $15,000, total award $499,034.
Utah Agricultural Experiment Station, “Motorized Recreation Use in Colorado Plateau Forests and Rangelands: Potential Interactions with Climate Change, $19,598.

HONORS/AWARDS:
Utah Range Manager of the Year, Society for Range Management (Utah Section), 2010
Undergraduate Research Mentor of the Year, College of Natural Resources, 2002-3
Advisor of the Year, College of Natural Resources, 1995 and 2002
Professor of the Year, College of Natural Resources, 1997
STEVEN W. BURR
Institute for Outdoor Recreation and Tourism
5220 Old Main Hill, Logan, UT 84322-5220 * Utah State Uniervsity
Telephone: (435) 797-7094; Fax: (435) 797-4048 * E-mail: steve.burr@usu.edu

FORMAL EDUCATION:
Ph.D. Recreation and Parks, 1994, The Pennsylvania State University, University Park, PA
  Emphasis: Outdoor Recreation and Tourism; Rural Sociology; Environmental Sociology
M.S. Recreation and Park Management, 1977, University of Oregon, Eugene, OR
  Emphasis: Recreation Administration; Outdoor Education; Organized Camping
B.A. Liberal Arts, 1973, DePauw University, Greencastle, IN; Major: Zoology/Ecology

PROFESSIONAL POSITIONS:
July 2002 to present  Associate Professor of Recreation Resources Management; Director, Institute for Outdoor Recreation and Tourism; Extension Specialist in Outdoor Recreation and Tourism; Director, Natural Resources and Environmental Education Program. Department of Environment and Society, College of Natural Resources, Utah State University
August 1999 to June 2002  Associate Professor of Recreation Resources Management; Director, Institute for Outdoor Recreation and Tourism; Extension Specialist in Outdoor Recreation and Tourism. Department of Forest Resources, College of Natural Resources, Utah State University
August 1998  Associate Professor, Department of Recreation, Park and Tourism Admin.
August 1999  College of Education and Human Services, Western Illinois University
August 1993  Assistant Professor, Department of Recreation, Park and Tourism Admin., College of Education and Human Services, Western Illinois University
June 1992  Research Associate, Center for Travel and Tourism Research

PEER REVIEWED JOURNAL ARTICLES:

EDITORIALLY REVIEWED ARTICLES:
RECENT PEER-REVIEWED EXTENSION PUBLICATIONS:


COURSES TAUGHT:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title and Notes</th>
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<tbody>
<tr>
<td>ENVS 6500</td>
<td>Behavioral Aspects of Wildland Recreation (Fall 2011)</td>
</tr>
<tr>
<td>ENVS 4130</td>
<td>Recreation Policy and Planning (Spring 2004-2012)</td>
</tr>
<tr>
<td>ENVS 6130</td>
<td>Policy and Planning Aspects of Wildland Recreation (Spring 2004-2012)</td>
</tr>
<tr>
<td>ENVS 4920</td>
<td>ENVS 4920—Special Projects in Recreation Management (2006-2011)</td>
</tr>
<tr>
<td>ENVS 3000</td>
<td>Natural Resources Policy and Economics (Fall 2008; team instruction)</td>
</tr>
</tbody>
</table>

EXTRAMURAL FUNDING:


2009-2011—Baseline Information for Outfitters and Guides Needs Assessments in U.S. Forest Service Region 4; Grant for $78,480 from U.S. Forest Service Region 4; PI Steven W. Burr with Co-PI Douglas Reiter.

2010-2011—Factory Butte Visitor Survey; Grant for $10,000 from the Bureau of Land Management, Henry Mountain Field Station; PI Steven W. Burr with Co-PI Douglas Reiter.

2009-2011—Promontory Ranch Club Interpretive Kiosks and Trail Brochure; Contract for $17,000 from the Promontory Ranch Club, Park City, UT; Co-Pls Steven W. Burr and
Barbara Middleton.

2008-2009—Statewide Comprehensive Outdoor Recreation Plan (SCORP): Telephone Survey of Utah Residents; Grant for $62,672 from the State Division of Parks and Recreation (Utah State Parks), Department of Natural Resources; PI Steven W. Burr with Co-PI Douglas Reiter.

2008-2009—Oneida Narrows of the Bear River Hydroelectric Project: Recreation Use and Preference Study (Study 7); Grant for $99,100 from the Twin Lakes Canal Company, Soda Springs, ID; PI Steven W. Burr with Co-PI Douglas Reiter.

2005-2009—Exploring the Linkage Between Resource Protection and Local Community Development in Alaska; Grant for $96,246 from USDA Forest Service, Pacific Northwest Research Station; Co-PIs Steven W. Burr, Robert Lilieholm, Dale Blahna.

2006-2007—Conflict Management Through a Collaborative Process for the Logan Ranger District, Wasatch-Cache National Forest; Grant for $10,000 from the USDA Forest Service and Community-University Research Initiative (CUR) Grant for $21,000 from Utah State University Cooperative Extension; PI Steven W. Burr with Co-PI Douglas Reiter.

2006-2007—The National Visitor Use Monitoring (NVUM) Research Program on the Wasatch-Cache, Uinta, and Ashley National Forests; Contract for $190,000 from USDA Forest Service for; PI Steven W. Burr with Co-PI Douglas Reiter.

2006—Socioeconomic Analysis Draft EIS for Richfield BLM; IORT research component focused on recreational Off Highway Vehicle (OHV) use in a larger research project titled Review of the Socioeconomic Analysis in the Draft Environmental Impact Statement prepared by the USDI-Bureau of Land Management Richfield Field Office; funded by the Six County Association of Governments for $5,000; Co-PIs Steve Daniels, Steven W. Burr, and Douglas Reiter.

2006-2007—Review of Draft Recreation Management Competency (KSA-Knowledge, Skills, and Abilities) for the Process of Establishing a Professional Recreation Management Series in the USDA Forest Service; Grant for $10,000 from the USDA Forest Service; Co-PIs Steven W. Burr, Dale Blahna, and Michael Butkus.

2006-2007—Utah Public Lands Connections: Socioeconomic Profiling; two projects funded by the Governor’s Office of Public Lands Policy Coordination: 1) A Statewide Survey of Registered OHV Users; funded at $67,500; PI Steven W. Burr with Co-PI Douglas Reiter; 2) Recreational and Tourism Impacts on Rivers Designated as Part of the Wild & Scenic Rivers System; funded at $61,000; Co-PIs Steven W. Burr, John Keith, Paul Jakus, and Douglas Reiter.

2006-2007—Agritourism in the U.S. Project; Grant for $20,000 from U.S. Department of Agriculture through the Agricultural Marketing Resource Center, Iowa State University; Co-PIs Steven W. Burr, Lisa Chase (University of Vermont) and Gary Green (University of Wisconsin).

2005-2007—Recreational Water Use Capacity on Utah’s Lakes and Reservoirs; Grant for $52,800 from State Division of Parks and Recreation; PI Steven W. Burr with Co-PI Dale Blahna.

AWARDS AND HONORS:

2011 Advisor of the Year, College of Natural Resources, Utah State University, for advising undergraduate majors in Recreation Resources Management

2008 Communicator Award—Educational Piece-Team, for “Agritourism in the U.S.” Project, National Association of Community Development Extension Professionals
ROBYN L. CEURVORST  
USU Moab Education Center * 125 W. 200 S., Moab, UT 84532  
Robyn.Ceurvorst@usu.edu * Phone: (435) 259-7432

PROFESSIONAL POSITIONS:

<table>
<thead>
<tr>
<th>Year</th>
<th>Position Description</th>
<th>Institution Details</th>
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<tbody>
<tr>
<td>2011</td>
<td>Assistant Professor, Recreation Resource Management: Department of Environment &amp; Society, College of Natural Resources, Utah State University, Moab Education Center, Moab, Utah</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Teaching Assistant: Department of Forest Ecosystems &amp; Society, Oregon State University, Corvallis, Oregon</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Researcher &amp; Adventure Guide: O.A.R.S., Inc. in Moab, Utah; Jackson, WY; Vernal, UT; Rogue River, OR; Angels Camp, CA.</td>
<td></td>
</tr>
<tr>
<td>2009 - 2010</td>
<td>Research Assistant: Department of Forest Engineering &amp; Resource Management, Oregon State University, Corvallis, Oregon.</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>Outdoor Education &amp; Youth Outreach Camp Leader: Siuslaw Watershed Council, Mapleton, Oregon</td>
<td></td>
</tr>
<tr>
<td>2008 - 2009</td>
<td>Adjunct Instructor: Department of Outdoor Studies, Physical Education, and Biology, Colorado Mountain College- Alpine Campus, Steamboat Springs, Colorado.</td>
<td></td>
</tr>
<tr>
<td>2006 - 2008</td>
<td>Teaching Assistant: Department of Forest Ecosystems &amp; Society, Oregon State University, Corvallis, Oregon.</td>
<td></td>
</tr>
<tr>
<td>2006 - 2008</td>
<td>Research Assistant: Department of Forest Ecosystems &amp; Society, Oregon State University, Corvallis, Oregon.</td>
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POST-SECONDARY EDUCATIONAL QUALIFICATIONS:

<table>
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<tr>
<th>Year</th>
<th>Degree</th>
<th>Institution Details</th>
<th>Field of Study</th>
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<tbody>
<tr>
<td>2010</td>
<td>Ph.D.</td>
<td>Oregon State University Corvallis, Oregon</td>
<td>Human Dimensions of Forest/Terrestrial, Coastal and Marine Resource Management; Recreation &amp; Tourism</td>
</tr>
<tr>
<td>2004</td>
<td>M.S.</td>
<td>Colorado State University Fort Collins, Colorado</td>
<td>Human Dimensions of Natural Resources Management; Recreation &amp; Tourism</td>
</tr>
<tr>
<td>2002</td>
<td>B.A.</td>
<td>University of Northern Iowa Cedar Falls, Iowa</td>
<td>Leisure, Youth, &amp; Human Services; Outdoor Recreation Management; Business Administration Minor</td>
</tr>
</tbody>
</table>

Doctoral Dissertation

2010   Methodological and managerial applications of the structural norm approach to social and facility capacity indicators in Hawai‘i’s Coastal Recreation Areas. Part
of a larger study entitled: *A multi-stakeholder approach to coastal and marine recreation and tourism management in Hawai‘i*. Sponsored by: NOAA, Hawai‘i Coral Reef Initiative Research Program (HCRI-RP) and Hawai‘i Division of Aquatic Resources (DAR).

**M.S. Thesis**
2004  Colorado Welcome Center visitor study on information gathering behavior.  
Sponsored by: Colorado Tourism Office, Denver, Colorado and Department of Natural Resources Recreation and Tourism, Colorado State University, Fort Collins, Colorado.

**RESEARCH & TEACHING SPECIALIZATION:**
Human dimensions / social psychology of recreation, wildlife, fisheries and other natural resources.  
Planning, management, and policy of terrestrial and marine parks, wildlife and protected areas.  
National & international tourism, ecotourism, nature-based tourism and adventure tourism.  
Outdoor adventure / recreation education, risk management and natural history interpretation.  
Experiential learning, trip planning / leading / guiding, and adventure dynamics.  
Research and survey methods; quantitative (statistical) and qualitative analyses.

**COURSE INSTRUCTION & TEACHING ASSISTANTSHIP:**
2011  Utah State University  
ENVS 4950/6900 Special Topics: Wildland Recreation Use Impacts & Assessment (Instructor)  
ENVS 2340 Natural Resources & Society (Instructor)  
ENVS 4130 Recreation Planning & Policy (Instructor)  
ENVS 4920 Special Projects in Recreation Management (Instructor)  
ENVS 4500 Recreation Behavior & Theory (Instructor)  
ENVS 4600 Natural Resources Interpretation (Instructor)  
Assisted with Outdoor Recreation Program courses

2010  Oregon State University  
FOR 453 / 553 Nature-based Tourism (T.A.)  
FOR 251 Recreation Resource Management (T.A.)  
FOR 493 / 593 Environmental Interpretation (T.A.)  
FOR 207 Career Development (T.A.)

2006 - 2008  Oregon State University  
FOR 251 Recreation Resource Management (T.A.)  
SOC 513 Sociological Theory (T.A.)  
FOR 323 / 599 Research Methods (T.A.)  
FOR 453 / 553 Nature-based Tourism (Guest Lecturer)

2008  Colorado Mountain College  
BIO 214 Natural History of the Desert (Instructor)  
PE 113 Intro to Mountain Biking (Instructor)  
BIO / OUS 151 Mountain Orientation I (Instructor)
PUBLICATIONS:

2011  

In press  

In press  

In press  
Needham, M. D., Ceurvorst, R. L., & Tynon, J. (2011, Accepted). Extending the encounter - norm - crowding generalization to facility carrying capacity indicators of coastal recreation in Hawai‘i. *Journal of Leisure Research*.

CURRENT AND FUTURE GRANTS:

Leader on *Tamarix management and visitor experiences on the Colorado Plateau* with Co-PI, Mark Miller and Mark Brunson; and RRM M.S. Graduate Student, Edwin Clay Allred. Estimated funding from ENVS, NPS, NARRP and RCDE: $16,500.

Developed a research project and writing three grants for a collaborative project with BLM Monticello at Indian Creek Special Recreation Area, Canyonlands and Arches National Parks, Nature Conservancy at Dugout Ranch, Visitors/Friends of Indian Creek/Access Fund on an Indian Creek Special Recreation Area Recreation Management Plan and further assessment of the benefits of nature-based experiences in these areas. Estimated funding: $30,000 or more.

Research Project Proposal to River Management Society (RMS) for updating and revising the national-wide human waste river management plan. RMS collaborative grant with Walton Foundation for support on Best Practices and Outreach/Education efforts for Riverine Tamarisk Management (Spring 2012). Estimated funding from Walton Foundation: $7000.
DAVID LAYNE COPPOCK
Associate Professor, Department of Environment and Society
College of Natural Resources, Utah State University, Logan, UT, USA 84322-5215.
Telephone: (435) 797-1262, Facsimile: (435) 797-4048, E-mail: Layne.Coppock@usu.edu.


AREAS OF RESEARCH SPECIALIZATION: Human dimensions of agro-ecosystems, community-based participatory research, action research, international development, risk management, adoption/diffusion of innovations, human ecology.

PEER-REVIEWED JOURNAL ARTICLES (*denotes former graduate student co-author):

2006-2011:


Five Other Noteworthy Journal Articles Prior to 2006:


**NOTEWORTHY NON-JOURNAL PUBLICATIONS:**


**Courses Taught (2006-present; excludes occasional directed study efforts):**

EnvS 3330. Environment and Society. 3 cr., avg. enrolled 45 (Spring 07, 09, 10, 11)
**EnvS 4950/6900.** Special Topics: Study Abroad East Africa, 3 cr., avg. enrolled 5 (Summer 07, 08)

**EnvS 6000/7000.** Theory in Hum. Dimens. Research. 3 cr., avg. enrolled 9 (Fall 07, 08, 09)

**EnvS 6700/7700.** Approaches in Hum. Dimens. Research, 3 cr., avg. enrolled 6 (Spring 06, 08)

**EnvS 6840/7840.** Graduate Orientation Seminar. 1 cr, enrollment 10 (Fall 2011).

**RECENT EXTRAMURAL FUNDING (2006-2011):**


D.L. Coppock (co-principal investigator): *Using New Knowledge on Grazing Behavior to Control Medusahed in the Western United States.* Funding of $54,000 for 2011-2014; total project budget is $416,000. PI Dr. Juan Villalba (USU Dept. of Wildland Resources) is the grant administrator. Funding source: USDA-National Initiative for Food and Agriculture (NIFA).

**RECENT AWARDS AND RECOGNITION:**

Co-recipient of a gold medal for meritorious service to Ethiopia based on contributions of the PARIMA project, Ethiopian Society for Animal Production (ESAP), Addis Ababa, October 2007


Finalist, Utah State University International Professor of the Year. March 2011

Plenary keynote speaker, IX International Rangelands Congress, Rosario, Argentina, April 2011
JOANNA ENDTER-WADA

Associate Professor of Natural Resource and Environmental Policy
Department of Environment and Society, College of Natural Resources
5215 Old Main Hill, Utah State University, Logan, Utah 84322-5215
Joanna.Endter-Wada@usu.edu (email) ~ 435-797-2487 (Office) ~ 435-797-4048 (FAX)

EDUCATION:

Univ. of California, Irvine Comparative Culture PhD 1987
Univ. of California, Irvine Comparative Culture MA 1979
Univ. of California, Irvine Comparative Culture BA 1977
Wittenberg University Mathematics/Music 1972-5

PROFESSIONAL POSITIONS:

2005- Associate Professor and Program Director, Environment & Society, USU
1991-2005 Assistant/Associate Professor and Program Director, Forest Resources, USU
1987-1992 Research Consultant (various universities and firms)
1989-1990 American Indian Studies, University of California, Los Angeles
1980-1985 Teaching Assistant/Associate and Research Associate, Univ. of California, Irvine

AREAS OF RESEARCH SPECIALIZATION:

♦ Human Dimensions of Ecosystem Science and Management
  • interdisciplinary perspectives on human-environment linkages
  • human dimensions of climate change

♦ Natural Resource and Environmental Policy
  • public land and common property resources
  • National Environmental Policy Act (NEPA)

♦ Water Law and Policy
  • human dimensions of drought management
  • urban landscape water use efficiency
  • wetland policy and management

JOURNAL ARTICLES:


**OTHER NOTEWORTHY PUBLICATIONS:**


**RECENT EXTRAMURAL FUNDING:**


- Hydrologic and Ecological Impacts of Changes in Human Water Resource Management, Water, Sustainability and Climate-Category 1, National Science Foundation, 2010-2011 (Faculty Associate). Amount Awarded to Interdisciplinary Team (Douglas Jackson-Smith, PI): $149,943.

- Intervening to Encourage Water Conservation: developing an interdisciplinary urban water conservation research program at USU. Seed Program to Advance Research Collaborations (SPARC), Utah State University, 2009-2010 (Co-Principal Investigator with David Rosenberg and Arthur Caplan). Amount: $34,988.

ACADEMIC PROGRAMS DIRECTED:
National Environmental Policy Act Certificate Program (2002-present)

COURSES TAUGHT:
Research Approaches in Human Dimensions of Ecosystem Science and Management (graduate), ENVS 6700/7700: 2007, 2008 (qualitative portion of class), annually 2009-2011 (team taught with Charles Romesburg)
Water Law and Policy (undergraduate and graduate): annually 2006-2011

GRADUATE STUDENTS – SERVED AS MAJOR PROFESSOR:
Current:
3 in research degree programs: Kathryn Davis Henderson (M.S.), Nicholas Mitrovich (M.S.), Lisa W. Welsh (Ph.D.)

16 in professional degree program: Master of Natural Resources, names on request or see website: http://www.cnr.usu.edu/htm/facstaff/memberID=781

Completed:
13 in research degree programs, with degree and current affiliation noted: Amy Brennan (M.S. 1998, Non-Profit Environmental Sector, Wyoming); Brian Cottam (M.S. 1999, Southern Utah University); Lisa Dennis-Perez (M.S. 1997, Public Communications Manager, LOTT Alliance); Rebekah Downard (M.S. 2010, Utah State University); Diana Glenn (M.S. 2010, Utah State University); Megan Guenter (M.S. 2006, Central Utah Water Conservancy District); Virginia Hooper (MLA 2003, Native Plant Landscape Architect, Salt Lake Valley); Christina Klien (M.S. 2004, Water Conservation Coordinator, City of Scottsdale, Arizona); Judith Kurtzman (M.S. 1999, Utah State University); Bridget A. McCann (M.S. 1999, Private Law Practice, Denver, Colorado); Michael Roloff (M.S. 1995, pursuing PhD at Colorado State University); Adrian Welsh (M.S. 2011, Juniper Systems); Wayne van Zwoll (PhD 2000, Outdoor Writer and Editor).

6 in professional degree program: Master of Natural Resources, names on request or see website: http://www.cnr.usu.edu/htm/facstaff/memberID=781

POLICY-RELATED APPOINTMENTS:
• Chairperson, Utah Fish Health Policy Board (1998-2006, two appointed terms)
• Chairperson, Utah Forest Practices Task Force (1996, resulted in a Forest Practices Act passed by the Utah Legislature)
• Member, Utah Division of Forestry, Fire and State Lands Advisory Council (1995-1998)
• Chairperson (1996-1998) and Member (1993-1999), Outer Continental Shelf Advisory Board Scientific Committee, U.S. Dept. of Interior
NAT B. FRAZER
Utah State University, 5215 Old Main Hill, Logan, UT 84322-5200
Phone: (435) 797-0523  e-mail nat.frazer@usu.edu

ACADEMIC BACKGROUND:
Postdoctoral Fellow, Marine Policy, Woods Hole Oceanographic Institution 1983-85
Ph.D. Ecology, Institute of Ecology, University of Georgia 1983
M.A. History and Public Affairs, University of Illinois at Springfield 1973
B.A. History, University of Georgia 1971
Attended, University of the South 1967-69

WORK EXPERIENCE:
2012- Professor (Tenured) Department of Environment and Society, College of Natural Resources, Utah State University
2006-2011 Professor (tenured) Department of Wildland Resources and Dean, College of Natural Resources, Utah State University
2005 Professor (tenured) and Chair, Department of Wildlife Ecology and Conservation, University of Florida (Graduate Faculty Status)
1993-98 Associate Director for Research, Savannah River Ecology Laboratory, US Department of Energy and Associate Research Professor, University of Georgia (Graduate Faculty)
1991-93 Associate Professor (tenured) and Chair, Department of Biology, College of Liberal Arts, Mercer University (Graduate Faculty)
1985-91 Assistant Professor (tenure-track), Department of Biology, Mercer University
1983-85 Postdoctoral Research Fellow, Marine Policy and Ocean Management, Woods Hole Oceanographic Institution
1978-83 Research and Teaching Assistant, University of Georgia
1974-77 Instructor, Basic Medical Education, School of Medicine, Southern Illinois University (Manager: Educational Resources Unit, Springfield Campus 1975-76)
1973-74 Staff Development Specialist, School of Medicine, Southern Illinois University, Department of Educational Resources and Development

SUMMER APPOINTMENTS:
1991-93 Faculty Program Coordinator for Precollege Science Teachers, Division of Environmental Outreach and Education, Savannah River Ecology Laboratory
1985-90 Visiting Research Faculty, Division of Stress and Wildlife, US Department of Energy, Savannah River Ecology Laboratory
1979-80 Field Director, Little Cumberland Island, Georgia Sea Turtle Research Cooperative

ADJUNCT PROFESSORSHIPS/ EX OFFICIO POSITIONS:
Adjunct Faculty, College of Liberal Arts, Mercer University 1993-97
Adjunct Faculty, School of Ecology, University of Georgia, 1994-present
Director, Savannah River National Environmental Research Park, 1994-1998

SELECTED BOARD MEMBERSHIPS/SERVICE:
Board of Trustees, American Forest Foundation
Board of Directors, Great Basin National Park Foundation
Executive Committee, Utah Natural Resources Coordinating Council
Steering Committee, Great Basin Landscape Conservation Cooperative
Executive Committee Chair, Great basin Research and Management Partnership
Steering Committee, Envision Cache Valley (UT/ID)
Chair, Utah State University Sustainability Council
Advisory Council, Utah Forestry, Fire, and State Lands (gubernatorial appointee)

COURSES TAUGHT:
At Mercer University: Ecology and Evolution; Biology, Humans and Society; Organismal Biology; Cell Biology; Vertebrate Biology; Genetics; Organic Evolution; Ecology; Special Topics: Biodiversity; Senior Seminar; Environmental Science; Human Prospects in a World of Scarcity; Summer Research Institute for Precollege Science Teachers (Graduate Level)
At University of Georgia: Ecology 900 (graduate seminar)
At University of Florida: Survey of Wildlife Ecology and Conservation (undergraduate); Wildlife Ecology and Management (undergraduate, required); Turtle Conservation (graduate); Critical Thinking in Wildlife Ecology and Conservation (graduate); Biodiversity Conservation: Global Perspectives (undergraduate); Philosophical Basis of Biodiversity Loss (graduate)
At Utah State University: ENVS 6530 Natural Resources Administration (graduate on-line course); NR 6535 Leadership for Natural Resources Professionals (graduate on-line course)

HONORS:
Conservation Fellow, St. Louis Zoo 2003 - present
Leadership Florida, Florida Chamber of Commerce (Class of 2004/05)
Leadership Georgia, Georgia Chamber of Commerce (Class of 1993)
Leadership Macon, Greater Macon Chamber of Commerce (Class of 1991)
Research mentioned in Encyclopedia Britannica Book of the Year 1987
Student Research Award, Association of Southeastern Biologists 1983
Sheldon Award, University of Georgia, Department of Zoology 1980
Legislative Intern, Georgia House of Representatives 1972
Wilkins Scholar, University of the South 1967-69
Beta Beta Beta Honor Society
Phi Kappa Phi Honor Society
Gamma Sigma Delta Honor Society

ADDITIONAL SERVICE ROLES (Professional and Voluntary):
Offshore Mining Task Force, Georgia Conservancy 1990
Tortoise and Freshwater Turtle Specialist Group, SSC, IUCN, 1994-present
Editor, Marine Turtle Newsletter 1984-88
Editorial Board, Copeia 1987-88
Editorial Review Board, Chelonian Conservation and Biology, 1994 - present
Conservation Committee, SSAR 1986-94 (Chairman, 1988)
Conservation Committee, Herpetologists’ League, 1990-94
USA Team Member, and Assistant Director of Secretariat Wider Caribbean Sea Turtle Conservation Network 1983-86
Aiken County (SC) Open Land Trust -- Save the Park Committee
Executive Board -- USDOE Savannah River Site Research Centers of Excellence
Strategic Planning Consultant, Georgia Conservancy 1999
Ecological Society of America -- Public Affairs Committee 1997-2000
Environmental Protection Advisory Committee Alachua County, FL 1999-2001 (Chair 2000-2001)
Nature Centers Commission City of Gainesville (FL) 1999-2001
Land Conservation Advisory Committee (Vice Chair) -- Alachua County, FL - 1999-2000
Land Conservation Board – Alachua County, FL – 2001
President, Alachua Conservation Trust 2005
Ecology Section, National Association of State Universities and Land Grant Colleges (Vice Chair
2000-2001; Chair 2001-2003)
Board of Natural Resources, National Association of State Universities and Land Grand Colleges
(Secretary 2000-2001; Vice Chair 2001-2002; Chair 2002-2003)
Chair, Legislative Affairs Committee, Council on Food, Environment and Renewable Resources,
NASULGC 2004-2006
Vice Chair, National Cooperators’ Coalition (support group for USGS Fish and Wildlife Cooperative
Research Unit Program) 2005
Member, Ecosystem Services Focus Group, US Forest Service 2005
Chair, Extension Committee, National Association of University Fisheries and Wildlife Programs
2005-6
Chair, Extension Committee, National Association of University Forestry Resources Programs 2006
Member, ECOP Forestry Task Force, NASULGC 2006
Member, USU Community Associates (a Cache Valley town-gown society) 2006-present
Council of Environmental Deans and Directors (National Council on Science and the Environment)
Chair, Public Policy Committee (2008-2009)
Board Member, Stokes Nature Center 2008-10
Board Member, Utah Wildlife in Need (formerly Utah Wildlife and Conservation Foundation)
Organizing Committee, US Department of Interior Great Basin Landscape Conservation Cooperative

PUBLICATIONS:
65+ articles and book chapters on population ecology, environmental sciences, science policy and
conservation (both resources and human dimensions)

PRESENTATIONS:
70+ invited presentations and keynote addresses at national and international meetings on a wide
range of topics, including conservation, education, population ecology, science policy, and the
philosophy of science

FUNDING ACQUIRED 2006-2011:
Over $7 million in private funding to support student fellowships and scholarships, the Quinney
Natural Resources Research Library, and various seed projects for other faculty members' research

$600,000 from the Bureau of Land Management to support Botanist for the Utah Natural Heritage
Program
JUDITH A. KURTZMAN
Department of Environment and Society * Utah State University
5215 Old Main Hill * Logan, Utah, 84322-5215
435-797-0922 * judy.kurtzman@usu.edu

DEGREES:
M.S. in Forestry and Certificate in Natural Resource and Environmental Policy, Utah State University, Logan, 1999
B.A. in Sociology/Anthropology, University of Minnesota, Duluth, 1981

PROFESSIONAL CERTIFICATES:
4-Temperament Discovery Certification, Shipley Group, Salt Lake City, 2004
Basic Mediation, Utah Dispute Resolution, Law and Justice Center, Salt Lake City, 2001

PROFESSIONAL POSITIONS:
Utah State University, Logan, Utah
Program Coordinator, Student Advisor, and Instructor: NEPA Certificate Program, Master’s of Natural Resources, and Continuing Education in Ecosystems Management

· Serves as a faculty instructor for these programs at Utah State University and at other locations across the country. Currently teaching 12 courses in the following areas:
  · The National Environmental Policy Act (NEPA) and corresponding CEQ Regulations
  · Technical Writing
  · Cultural Resource Policies
  · Natural Resource Policies
  · Endangered Species Act
  · Team Building/ Project Management

· Serves as a standing committee member for students in the Master’s of Natural Resources degree program.

· Serves as a student advisor for all participants in these programs.

· Grades all exams and capstone projects for students participating in the NEPA Certificate Program.

· Administers the NEPA Certificate Program, including review and acceptance of all applications, tracking students’ progress, submitting invoices for payment of tuition, and overseeing the program’s accounting.

· Coordinates the Master’s of Natural Resources degree and Continuing Education in Ecosystems Management, responding to inquiries and assisting in the application process.

· Assists in marketing programs to government agencies, environmental consulting firms, and individuals interested in working in the field of natural resources and policy.

· Promotes the NEPA scholarship program for Utah State University students and reviews applications.
PUBLICATIONS:


CURRENT POSITION:
Assistant Professor of Human Geographer - Environment and Society Department, College of Natural Resources, Utah State University.

Classes Taught (USU):
- Geographic Approaches to the Human-Environmental Relationship
- Violent Ecologies: Natural Resources and Violent Conflict in Sub-Saharan Africa
- Theory and Practice of Development

Classes Taught (Univ. of Oregon):
- Environmental Alterations

RESEARCH APPOINTMENTS:
2006-2007 - Research Assistant in Spatial and Map Cognition University of Oregon

2006-2007 - Research Assistant/Consultant in International Development Harvard University and University of Oregon

EDUCATION:
2007-2008 Post-Doctoral Fellow in Sustainability Science, Center for International Development, Harvard University. Researching the role of the environment in violent conflicts using an empirical case study from South Sudan. Fellowship Hosts: Dr. Pauline Peters, Dr. Jennifer Leaning, Dr. Eric Werker, Dr. William Clark

2007 Ph.D. University of Oregon, Environmental Geography. Dissertation: The Greening of the Fortress: Reclaiming the politics of exclusion in a green era. Advisor: Dr. Peter Walker


1997 B.A. (summa cum laude) Ohio University, Anthropology and International Studies: Africa

RESEARCH INTERESTS:
Human-environmental interactions; Community conservation and development; Political ecology; Natural resources and violent conflict; Sub-Saharan Africa.
PEER REVIEWED JOURNAL PUBLICATIONS:


Laudati, A. (in review) “Liberating Territories: How discourses over identity are shaping natural resource struggles in post-conflict South Sudan.” Third World Quarterly

WORKING PAPERS:
RECENT EXTRAMURAL FUNDING SUPPORT:
2011-2012  $34,974   Principal Investigator
Securing Livelihoods From Insecurity: Grassroots Actors And Parallel Economies Of Accumulation In War-Torn DRC. Wenner-Gren Foundation for Anthropological Research.

2009-2011  $1,500   Principal Investigator
Rustling in the Desert: A political ecology of the trade in wild and endangered cacti in the American Southwest. Cactus and Succulent Society of America Grant.

SELECT HONORS AND AWARDS:
2011-2012   AAG Visiting Scholar Grant – Carl Bauer
2010-2011   AAG Visiting Scholar Grant – B.L. Turner II
2009-2010   AAG Visiting Scholar Grant – Paul Robbins
2009       Gardner Junior Faculty Travel Fellowship Award
2009       Women and Gender Research Institute Faculty Travel Grant
2007-2008   Giorgio Ruffolo Post-doctoral Fellow in Sustainability Science, Harvard
2007       Commencement speaker for the University of Oregon (Anthro & Geog)
2007       Agnes and David Curland Grant for Language and Gender Studies (Swahili)
2006       Univ. of Oregon Center of Humanities Doctoral Dissertation Writing Grant

SELECT FIELD EXPERIENCE:
2009-2010   Fieldwork conducted from late August to late December 2009 and again from October to November 2010 in Eastern DRC seeks to expand our current understandings on resource wars by forwarding a comprehensive ‘ecologies of violence’ which explores the role of peripheral economies in the wider social struggle over resources and livelihood in DRC’s Eastern territories. In particular, this study forwards three main objectives; (1) To know the role of secondary economies on shaping insecurity and violence in the region, (2) To understand the implications the pillaging and extortion of these parallel economies hold for food security and livelihoods among multiple actors, and to (3) To elucidate how different social networks facilitate, resist, and transform violence through the existence of these alternative economic systems.

2008       Postdoctoral research: Fieldwork undertaken from late January to mid April 2008 in South Sudan represents the first stage of inquiry of a three stage program of research investigating three separate but increasingly interconnected case studies in the Great Lakes region of Africa experiencing prolonged periods of violent conflict that are variously tied to struggles over natural resources. Through direct observation, key informant interviews, and extensive household-level interviews together with counter-mapping and secondary data, I explore the extent to which and the process through which rural Sudanese struggle to reclaim access to and control over natural resources existing prior to the civil conflict.

GRADUATE STUDENT ADVISING (PRINCIPAL ADVISOR):
Amber Greening, MS (HDESM)
(Co-Advisor) Colyn Kilmer, MS (HDESM)
Daniel Bishop, MS (MS Peace Corps – GEOG)
Melissa Lambert, PhD (HDESM)
ZHAO MA
Utah State University, College of Natural Resources,
Department of Environment and Society
5215 Old Main Hill, Logan, UT 84322-5215
Phone: 435-797-9180; Email: zhao.ma@usu.edu

EDUCATION:
Ph.D., Natural Resources Science and Management, minor in Statistics (2008)
  Department of Forest Resources, College of Food, Agricultural and Natural Resource
  Sciences, University of Minnesota, St. Paul, MN
  Dissertation title: The integration of cumulative environmental impact assessments and
  state environmental review frameworks
  Advisors: Drs. Michael A. Kilgore and Dennis R. Becker
  Programs in Sustainable International Development, Heller School for Social Policy and
  Management, Brandeis University, Waltham, MA
  Thesis title: Modeling local governance, local economic development, and social welfare at
  the municipal level in Bolivia
  Advisor: Dr. Ricardo Godoy
Bachelor of Engineering, Material Physics (2002)
  Department of Materials Physics, School of Materials, Science and Engineering, University
  of Science and Technology, Beijing, China

PROFESSIONAL POSITIONS:
Assistant Professor, Department of Environment and Society, College of Natural Resources,
  Utah State University, Logan, UT. (08/2009-present)
Post-doctoral Research Associate, Department of Natural Resources Conservation, University
  of Massachusetts Amherst, Amherst, MA. (03/2008-06/2009)
Research Assistant, Department of Forest Resources, University of Minnesota, St. Paul, MN.
  (09/2005-02/2008)
Research Fellow, Public Policy Unit, United Nations Development Programme, La Paz, Bolivia.
  (07/2003-02/2004)
Research Assistant, Program in Sustainable International Development, Brandeis University,
  Waltham, MA. (01/2003-08/2003)
Research Assistant, Environmental Change and Security Program, Woodrow Wilson
Campaign Assistant, Greenpeace, Beijing, China. (09/2000-07/2002)
Founder and Editor, China Bird Watch, Beijing, China. (11/2001-08/2002)
Project Leader, The Save Tibetan Antelope Campaign, Beijing, China. (04/2001-12/2001)

AREAS OF RESEARCH SPECIALIZATION:
As a natural resource and environmental policy scholar, my research program specializes
on understanding how individuals and institutions make decisions with respect to natural
resource management and conservation. I examine these decision making processes from two aspects. One aspect focuses on private individuals. I ask questions about how individuals make decisions with respect to land use and resource management, how they view and respond to environmental changes at local, regional and global scales, and what information, assistance and incentives they need to make informed decisions. The other aspect focuses on public and private institutions. I ask questions about how institutions formulate, implement and evaluate natural resource and environmental policies and programs at the local, regional and national levels, and how various ecological, social, economic and political factors influence policy and program development. In addition to these two aspects, I examine the interactions between individual and institutional decision making. I ask questions about how individuals view and respond to various policy and program incentives, how individual attitudes and behavior across the landscape and over time cumulatively affect policy development in public and private institutions, and how existing institutional infrastructures promote or hinder individual decision making within the context of sustainable land use and resource management. My current research program can be grouped into two thematic clusters: 1) land use and conservation decision making and policy development; and, 2) individual and intuitional decision making in response to climate change.

PEER-REVIEWED PUBLICATIONS:
NON-PEER REVIEWED PUBLICATIONS:

COURSES TAUGHT:
Utah State University
ENVS 3000 Natural Resources Policy and Economics (Fall 2009)
ENVS 3010 Fundamentals of Natural Resource and Environmental Policy (Fall 2010-2011)
ENVS 6910 Directed Study – Qualitative Research Methods (Spring 2011)
ENVS 6900/ENVS 6150 Conservation Policy for Private Lands (Fall 2010-2011)

EXTRAMURAL FUNDING SUPPORT:
Managing for resilience in forested ecosystems of the Intermountain West: a model for training future researchers and managers. USDA NIFA National Needs Graduate Fellowships Program (2011-2014). Advisory board member. $21,500 ($236,000).
Family forest research. USDA Forest Service, Northern Research Station (2009). Pl. $17,190 (total amount: $17,190)
EDUCATION:


PROFESSIONAL EXPERIENCE:

Associate Professor with Tenure, Recreation Resources Management, Department of Environment and Society, Utah State University, Logan UT. August 2007 to date.

Faculty Associate, The Ecology Center, Utah State University, Logan UT. May 2008 to date.

Assistant Professor of Environmental Studies, St. Lawrence University, Canton, NY. August 2003 to August 2007.

Dean of the College and Teaching Faculty, Sterling College, Craftsbury Common, VT. August 2001 to August 2003.


USU TEACHING RESPONSIBILITIES:

Utah State University
Logan, UT
Fall 2007 to Date

- Courses Taught: Wildland Recreation Behavior (ENVS 4500), Behavioral Aspects of Wildland Recreation (ENVS 6500), Ecological Aspects of Wildland Recreation (ENVS 6400), Natural Resource Interpretation (ENVS 4600/6600).
- Graduate Student Mentoring
  - D'Antonio, Ashley. MS (completed 2010) Ph.D. Candidate. Consequences of off-trail visitor use in Rocky Mountain National Park
  - Goonan, Kelly. Ph.D. Candidate. Alaska National Park Project
  - Vaughn, Dusty. MS (completed 2011) Colorado Wilderness Assessment Project
  - Puikkonen, Karina. Yosemite NP project
RECENT RESEARCH GRANTS:

Externally Funded Grants

2011-2013. Evaluating strategies to proactively implement new alternative transportation solutions (ATS) and information technology systems (ITS) to reduce crowding and resource impacts in the Bear Lake Road corridor of Rocky Mountain National Park. $530,000. Co-Investigator with Larry Gamble, NPS; Dr. Steve Lawson, RSG, Inc.; Dr. Peter Newman, Colorado State University.

2011-2013. Modeling the effects of the current park transportation system on park resources and visitor experiences in Zion national park. $600,000. Co-Investigator with Jack Burns, NPS; Dr. Steve Lawson, RSG, Inc.; Dr. Peter Newman, Colorado State University.

2010-2013. Alternative transportation planning study at Colorado Front Range high visitation sites in the Arapaho-Roosevelt National Forest (ARNF). $580,000. Co-Investigator with Dr. Steve Lawson, RSG, Inc.; Dr. Peter Newman, Colorado State University.


2008-2010. Colorado State-wide Wilderness Assessment. $86,000. Principal Investigator in collaboration with Dr. David Cole, USFS.

2008-2010. Modeling the Effects of Alternative Transportation on Resource Protection and Visitor Experiences in Rocky Mountain National Park. $426,000. Co-Investigator with Dr. Steve Lawson, Virginia Tech and Dr. Peter Newman, Colorado State University.


SELECTED PUBLICATIONS:

Peer Reviewed Journal Articles and Book Chapters


• Monz, C.A. and D’Luhosch, P. D. 2010 A simplified image analysis method for monitoring wilderness campsites. *International Journal of Wilderness* 16(1) 26-31


CLAUDIA ANNE RADEL
Department of Environment and Society * College of Natural Resources
5215 Old Main Hill, Utah State University, Logan, UT 84322-5215
(tel) 435-797-0516 * (fax) 435-797-4048 * (email) claudia.radel@usu.edu

EDUCATION:
PhD in Geography, Graduate School of Geography, Clark University, 2005.
MA in Geography, Graduate School of Geography, Clark University, 2003.
Masters in Public Affairs, Woodrow Wilson School of Public & International Affairs, Princeton University, 1995.

Field of Study: International Development
Certificate in Science, Technology, Environment and Policy

Visiting Rotary Scholar, University of Zimbabwe, 1992.
MSc Programme in Tropical Resource Ecology, Center for Applied Social Sciences and Department of Biological Sciences

Double Major: Development Studies, Environmental Studies

ACADEMIC POSITIONS:
Utah State University, Logan, UT, August 2005 – present.

Assistant Professor of Human Geography, Department of Environment and Society, College of Natural Resources; Faculty Associate, The Ecology Center; Core Faculty, Latin American Studies.

AREAS OF RESEARCH SPECIALIZATION:
Current research: Labor migration and environmental change in Mesoamerica; Gendered rural livelihoods and environmental conservation; Women’s agricultural organizations in Calakmul, Mexico; Social capital, gender, and resource management in southern Ethiopia

Topical specialization subfields: Conservation & development, gender & environment, gender & development, land-use change, migration, smallholder agriculture

PEER-REVIEWED PUBLICATIONS, 2006-2011:
Journal Articles


*Book Chapters*


**COURSES TAUGHT, 2006-2011:**


ENVS 4950, *Special Topics: Environment & Society in Ethiopia* (international summer field course) (Su2008)

ENVS 4950/6900, *Special Topics: Environment & Society in Kenya* (international summer field course) (Su2007)

ENVS 6900, *Special Topics: Gender and Environments* (Sp2008)

ENVS 6900, *Special Topics: Natural Resources and Environmental Justice* (Sp2011)

**EXTRAMURAL FUNDING SUPPORT, 2006-2011:**
National Science Foundation, Geography & Spatial Sciences Program: "CAREER: Gendered Transnational Labor Migration, Agriculture, and Environmental Change in Mesoamerica" (PI), 2011-2016. $464,500 anticipated total (continuing grant), $322,000 awarded to date.

National Science Foundation, Anthropology Program: “Effects of International Migration on Land Use and Conservation in Mexico” (Collaborator and Paid Consultant), 2010-2011. $63,500 total, $3000 paid to Radel.


Graduate Student Research Grant (MS student: Kristi Green), Intermountain Region Digital Image Archive Center, NASA and Utah State University: “Analysis of Land-cover Change and Transnational Out-Migration Rates for the Southern Yucatan Peninsular Region” (PI), 2006-2009. $20,000.

Research and Social Action Grant, Joint Initiatives Program, Ryoichi Sasakawa Young Leaders Fellowship Fund: "Community Energy Initiatives: A Grassroots Solution for Empowering Poor Women and Girls through Access to Alternative Energy Technologies in Arusha, Tanzania" (Consulting Team Member), 2007-2008. $20,000 total, $0 to Radel.
H. CHARLES ROMESBURG

Department of Environment and Society
College of Natural Resources
Utah State University, Logan, UT 84322-5215
Phone: (435) 797-2418
e-mail: Charles.Romesburg@usu.edu

EDUCATION:
Ph.D. in Operations Research, minor in biostatistics (University of Pittsburgh)
M.S. in Nuclear Engineering (University of Arizona)
B.S. in Mechanical Engineering (Lafayette College)

PROFESSIONAL POSITIONS:
Utah State University - Professor, Department of Environment and Society, 2002-Present
Utah State University - Professor, Department of Forest Resources, 1984-2001
Utah State University - Associate Professor, Department of Forest Resources, 1978-1983

AREAS OF RESEARCH SPECIALIZATION:
Methods of scientific inquiry, decision theory, biostatistics

ARTICLES:


BOOKS:


COURSES TAUGHT (2006-present):

Envs 3500. Quantitative Assessment of Environmental and Natural Resources Problems (3 cr., taught yearly).

Envs 6700. Research Approaches in Human Dimensions of Ecosystem Science and Management. (3 cr. co-taught since 2009).

Envs 6900 Graduate Student Publishing Seminar. (2 cr., taught yearly since 2009).

HONORS/AWARDS:


CITATIONS:

For the five-year period of 2006 through 2010, Web of Science records 272 research articles citing publications of mine for which I am the sole author. In 2010, Google Books listed about 1,500 books citing my articles or books.

WEBSITE PRESENCE:

For the five-year period of 2006 through 2010, my academic websites on education matters averaged more than 100,000 page views per year.
EDUCATION:

University of California, Davis (9/81-9/86)
Degrees: M.S. 1985, Ph.D. 1986
Major: Biological Ecology, specializing in the integrated management of biological systems

University of Nebraska, Lincoln (8/78-9/81)
Degree: M.S., 1981
Major: Forestry, Fisheries, and Wildlife, specializing in wildlife biology; minor in ecology

The Ohio State University, Columbus (9/72-6/76)
Degree: B.S., 1976
Major: Natural Resources (with distinction in wildlife management)


PROFESSIONAL EXPERIENCE:

Utah State University, Academic Service-Learning Program: 1/05-present.
Service-Learning Coordinator – 49% time. Administer Academic Service-Learning program and the Service-Learning Scholars program.

Utah State University, Department of Environment and Society: 1/05-present.
Associate Professor - 51% time. Education responsibilities include advising the Environmental Studies majors, teaching, and resolving and managing the conflicts between humans and wildlife. Also a member of the Ecology Program faculty and an Adjunct Associate Professor in the Department of Forestry, Range, and Wildlife Sciences.

Utah State University, Department of Environment and Society: 7/02-12/04.
Associate Professor - 40% policy outreach, 20% research, and 40% teaching. Outreach responsibilities emphasize nationwide professional and public participation in wildlife management policies and practices. Teaching responsibilities include courses in wildlife policy and wildlife management. Research focuses on wildlife policy development, and human dimensions of wildlife.

Utah State University, Department of Fisheries and Wildlife: 7/91-6/02.
Associate Professor and Extension Wildlife Damage Specialist (Assistant Professor 1991-1997).

University of Hawai`i, Manoa, Department of Botany: 8/99-7/00.
Visiting Colleague- Sabbatical year

Acting Assistant Deputy Administrator - Policy development, analysis, and evaluation for federal wildlife damage management programs.
University of California, Berkeley, Dept. of Forestry and Resource Management: 10/86-10/91.
Natural Resource Associate Specialist - 100% Cooperative Extension appointment, focused on research and extension in north coast area of California for the Integrated Hardwood Range Management Program.

UNIVERSITY TEACHING EXPERIENCE (since 2006):
ENVS 3600, Living with Wildlife
ENVS 1990, Professional Orientation to Environment and Society
ENVS 5000, Collaborative Problem-Solving for Environment and Natural Resources (co-instructor)
ENVS 4950, Service-Learning Practicum

PEER-REVIEWED PUBLICATIONS (since 2006):

OLDER SIGNIFICANT PEER-REVIEWED PUBLICATIONS:

OTHER PUBLICATIONS (since 2006):


EXTRAMURAL SUPPORT:

RECENT AWARDS:
Faculty Service-Learning Award through the Utah Campus Compact in 2004; President’s Volunteer Service Award in 2004; Utah Division of Wildlife Resources Volunteer Award 2005; 2008 Northeast Extension Directors’ Award for work with Internet Center for Wildlife Damage Management; College of Natural Resources, Advisor of the Year award in 2007 and the Teacher of the Year in 2004; USU Faculty Service-Learning Award through the Utah Campus Compact, 2004.

Appointed to USDA National Wildlife Services Advisory Committee, 2008.1
JOSEPH A. TAINTER  
Department of Environment and Society * Utah State University  
5215 Old Main Hill, Logan, Utah 84322-5215  
Telephone: 435-797-0842 * Email: joseph.Tainter@usu.edu

EDUCATION:  
B.A., Anthropology, with honors, University of California at Santa Barbara, March, 1972.


Ph.D., Anthropology, Northwestern University, June, 1975.

PROFESSIONAL POSITIONS:  
Professor of Sustainability, Department of Environment and Society, College of Natural Resources, Utah State University, Logan, Utah, 2009–.

Guest Professor, Center for Studies of Science and Humanities, Beijing Normal University, Beijing, China, 2009.

Professor and Head, Department of Environment and Society, College of Natural Resources, Utah State University, Logan, Utah, 2007–2009.

Research Professor, Global Institute of Sustainability and School of Human Evolution and Social Change, Arizona State University, Tempe, Arizona, 2005–2007.

Project Leader, Cultural Heritage Research, Rocky Mountain Research Station, USDA Forest Service, Albuquerque, New Mexico, 1994 to 2005.


Research Assistant Professor, Paleo-Indian Institute, Eastern New Mexico University, Portales, 1978-1979.

Assistant Professor of Anthropology, University of New Mexico, 1975-1978.

Research: Evolution of complexity; sustainability; energy; innovation; conflict.

BOOKS (2006-2011):  


BOOKS (prior to 2006):


MAJOR ARTICLES (2006-2011):


SELECTED ARTICLES (prior to 2006):


RICHARD E. TOTH
Professor * Department of Environment & Society * Utah State University
435-797-0694 * richard.toth@usu.edu

EDUCATION:
Harvard University, Graduate School of Design, Master of Landscape Architecture - 1963.
Michigan State University, Bachelor of Science - 1961, Major - Landscape Architecture.
Trenton Junior College, Associate in Science - 1958, Major - Natural Sciences.

TEACHING – FULL-TIME AFFILIATIONS:

Graduate School of Design, Department of Landscape Architecture, Cambridge, Massachusetts. Associate Professor and Research Associate - 1970-1972. Assistant Professor and Research Associate - July 1968-June 1970.
Faculty Member, Continuing Professional Education Program. Seminar on Landscape Resource Analysis, 1971, 1972, 1974. Sponsored jointly by the Harvard Graduate School of Design Association and the Harvard Graduate School of Design.


University of Pennsylvania, Graduate School of Fine Arts, Department of Landscape Architecture and Regional Planning, Philadelphia, Pennsylvania. Assistant Professor of Landscape Architecture, September 1965 to June 1968.

AREAS OF RESEARCH:
Water Resources - Analysis, Planning and Management
Design Theory – Two and three dimensional analysis

PEER REVIEWED JOURNAL ACTICLES:


Design Theory--Philosophy, Curriculum, And Methods, Principal participant, panel chair. Council of Educator’s in Landscape Architecture, Providence, RI, August 1987.

COURSES TAUGHT:
ENVS 6200 – Bioregional Analysis and Planning, Fall 5 cr.
ENVS 6210 – Bioregional Management and Planning, Spring 5 cr.

EXTRAMURAL FUNDING/SUPPORT*:
“Alternative Future Growth Scenarios in the Great Salt Lake Basin.” George S. and Dolores Dore Eccles Foundation, $300,000 matching grant ($100,000 in 2007, 2008 and 2009)


Environmental Planning and Design Center, Marriner S. Eccles Foundation. Funding for academic/outreach projects and activities for rural communities in the Intermountain area. Multiple grants, PI: R. E. Toth, 2005-2011. $114,000.

* All of the projects supported one to three graduate research assistants per year.
HONORS AND AWARDS:

- University of Michigan School of Natural Resources and Environment Symposium on Alternative Futures Modeling. One of three nationally invited faculty to discuss Conceptual Development and Methodologies. University of Oregon, Harvard University, and Utah State University Feb 2-3 2007.
- Utah Nonpoint Source Water Quality Task Force “Award of Excellence” for leadership in regional landscape and environmental analysis studies throughout Utah. Presented to Professor Toth, September, 2001.
- American Planning Association (A.P.A.), Merit Award for “Plan Development.” A case study for the Alternative Futures for the Bear River Watershed 2005.
- Council of Educators in Landscape Architecture - C.E.L.A. Elected positions, 1st Vice-President, 1973-74; President, 1974-75; Past President, 1975-76; Member, Nominating Committee, 1978, Chairman, Teaching Awards, 1984.
Appendix B.

Research Productivity: 2007-2011
1. Publications by Environment and Society faculty, staff and students

2011


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**Bold face** indicates ENVS faculty or staff member, **bold*indicates graduate student author.


2010


**Monz, C.A.** and D’Luhosch, P.D. 2010 A simplified image analysis method for monitoring wilderness campsites. *International Journal of Wilderness* 16(1) 26-31


2009


2008


2007


2. Extramural and Competitive Grants Awarded

Summary of awards:

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
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<tr>
<td>No. of awards</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>11</td>
<td>15</td>
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<tr>
<td>Total funding</td>
<td>$328,038</td>
<td>$482,646</td>
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2011


Endter-Wada, J. (PI), Western Water Assessment (NOAA) and University of Colorado at Boulder, “Decision Support Software for Promoting Urban Landscape Water Use Efficiency,” $46,460.


Ma, Z. (co-PI), USDA NIFA National Needs Graduate Fellowships Program, “Managing for resilience in forested ecosystems of the Intermountain West: a model for training future researchers and managers. $21,500, total award $236,000.

Ma, Z. (co-PI), USU Seed Program to Advance Research Collaborations, “Rapid beef finishing on Birdsfoot Trefoil pastures for sustainable mitigation of climate change,” $12,879, total award $35,000.

Monz, C. (co-PI), USDA Forest Service, “Alternative transportation planning study at Colorado Front Range high visitation sites in the Arapaho-Roosevelt National Forest ,” $80,000, total award $460,000.


2010


Brunson, M (PI), National Park Service, Rocky Mountain National Park. “Natural Resource Assessment Workshop: A Pilot Demonstration Project at Rocky Mountain National Park,” $18,000..

Brunson, M. (PI), Utah Agricultural Experiment Station, “Motorized Recreation Use in Colorado Plateau Forests and Rangelands: Potential Interactions with Climate Change, $19,598.


Ma, Z. (PI), Utah Agricultural Experiment Station, “Understanding Utah farmers’ perceptions of carbon sequestration programs and their likelihood of participation,” $20,000.


2009

Brunson, M. (PI), National Park Service/Yellowstone Association (various awards), Support for Science Communication, Greater Yellowstone Science Learning Center, total $146,677. Principal investigator.

Burr, S. (PI), Promontory Ranch Club (Park City, UT), Promontory Ranch Interpretive Kiosks and Trail Brochure, $17,000.

Endter-Wada, J. (co-PI), Seed Program to Advance Research Collaborations (SPARC), Utah State University, “Intervening to Encourage Water Conservation: developing an interdisciplinary urban water conservation research program at USU,” $34,988.

Laudati, A. (PI), Cactus and Succulent Society of America, “Rustling in the Desert: A political ecology of the trade in wild and endangered cacti in the American Southwest,” $1,500.

Ma, Z. (PI), USU Research Catalyst program, “understanding landowner perception of climate uncertainty and assessing the viability of a carbon sequestration policy in Utah,” $19,952.

Ma, Z. (PI), USDA Forest Service, Northern Research Station, “Family Forest Research,” $17,190.


2008


Laudati, A. (PI), USU Research Catalyst Award, “The Natural Face of Conflict: Resources and the Politics of Identity in Africa’s New Wars,” $20,000.


Monz, C. (co-PI), National Park Service, Rocky Mountain National Park, “Modeling the Effects of Alternative Transportation on Resource Protection and Visitor Experiences in Rocky Mountain National Park,” $90,000, total award $380,000.

Monz, C. (PI), National Park Service, Kenai Fjords National Park, “Protecting Sensitive Coastal Resources from Backcountry Visitor Impacts,” $9,000.


2007


Radel, C. (co-PI), USU-Advance collaborative seed grant program, “Male Out-Migration and Socio-Environmental Change in Sending Communities: A Comparative Study of Mexico and Morocco” $5,000, total award $10,000.


Toth, R. (co-PI), U.S. Fish and Wildlife Service, “Identification of Landscape-Level Stressors in the Upper Colorado River Ecosystem” $80,000.