

environmental field studies abroad



kenya

mexico

turks & caicos islands

australia

costa rica

2005 **course catalog**

The School for Field Studies



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Dear Student:

In 2005, The School for Field Studies will celebrate its twenty-fifth year of operation. Since 1980, it's been our honor to provide high-quality environmental education to more than 12,000 students. But we've done so much more than simply educate.



Over the years, SFS has evolved into a year-round study abroad program that responds to the needs of resource-dependent communities. Through our permanent field research centers and years of commitment and hard work, we've earned the respect of our host communities around the world by providing relevant research data and technical advice.

As our student, you'll likely find your SFS program unlike anything you've ever experienced before. You'll work side by side with an international research team and people on the front lines of environmental challenges—from Maasai tribespeople to Mexican fisherman to Costa Rican farmers. You will go beyond simply studying environmental problems—you'll be building solutions.

The world is growing increasingly complex and divided along socio-economic and political lines. The effects of globalization, the role of the industrialized nations relative to the poor and developing nations, and issues of worldwide health and environmental justice are daunting challenges that require sophisticated solutions. Our program teaches the technical and leaderships skills you will need to address these formidable problems. Through SFS, you'll gain a new appreciation for your potential role in the world. You'll be energized by your participation in the international community and emboldened by your ability to tackle complex environmental issues.

We offer an experience that will surely guide your future endeavors as a student and professional. I know three SFS alumni who live in my small neighborhood in Boston. While they are pursuing various careers, from teaching to finance and public policy, they've each told me that their SFS experience continues to influence their decisions, actions and aspirations.

I encourage you—I challenge you—to engage in this process of personal growth and preparation. At a time when so much is disrupting the human community and the natural environment, you can choose to be an active agent of positive change.

Paul Houlihan

Paul Houlihan
President

environmental education is more urgent than ever

Global warming, the loss of species and critical acres of rainforest, pollution, overpopulation and unsustainable use of natural resources are just a few of the threats on the environmental frontline. And as environmental problems become increasingly more complex, so must our solutions. Ultimately, saving our planet will require environmentally aware leaders with professional skills who can promote an understanding of the complexities and dynamics of environmental management and mobilize society to action. Environmental education must be given the highest priority in today's conservation agenda.



The SFS educational model at work.

Our unique educational model combines interdisciplinary teaching, field research and community service. As part of our proven problem-solving approach, students, faculty and the local community interact in innovative and cooperative ways to deal with local environmental threats. Each SFS Center is a working field research station and focal point for community dialogue, environmental understanding and positive change. It's a small scale model of how we can protect the global environment. And it works.

SFS believes that a personal commitment to conservation results from a meaningful personal experience founded on intellectual understanding. SFS is a widely respected leader in providing students with the context and framework for transforming intellectual and experiential learning into effective action.

"Studying with SFS means learning in a place where the issues can be touched and examined. The problem is here. It is now. And I'm here trying to fix it. That is the heart of the program and it is amazing."

— Noelle Lucey, Turks & Caicos 2002

Learn how to confront today's environmental problems.

Become a member of our international research teams at the heart of some of the world's environmental hotspots to engage in high-level field research. Through our interdisciplinary approach and close work with local communities, you will learn how to effectively address some of today's most pressing environmental problems. Whether you choose to help restore critically fragmented rainforests in Australia, tag and protect endangered sea turtles in Mexico, find ways for people to share limited resources with wild animals in Kenya, help Costa Rican farmers transition to more sustainable methods of agriculture, or preserve a pristine coral reef in the Caribbean, your contribution will make a difference.

"I was immersed in the issues, spoke with local people, worked on solutions for an ecologically, socially, and economically sustainable future. For every question answered, I found several more waiting to be asked."

— Garrett Meigs, Cornell University, British Columbia 2003

Experience personal and professional growth.

Cross-cultural understanding, international experience, hands-on field learning and practical, transferable research and problem-solving skills are only a few of the benefits of participating in our programs. Today's global economy increasingly calls for individuals with experience that extends beyond a traditional classroom education. SFS students develop exceptional leadership skills, self-confidence, a deeper understanding of today's environmental challenges as well as increased marketability as professionals.

"Because the SFS program is so rigorous, entails living in close proximity with people you barely know in a very remote, exotic location, because you are encouraged to participate and speak your mind you are given the opportunity to discover who you are and how you affect life on our planet."

— Kerry Eldred, Florida State University, Kenya 2001

Help resource-dependent communities and the environment.

Around the world, we are committed to preserving the ecological health and sustainability of resource-dependent communities. Together with our local community partners, we identify their most urgent environmental issues and develop appropriate research plans and solutions. Through our ongoing research projects, SFS students and faculty provide high-quality results and recommendations that promote the sustainable use of natural resources upon which these communities depend. The personal relationships students develop with members of the local community put a human face on the environmental problems they are studying. For many students, these often long-enduring friendships are the most rewarding part of their SFS experience.

"Before embarking on this program I thought I would be mostly interested in the wildlife, but the moment I saw the people I knew they would have the biggest impact on me. Living at Kiimanjaro Bush Camp and interacting with the Maasai was the most profound part of the entire program."

— Allyson Simes, Montserrat College of Art, Kenya 2001

"We shan't save all we should like to, but we shall save a great deal more than if we had never tried."

— Sir Peter Scott
WWF founder
www.wwf.org



SFS overview

About The School for Field Studies

Founded in 1980, The School for Field Studies (SFS) is one of the country's oldest and largest undergraduate environmental study abroad programs. Through our network of field stations, we have been teaching students how to address critical environmental problems using an interdisciplinary, experiential approach to education. We take our students out of the classroom and into communities around the world to explore and examine the interdependent cultural, economic and ecological aspects of real-world problems. In the end, our students leave their SFS program with a deeper understanding of the complexity of environmental issues, and a unique perspective on what it really takes to develop long-term conservation solutions.

How do you choose a program?

Key to the SFS model is working closely with local communities to address environmental issues. No matter which program you choose, you will develop a unique perspective on the realities of developing long-term conservation solutions. You will gain relevant field experience and leadership skills that will help prepare you for nearly any professional career. Browse our catalog and website (www.fieldstudies.org) to learn about the research at each of our field stations. Focus on programs that reflect your personal interests as well as your academic and career goals. Then contact an SFS Admissions Counselor at 1.800.989.4418. They can offer advice and put you in touch with SFS alumni for a first-hand student perspective.



Who studies with SFS?

We encourage students from many disciplines—environmental science, biology, liberal arts, economics, pre-vet and pre-med, engineers, business administration, communications, and more—to join our field research projects. We welcome a diverse student body and promote an atmosphere open to different cultures and perspectives. Students come to us from over 300 colleges and universities with a broad spectrum of backgrounds and experiences to participate in our semester and summer programs. In keeping with our interdisciplinary approach to environmental problem solving, we strive to build teams that represent a cross-section of the global student body.

Academic Program

Our interdisciplinary, experiential approach to education is designed to train students to learn by doing. As students engage in high-quality field research, they begin to understand the challenges of confronting environmental issues. They learn the value of experiencing another culture, of collaborating with their fellow students and with the local community to develop workable solutions. They are also given the rare opportunity to work side by side with an international research team and learn state-of-the-art field research skills.

Admission

Applications from qualified candidates are considered on a first-come, first-served basis. It is therefore to your advantage to submit a completed application as early as possible. Programs fill quickly, so we encourage you to apply early to ensure admission into the program of your choice. Applications are reviewed on a year-round, rolling basis. For details, please refer to page 36. You can now apply on-line from our website: www.fieldstudies.org.

Curriculum and Academic Credit

SFS students are registered at, and receive credit from, Boston University, which accredits our programs. Most students from SFS Affiliate and Consortium schools receive credit directly from their home institutions. (See page 39 for details).

- **Semester programs:** Four courses of four credits each, averaging 95 days (including a five-day midterm break). Costa Rica and Kenya semester programs feature an additional culture and language course, which carries 2 credits for a total of 18 semester credit hours.
- **Summer courses:** Condensed, 30-day, four-credit programs. Like our semester programs, they include lectures, field exercises, research and field trips.

Financial Aid

Approximately one-third of our students receive SFS financial aid in the form of grants, scholarships and interest-free loans. A key component of the SFS mission is to ensure that as many interested and eligible students as possible are able to participate in our programs. If you need financial assistance, we strongly encourage you to submit an SFS Financial Aid Application (available on our website: www.fieldstudies.org) as soon as possible. Qualifying students may use a combination of federal financial aid (Stafford Loans, Pell Grant and PLUS Loans), home school grants, and SFS financial aid and scholarships to participate in our programs. You must apply early to be considered for SFS financial aid and you should consult with your home school to determine whether you may use your institutional financial aid. *For details regarding financial aid and program costs, please refer to page 37.*



"I learned from SFS that when society, economics, culture, and nature intersect, many complex problems arise, with just as many complex possible solutions. Nothing is simple. There are just as many answers as questions, and just as many angles to a situation as there are interpretations about what exactly the situation is. Sound complicated? It is—I learned that, too!"

— Catherine Schmidt
Whitman College
Costa Rica, 2002

What language preparation will you need?

All SFS courses are taught in English. However, your interaction with the local community will be greatly enhanced if you have local language conversation skills. We do offer informal language instruction at our Mexico program.

Costa Rica and Kenya semester students will now receive two additional credits (twenty contact hours of language instruction; twenty hours of lecture, field and community activities) for our new culture and language courses. These courses will better integrate the socio-cultural aspects of our Costa Rica and Kenya programs. You will need to have completed at least one semester of college-level Spanish or otherwise demonstrate a level of proficiency to participate in our Costa Rica semester program.

Safety

Studying abroad is not without risks. At SFS the safety and well being of our students is a top priority. We have developed a comprehensive safety scheme that includes a full time Safety Director, on-site Student Affairs Managers and a Safety Advisory Committee. We have excellent information and communication systems and a full repertoire of contingency plans. Staff and students are continuously engaged in safety education, judgment training and intercultural competency training. *Please refer to page 7 for more details.*

Faculty

SFS offers a guided learning experience where teaching and mentoring are the foundation of the student's experience. We believe that learning professional field skills requires highly qualified teachers. Each field station is staffed by a Center Director and two to three full-time, resident faculty. Professors are selected based on their teaching and research qualifications, leadership skills and commitment to field research and community-based environmental work. Most of our faculty are native to the country/region in which they teach, and nearly all have their Ph.D.

faculty profiles

Mentoring by our faculty teams is key to the SFS model. Every SFS field station is staffed with a Center Director and two or three full-time faculty who are trained in marine and terrestrial ecology, natural resource management, socio-economics and policy.



Simon

Robyn

Nolan

Francisco

David

Simon K. ole Seno, Ph.D., Center Director

Center for Wildlife Management Studies, Kenya
Ph.D. in Wildlife and Fisheries Science, Minor in Cultural Anthropology,
University of Arizona

Seno went to school when most Maasai did not—he wasn't a good livestock herder, so his father directed him to school instead. Seno earned a B.S. in Range Science and an M.S. in wildlife ecology from New Mexico State University and his Ph.D. from the University of Arizona. He worked for the Kenyan government for over 7 years and taught at Moi University for more than 15 years. He has traveled extensively in Zambia, Zimbabwe, Botswana, Namibia and Uganda to study human related conservation problems. While most of Seno's training is in wildlife ecology and management, his recent focus is in human dimensions in natural resource conservation.

Robyn Wilson, Ph.D., Center Director

Center for Rainforest Studies, Australia
Ph.D. in Animal Ecology and M.Sc. in Tropical Ecology,
James Cook University

Robyn has worked in tropical ecology for 15 years as a lecturer and researcher. She has a multidisciplinary approach to research, combining ecology and social science research methodologies with a focus on wildlife-human interactions. Her Ph.D., conducted in the Australian tropical rainforest, addressed the impact of roads and power lines on the movements of arboreal mammals. Her recent research focused on biophysical and psychosocial impacts associated with visitation to the rainforest and has led to the development of a visitor monitoring system for the Wet Tropics of Queensland World Heritage Area.

Nolan Quiros, Ph.D., Center Director

Center for Sustainable Development Studies, Costa Rica
Ph.D. in Agricultural Economics, Oklahoma State University; LL.M.,
International Environmental Law, American University; J.D.,
University of Costa Rica

Nolan started his professional career as a lawyer in Costa Rica with a great interest in international trade issues. He later worked as a researcher for the Center for International Environmental Law and as a visiting scholar for the Environmental Law Institute, focusing on the impact of trade in the environment, and he participated in the Costa Rica-Mexico Free trade agree-

ment negotiation team. Nolan returned to the U.S. as a Research Associate at the Oklahoma State University Policy Center where he finished a Ph.D. in Agricultural Economics, focusing on the effect of U.S. Agricultural Programs on the economy and the environment. He has collaborated with the U.S. Department of Agriculture in a variety of U.S. domestic projects and with the Organization of Economic Cooperation and Development in Paris on international environmental research.

Francisco Ollervides, Ph.D., Center Director

Center for Coastal Studies, Mexico
Ph.D. in Wildlife & Fisheries Science, Texas A & M University

Over the past ten years, Paco, as he is known, has been involved with SFS in various capacities—from sponsored student at the original Marine Mammals program in La Paz, to intern in Mexico and Costa Rica to faculty in Mexico. While conducting research for his Ph.D. Paco arrived with the whales every spring for the first four years of the Center for Coastal Studies programming in Puerto San Carlos. His doctoral studies involved assessing the impact of whale-watching activities on the bio-acoustic behavior of gray whales in Magdalena Bay. Just prior to re-joining SFS as director of the Center for Coastal Studies in July 2003, Paco was coordinator of the Nature Guide Training Program within the Ecotourism and Community Development Program at the RARE Center for Tropical Conservation in Sian Ka'an Biosphere Reserve, Quintana Roo, Mexico.

David Wilson, Ph.D., Center Director

Center for Marine Resource Studies,
Turks & Caicos Islands
Ph.D. in Marine Ecology, James Cook University &
the Australian Institute of Marine Science

Dave's education and fieldwork research have focused on coral reef and reef species ecology. His thesis focused on the patterns and processes of coral reef fish larval supply to the San Blas Archipelago, Caribbean Panama. Dave spent two years with the Smithsonian Tropical Research Institute in Panama City as a Pre-Doctoral Fellow. Before joining SFS, Dave worked as a project leader for the Department of Marine and Wildlife Resources in Pago Pago, American Samoa. His program, the 'Biology and Ecology of Key Reef Species,' was part of a territory-wide coral reef monitoring program that the department committed itself to developing.

what are they doing now? SFS alumni



John Rollino

Turks & Caicos Islands, 1995 • Senior Ecologist, Earth Tech, Inc. • MS Geoscience, Montclair State University 2002 • MA Environmental Studies, Montclair State University 1998 • BA History, Upsala College 1994 • BA Anthropology, Upsala College 1994

After graduating college in 1994 and working for a year, John realized that he was in need of additional field experience to better prepare himself for both the “working

world” and graduate studies. “SFS provided me with the opportunity to immerse myself in the field of ecology and obtain the necessary experience to pursue my professional and academic goals,” he says.

John has nine years of experience as an ecologist specializing in wetlands and marine ecology. He is also an expert in coral reef ecosystems and tropical marine science and currently serves as the Principal Investigator of one of the longest running coral reef monitoring projects in the world: “Bahamian Reef Survey,” an Earthwatch Institute research team. The project collects seasonal baseline data on coral reefs three times a year (since 1992) on the island of San Salvador in the Bahamas. John’s responsibilities include designing and leading ecological studies; conducting wetlands delineations and natural resource inventories; preparing environmental impact statements, environmental assessments, and essential fish habitat documentation; collecting, cataloging, and inventorying biological organisms.

Emma Reid

Australia, 1993 • British Columbia, 1995-96 (intern) • Producer, Discovery Channel Canada - Exploration Production Inc. • B.Sc. Environmental Protection, University of Guelph, Ontario, Canada & M.Sc., Environmental Assessment and Evaluation, London School of Economics, London, UK

As a producer for Discovery Channel Canada, Emma has worked on a variety of long format science and nature documentaries. Her job involves researching topics, planning shoots, going into the field to work with researchers, writing scripts and editing all of the footage.

Emma just finished producing a 13-part series for Discovery Channel Canada that followed different wildlife researchers in the field as they went about trying to capture, tag or track different wild animals. She was the director for most of the series as well as overall producer, filming across Canada, in the U.S. and also in Brazil. With *Into the Wild*, Emma’s team showed viewers just how researchers come to such conclusions as a decline in polar bear populations, or a rise in black bears populations.

Emma heard about SFS from a family friend who had gone on the Turks and Caicos Islands program. “I’d been looking for an adventure and an opportunity to study environmental issues in an international context,” she says. “SFS helped me further develop my research and communication skills, and my self-confidence. The experience taught me to explore and appreciate the beauty in many areas of science and how to be an effective team player. The academic pursuits with real and relevant community applications really set SFS programs apart. SFS has a great model and one that I hope continues to thrive as it benefits communities as well as students.”

Meghan McGrath

Mexico, 1997 • Youth & Program Coordinator • Neighborhood of Affordable Housing, Boston, MA • Peace Corps Volunteer • Parks Wildlife & Education Volunteer • Madagascar, 2000-2002 • B.A., Environmental Science, Saint Anselm College, 1998

“Being in Baja let me know that I could do whatever I set my mind to,” recalls Meg. “I went without knowing Spanish and came home having friends who spoke no English. The real education came from the people.”

“I began to see that I could make it anywhere. That if you challenge yourself, you’re capable of anything. Being in Baja opened my eyes to another culture - one with which I fell in love. College students tend to live in a bubble and my semester with SFS burst that bubble completely. It changed my world view. I’ve never reverted back.”

Meg’s experience with SFS was only a first step in her international career. After college, she fulfilled a life-long dream by joining the Peace Corps. In 2000, she began her service as a Parks Wildlife & Education volunteer in the village of Ambatovaky, Madagascar.

Meg now works in the Community Building & Environment Department of the non-profit organization Neighborhood of Affordable Housing (NOAH) in East Boston, MA.



Eric Michael Steinberg

Mexico, 1995 • Post-doctoral scholar, PSU College of Medicine, Hershey, PA; Zoo veterinarian, ZooAmerica, Hershey, PA; Shelter veterinarian, The Humane Society of the Harrisburg Area, Harrisburg, PA • B.A., Biology and Chemistry, Skidmore College, 1995; D.V.M., The Ohio State University College of Veterinary Medicine, 2003; & M.S., Comparative Medicine, The Pennsylvania State University College of Medicine, M.S., 2005

“I know life experience is something that happens with time, but I needed to get out there and see the world while I was still in college. A friend of mine suggested SFS, and as I was going through the brochure, I was intrigued with the Mexico and Kenya programs because in part for my love for animals,” recalls Eric.

Between college and vet school, Eric gained a wide variety of experience in different parts of the U.S., including work in a raptor rehabilitation center, work at Cleveland Metroparks Zoo in the horticulture department and on Amazon River dolphins, and work in the Suncoast Seabird Sanctuary. At Ohio State, he had the opportunity to do his elective quarter of vet school at the Dallas Zoo. After Mexico, the Dallas Zoo was the best experience I’ve ever had. But nothing will ever come close to Mexico,” says Eric.

Currently at Penn State, he works in the Department of Comparative Medicine, where he is responsible for the care and treatment of all animals that are housed there. Finally, he also works at the Humane Society of the Harrisburg Area. “There is no better feeling or reward than seeing a happy dog or cat go home with a new owner. It just makes your day.”

make a difference through research

Research and Education for a Sustainable Environment

Engaging students in long-term, meaningful research that will directly benefit resource-dependent communities is central to the SFS mission. We take our lead from our local community partners, who identify their most urgent environmental issues, from which we develop research plans with the ultimate goal of proposing practical solutions. An interdisciplinary, case study approach is the means by which we develop our course content so that students learn to appreciate the complicated and multi-faceted nature of environmental problems.



Australia

Restore critically endangered rainforests in a rapidly changing global climate.

Rainforests are one of the world's most important and diverse ecosystems yet thousands of acres disappear each day. Along with the loss and fragmentation of rainforest areas, global climate change may be playing an important role in influencing the loss of plant and animal species.

Learn about the current condition and dynamics of a tropical rainforest ecosystem, including what might be happening to this system as a consequence of global climate change. With the results of our research and replanting projects, we will help to better understand the potential implications of global climate change on a rainforest ecosystem, connect and create corridors between existing rainforest fragments, protect local drinking water sources and share best site management practices with rainforest restoration researchers locally and worldwide.

Costa Rica

Protect Costa Rica's remarkable biodiversity while enhancing the livelihoods of its people.

Discovering ways to strike a balance between protecting precious ecosystems while helping communities use their resources wisely is of critical concern in the developing tropics. Costa Rica, which has one of the world's most biologically diverse and unique natural environments, has experienced significant resource degradation linked to population growth, industry and development all of which threaten to ruin this tropical paradise. Learn to create strategies that effectively promote land use that is economically, socially and ecologically viable. With the results of this research (including our own transitional organic farm), we will help to develop protocols and training for farmers to help them obtain organic certification, select and monitor indicators of biodiversity, as well as provide information about improving national park operations. Our field research and coursework takes students on a special trip to Nicaragua.

Baja California Sur, Mexico

Restore the waters of Magdalena Bay for the protection of gray whales, endangered sea turtles and the residents of Puerto San Carlos.

A recent report from federal environmental officials in Mexico City warns that despite nearly two decades of conservation efforts, important sea turtle species are sliding towards extinction worldwide. Bahía Magdalena is one of the largest remaining coastal wetland systems along the Pacific coast and is among the world's most important habitats for several species of endangered sea turtles and California Gray whales. Our research and conservation efforts are more urgent than ever as we explore ways to conserve the ecological health of Bahía Magdalena and improve the management of its exploited marine resources. All while sustaining the socio-economic stability of the local community. Our research monitors marine resources, water quality and the protection and conservation of the gray whale and the highly threatened green sea turtle.

Kenya

Discover key sources of conflict between traditional Maasai settlements and wildlife as they compete for dwindling resources.

At the base of Mt. Kilimanjaro, Maasai communities struggle to maintain their traditional way of life while sharing land and resources with wildlife populations. Work with our research team and wildlife managers to research options for ensuring wildlife survival, while protecting the Maasai way of life. Our research investigates range and wildlife ecology, as well as human-wildlife conflict and competition for scarce resources around national parks. Our goal is to provide advice that will help maintain ecological balances in and around protected areas and sustainable co-habitation between human settlers and wildlife.

Turks and Caicos Islands

Protect a pristine coral reef and marine ecosystem from impending tourism development.

The marine ecosystem and reefs of South Caicos—one of the top 10 marine environments in the world—harbor an incredible array of marine life—coral, sea turtles, sharks, barracuda and more. This abundance of life and the relatively intact and healthy ecosystem that supports it has offered much of the community on South Caicos Island their primary means of livelihood. However, pollution and over-harvesting of precious marine resources coupled with the increasing development of commercial industry, may soon do irreparable damage to this delicate ecosystem. Through SCUBA diving/snorkeling and collaboration with government agencies, conduct field research that will provide the local community and tourism developers with advice that will help sustain the traditional fishing economy as well as minimize the environmental impacts of growing tourism on the terrestrial and marine environments.

semester programs

Semester Program Structure and Content

Semester programs run for approximately 25 days, including a five-day midterm break (an opportunity to travel on your own). We compress a 16-week semester into 14 weeks, so be prepared for a very intensive, but rewarding learning experience!

Field Station Research Plans

SFS staff, working with the local community and local authorities, establish a multi-year research plan that drives the direction and timing of their own as well as student Directed Research projects and most course-related field exercises and excursions.

Elements of the SFS Academic Program

SFS semesters are designed to train students to become competent field researchers. We identify the Directed Research projects for each student and then train them to carry out the projects through three courses delivered in a case study format.

Courses and Field Exercises

Faculty provide the core lectures needed to understand the content areas pertinent to the case study and research questions (ecology, natural resource management, socio-economics and policy and directed research). Students are enrolled in four courses of four credits each, including the Directed Research project.

Daily schedules vary. The first half of the semester includes approximately fifteen 60-90 minute lectures a week plus 3-5 other academic activities (e.g., research, field exercise, group meetings, presentations and guest lecturers). Afternoons are often filled with field exercises and field trips. Academic activities occur six days a week with at least part of one weekday devoted to a community service activity. Extended field trips, weather conditions and schedules of guest lecturers may affect the daily schedule.

There are fewer lectures and classes toward the end of the semester as more time is allocated for work on the Directed Research projects. Our field stations are run cooperatively, so we ask for your help with daily chores and weekly site clean up.

Examples of field skills taught in our programs:

Animal behavior observations; population censusing; mark and recapture studies; radio tracking; habitat assessment; species (plant and animal) identification; geology and soil identification; water sampling methods; research mapping; timber estimation; transect and patch sampling; reef monitoring; data recording; etc.



safety is a priority

Any educational experience, whether attending a college or university in the United States or studying abroad, carries with it inherent risks which could include injury, illness or even death. SFS has a detailed plan in place designed to address safety concerns. This plan includes providing students with safety information before they get to the field, minimizing risk while in the field and having contingency plans to effectively react to an emergency situation, should one arise.

Highlights to the SFS approach to program safety and risk management include:

- **Safety Director:** a full-time professional focusing on managing the risks in our programs by promoting a high awareness of safety through training and risk assessment.
- **Safety Advisory Committee:** comprised of experienced professionals with medical, international, and outdoor program expertise.
- **Student Affairs Manager (SAM):** each field station's SAM is responsible for promoting safety in our programs through the ongoing presentation of a risk management and judgement curriculum. This includes an overview of all local risks and the review of a number of case studies. Part of their goal is to foster intercultural competence to assist our students in their navigation of an unfamiliar environment. The SAM also serves as the primary on-site medical person. At a minimum, SAMs are trained as Wilderness First Responders (a 72-hour medical course). Other SAM training may include Wilderness EMT, Lifeguard, Emergency Water Safety, Rescue SCUBA Diver, British Canoe Union/American Canoe Association kayak training.

Detailed predeparture information includes information on risks, safety, and health issues and a thorough on-site orientation to the country and community in which our students will be living.

kenya

Wildlife Management Studies

Environmental Issues

Urban, industrial and agricultural expansion and Kenya's soaring population increasingly threaten the habitat required by the country's precious wildlife. Lion, elephant, giraffe, rhino, monkey, zebra and other indigenous wildlife are the country's most famous and economically valuable resource. Previously nomadic peoples such as the Maasai, and the cattle herds they depend upon, have been confined to smaller plots of land, resulting in overgrazing and rangeland degradation. The wildlife, which have co-existed for centuries with these non-hunting peoples, are now seen as competitors for scarce water and grazing resources.

Parks and reserves that offer protection to wildlife are increasingly isolated as buffer zones surrounding the protected areas are being converted for food production. Reduced habitat undermines the long-term viability of Kenya's irreplaceable wild animal populations and the economically vital tourist industry they support. The search for ecologically appropriate solutions to the conflict between human and industrial pressures, such as food production needed to support a growing population, and wildlife habitat is urgent.





learn field research skills at the base of Mt. Kilimanjaro and in world-famous national parks. Live in close proximity to wildlife and local Maasai communities on an African savanna. Learn to speak Swahili and about East African tribal culture. Explore human-wildlife conflicts from the perspective of local ranchers, communities and park managers. Visit areas of Kenya and meet residents inaccessible to most tourists.





Our Research in Kenya

Our research focuses on exploring innovative ways in which Kenya's wildlife can be both conserved and utilized as an income source. Identifying appropriate land-use practices that enable local Maasai and other residents to maximize and sustain production without degradation of the environment is equally important.

The diverse habitat surrounding our Kilimanjaro Bush Camp is used by wildlife as a migration corridor between Tsavo and Amboseli National Parks. The Maasai also use this area primarily as a communal grazing zone for livestock. As a result, they often face economic hardship due to crop damage and loss of livestock inflicted by migrating wildlife. Through interviews with the Maasai, students gain a perspective on the priorities and challenges of addressing wildlife conservation among resource-constrained communities and learn about ecological and land-use characterization of the area. Student research is a critical first step in developing integrated land-use strategies that will enable residents to derive optimal benefits from their land and forestall additional fragmentation of key wildlife areas.

While based at our National Park Camp, students focus on management strategies for Kenya's oldest and most profitable national park. Increased development around Nairobi National Park threatens its biological integrity and has led to the decline of large mammal populations. Pollution threatens the water supply and plays a role in the mortality of numerous birds and animals. Increased human and livestock populations in areas surrounding the park are leading to intensified human-wildlife conflicts, including disease and destruction of crops by migrating wildlife. SFS students are assisting the Kenya Wildlife Service (KWS) and managers of the park through a suite of research projects, including: vegetation mapping; grazing and browsing impact surveys; large mammal population counts and distributions; educational facility upgrades; and human impact in the park.

Beginning Fall 2004, SFS introduces an Introduction to Swahili language and East African Tribal Culture course (LE) for two credits, which offers listening, oral and written practice of Swahili at the beginner level of proficiency. This training will enhance student communications with Maasai, and increase the immersion experience. The socio-cultural module helps students develop a more refined understanding of East African tribal culture and our community partners.



Field Research, Exercises and Lectures

Through our interdisciplinary approach and a combination of lectures, expeditions, field exercises and research, students learn techniques for wildlife management, wildlife ecology, environmental policy and socio-economic values. Field expeditions enable students to observe the pros and cons of various management scheme alternatives. Field expeditions might include:

- Research work with the highly-respected Amboseli Elephant Research Project, directed by Cynthia Moss. SFS students gain excellent experience with wildlife management techniques through recording elephant sightings, collecting census data, and examining human-elephant conflicts
- Maasai Mara: multi-day field trip that frequently includes sightings of lion, leopard and buffalo and a visit to the hippo pools. Hyena cries can be heard at night; by day, students conduct vegetation analyses comparing fenced and open grazing areas
- Manyatta: rare opportunity to glimpse Maasai culture, including rural settlements not usually visited by tourists. Recent trips have involved students in a musical ceremony by Maasai women, demonstrations in fire-making, dances by Maasai morans (warriors) and lessons in spear throwing
- Amboseli and Tsavo National Parks: multi-day excursions illustrating the management implications of high concentrations of animals in a confined area. The impact of the elephants, whose trumpeting punctuates the night, are clearly visible by daylight.

Student Directed Research Projects

- Population Dynamics, Distribution and Vegetation Preference of Specified Fauna Residing in Nairobi National Park.
- Rangeland and Grazing Capacity Assessment of the Grasslands of Nairobi National Park.
- Land-Use Patterns and Human-Wildlife Relations in the Southern Dispersal Corridor of Nairobi National Park.
- An Assessment of Land Productivity, Water-use Efficiency, and Related Economic Implications within the Inkisanjani Agro-Pastoral Zone.

Center Research Contributions

SFS has been in Kenya since 1981 and many hours of student research have contributed to management plans for game ranches, several Maasai group ranches, and national protected areas, such as Nairobi National Park. Student Directed Research presentations and community projects are frequently the highlight of an SFS experience.

A few recent contributions include:

- A collaboration between the Elephant Research Project and SFS on a proposal to US Fish and Wildlife (USFW), entitled "Mitigating Human-Elephant Conflict in the Amboseli Ecosystem, Kenya" resulting in the USFW funding the project for three years (with additional contributions from Born Free and the International Fund for Animal Welfare)



- Assessment of the socio-economic impacts of the Kimana Wildlife Sanctuary, the first private reserve operated on a Maasai group ranch. Ranch managers are using these data to develop sustainable management policies
- Collaboration with local Maasai and the KWS to conduct the first assessment of water and grazing resources in the Ngong Hills. Decisions regarding stock rotation and use of pasturelands were based on their findings
- Assistance in building a library in the town of Magadi and teaching the local school-children about the environment
- Memorandum of Understanding between SFS and KWS concerning our research in Nairobi National Park.

Connecting with the Local Community

Students truly value the numerous opportunities to interact with the local community. One of our primary goals is to understand community views on wildlife, the challenges faced and management policies employed by park managers. Therefore, close relationships with local Kenyans is key to our research. We maintain close ties to community members, including park wardens, ranchers, farmers, pastoralists and others. In addition, students can take advantage of many opportunities for social interaction including:

- Visits to local markets and a neighboring *boma* (Maasai homestead) for traditional Maasai celebrations, a lecture on culture and artifacts, jewelry making with Maasai mamas, and to conduct interviews for research work
- Discussions on tribal culture with field station staff who come from various regions of Kenya and belong to several Kenyan tribal groups including Kamba, Maasai and Luo
- Community service work in local schools, hospitals, orphanages and with a local women's group
- Visits to an elephant orphanage and a giraffe center.

"Before embarking on this trip I thought I would be mostly interested in the wildlife, but the moment I saw the people I knew they would have the biggest impact on me. Living at Kilimanjaro Bush Camp and interacting with the Maasai was the most profound part of the entire program."

Semester Program Dates:

Spring 2005:

January 31—May 5

Fall 2005:

September 12—December 15

Semester students are registered in four academic courses accredited through Boston University.

BI/EE (NS) 371 Techniques of Wildlife Management (4 credits)

BI/EE (NS) 372 Wildlife Ecology (4 credits)

EE (SS) 302 Environmental Policy and Socioeconomic Values (4 credits)

EE 491 or 492 Directed Research (4 credits)

LE 205E Introduction to Swahili Language and East African Tribal Communities (2 credits)

Please see Page 28 for course descriptions.



Our Field Station in Kenya

Our Kilimanjaro Bush Camp is located southeast of Nairobi on 25 acres of fenced land at the foothills of Mt. Kilimanjaro, bordering a permanent river fed by natural springs. Adjacent to the river is a lush zone of yellow Acacia trees with clear undergrowth giving a perfect view of the magnificent vegetation mosaic. Across the river is Kimana High School, where SFS students enjoy a rare opportunity for cultural exchange with Kenyan youth and to visit nearby Maasai *bomas* (villages).

Our National Park Camp is located on 60 acres of the Athi-Kapiti plains, on the southern border of Nairobi National Park. The combination of rocky outcrops, riverine vegetation, bushland and open grassland support amazing biodiversity. From the plateau and ridge above the camp, one can look down into the park and spot giraffe, buffalo, rhino, zebra, cheetah, lion and even leopard. The Ngong Hills and the Mbagathi River, where wildlife commonly crosses between the park and the dispersal area, are also within view.

At both camps, students sleep in thatched-roof bandas, with a main building, or *chumba*, which houses a dining room, kitchen, classroom and library. Additional facilities include a *duka* (shop), bathrooms and open-air showers.

Visit our website to take a photo tour of our field station:
www.fieldstudies.org

costa rica

Sustainable Development Studies

Environmental Issues

Discovering ways to strike a balance between protecting precious ecosystems while helping communities use their resources wisely is of critical concern in the developing tropics. While Costa Rica is internationally recognized for its efforts to ensure biodiversity and protect natural resources, the country has experienced significant resource degradation linked to population growth, industry and development—all of which threaten to ruin this tropical paradise. The country supports more than 5% of the world's biodiversity and boasts 230 different protected areas (about 25% of the country). The cloud forests, rainforests, volcanoes and mountain plains here shelter as many as 6,000 plant species, including at least 1,000 orchid varieties alone. More than 500 species of butterflies and over 800 bird species, such as quetzals, toucans, hummingbirds and scarlet macaws, are found in the wet and/or dry forests. The magnificent beaches bordering both coasts are among the world's largest-known nesting grounds for sea turtles.

Costa Rica now faces a struggle common to developing countries: preserving beautiful (and economically valuable) natural resources while increasing prosperity and allowing for sustainable development. A particular challenge is maintaining biodiversity in the face of competing land use, such as large-scale conventional agriculture (including massive use of synthetic fertilizer and toxic pesticides), and ensuring that Costa Rica's world-famous parks benefit surrounding communities as well as ecotourism development. It is crucial that effective alternatives and strategies are developed to ensure long-term sustainability of the country's rich resources.





Gender Contributions

- Presentation of our research results and proposed model of development at a meeting of the Costa Rican Ministry of Energy and Environment
- Request by the President of Costa Rica to help design a national environmental strategy for Costa Rica for the next 15 years
- Developing and testing organic farming protocols with local coffee farmers, supported by a Hewlett Packard grant
- Environmental waste management and recycling education programs
- Visitor services and expectations for Mombacho National Park in Nicaragua
- Evaluating and making recommendations for an environmental education program piloted at an elementary school in a community surrounding Volcan Poas National Park
- Developing and monitoring water quality indicators for Braulio Carrillo National Park.

Connecting with the Local Community

We spend significant time communicating with local residents, small business owners and farmers to better understand their perspectives and needs. Activities might include:

- Monitoring and maintaining trail infrastructure at the Municipal Forest with the local high school and Municipality
- Soccer games, community festivals, tutoring in schools, volunteering in orphanages, establishing recycling efforts, short homestays
- A full Spanish presentation of the results of the research conducted during the semester to local residents.

Prerequisites

Applicants must have completed a college level course in ecology or environmental studies, and are encouraged to have taken coursework in international development, economics or anthropology. Students must have completed at least one college level course in Spanish or otherwise demonstrate a working knowledge of conversational Spanish prior to participating.

Semester students earn an additional two credits with our Spanish Language Course: (LS) Language, Culture and Society of Costa Rica offers listening, oral and written practice of Spanish at beginner, intermediate and advanced levels of proficiency. Written grammar and vocabulary exercises help students develop Spanish language skills and tools required for their research projects. The socio-culture module helps students develop a more refined understanding of Costa Rican culture.

Special note:

A portion of semester program spaces are reserved for applicants from University of Michigan and Allegheny, Colby and Dickinson Colleges. These applicants should consult their Environmental Studies Department for application information.

Semester Program Dates:

Spring 2005:

January 31—May 5

Fall 2005:

September 12—December 15

Semester students are registered in four academic courses accredited through Boston University:

EE(NS) 377 Tropical Ecology and Sustainable Development (4 credits)

EE(SS) 303 Economic and Ethical Issues and Sustainable Development (4 credits)

EE(NS) 374 Principles of Resource Management (4 credits)

EE 491 or 492 Directed Research (4 credits)

(LS) 205E Language, Culture and Society of Costa Rica (2 credits)

Please see Page 28 for course descriptions.



Our Field Station in Costa Rica

Our field station, The Center for Sustainable Development Studies, is a small farm on a hillside with spectacular views overlooking the Rio Grande River in the fertile Central Valley. The field station includes a large house, an outdoor classroom, an organic garden, a patio and pool. Students live in a dormitory (up to 4 to a room) with bathrooms. There is a classroom, small laboratory and a library/computer room. We look out over green hillsides dotted with farms growing coffee, mangoes, bananas and citrus. The field station is part of the small neighborhood of La Presa/Los Angeles. The friendly town of Atenas is a short walk from the field station while Costa Rica's tropical forests, beaches, mountains and volcanoes are within a day's travel.

Visit our website to take a photo tour of our field station:
www.fieldstudies.org.

"Being involved in real field research and community projects is very satisfying.

It leads to a deeper understanding of ecological, environmental, economical and social issues. I put more energy into the work that I am doing."

mexico

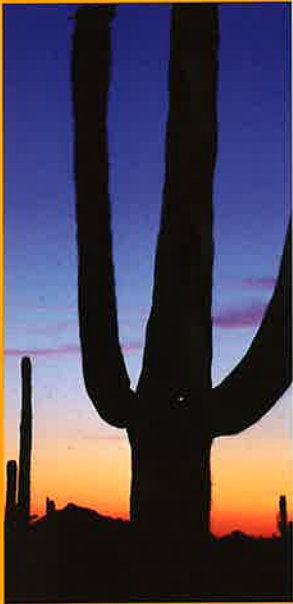
Conserving Marine Mammals & Coastal Ecosystems

Environmental Issues

A recent report from federal environmental officials in Mexico City warns that despite nearly two decades of conservation efforts, important sea turtle species are sliding towards extinction worldwide. Bahía Magdalena, an area of profound physical beauty, is among the largest remaining intact coastal wetland/lagoon systems along the Pacific coast of the Americas as well as one of the world's most important habitats for California Gray whales and several species of endangered sea turtles. Extensive sea grass beds and mangrove stands, intertidal sand and mudflats, barrier islands and large rocky shore areas make for a biodiverse but delicate ecosystem. The Bay is an important feeding ground and nursery area for East Pacific green turtles, Loggerheads, Olive Ridleys and rare Hawksbill turtles, and is home to schools of bottlenose dolphins. Over 100 species of migratory and resident birds use the Bay at various times of the year. Perhaps the most spectacular of the Bay's inhabitants are the California Gray whales. Bahía Magdalena is one of the three most important calving areas for the entire California Gray whale population, and hundreds of these animals can be found here between January and April.

Bahía Magdalena has also played a critical role in supporting its human residents. A growing tourism industry, based on whale watching, provides income for many residents, and fishermen ply the waters for commercially important species, including shrimp, blue crab, lobster, scallop and fish. Unfortunately, critically endangered sea turtles are caught as by-catch in these fishing operations.

Most local residents are economically dependent on the Bay's marine resources, yet little research has been done on this ecosystem and the ways in which its resources may be sustainably used. Due to its high productivity and amazing biodiversity, the World Wildlife Fund has ranked Bahía Magdalena as one of the nine most important coastal habitats needing protection in all of Mexico. There is consensus among researchers and U.S. and Mexican governments that protection of this unique ecosystem is urgent. The question remains—how can resource conservation and community economic development be balanced in a sustainable way, to the benefit of both?





work directly on issues critical to endangered sea turtles' survival. Help the local community protect marine mammals and conserve harvested marine resources. Explore pristine natural habitats ranging from flowering deserts and mangrove-filled lagoons to species-rich marine ecosystems. Join the welcoming local community of Bahía Magdalena and learn about their culture.





Our Research in Bahía Magdalena

In addition to our year-round interests in the management of critically important fisheries and water quality issues in Bahía Magdalena, our unique location allows students to concentrate on very different but equally fascinating species each semester. Students in the fall and summer semesters explore conservation strategies to protect several marine turtle populations reduced to near-extinction. Despite strong regulations against their exploitation, green turtles are still frequently poached for their meat and eggs and are caught as by-catch in the harvesting of other marine resources. A complex interaction of community social and cultural factors, lack of protected area sanctuaries, lack of enforcement of existing regulations and economic hardship in local communities has led to the continued exploitation and the rapid decline of sea turtle populations throughout Mexico. In Bahía Magdalena, which is a key nursery and feeding ground for the green turtle, there is no comprehensive recovery or protection plan for sea turtles. Students gather data to help understand the condition of the various habitats of the Bay that are critical to the turtles' lifecycle, monitor the demographic and behavioral characteristics of turtle populations, and gain more insight into the role of the turtle in the social, cultural and economic lifestyle of the local community. Student research, in partnership with the local community and conservation groups, and governmental agencies is contributing to the development of a conservation and management plan for the sea turtle.

Spring semester students, while continuing our research on turtle conservation, also focus on applied ecology of the gray whales and a socio-economic analysis of whale watching activities. Since commercial whaling was banned in 1946, the gray whale population is thought to have recovered to around 20,000 whales. Only four calving and mating grounds for this species are known to exist and Bahía Magdalena is the only one not currently protected. The recovered population now drives a growing whale watching industry, which creates new problems that require field research to understand and resolve them.

Our research also focuses on sustainable harvesting and management of important commercial marine resources. SFS students interview fisherman, explore changes in fishing technology, and collect and analyze catch data as part of our efforts to help regulators and harvesters develop more sustainable management strategies for the fisheries of Bahía Magdalena.

Field Research, Lectures and Exercises

Examples include:

- Bahía Magdalena: use of microbial mats in bioremediation, water quality sampling and testing, and environmental impact and economic importance of local industries
- Puerto Magdalena: visit traditional fishing families on a boat trip to this small fishing village island to learn about their culture, fishing cooperative and this fascinating example of communalism
- Estero San Buro: examples of alternative fisheries at an aquaculture farm
- Bahía Santa María: intertidal zones illustrate the incredible diversity of local marine life
- Offshore Islands camping and kayaking trips: explore the area's rich biodiversity, stark dunes and sandy white beaches.

Center Research Contributions

As the only permanent field station on the Bay, ours has drawn many researchers from Mexico and abroad, involving SFS students in several important investigations and projects:

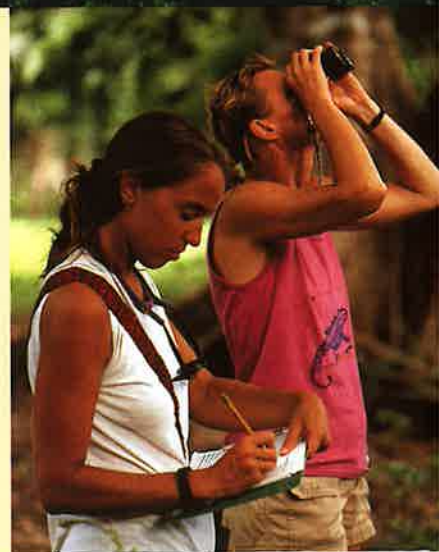
- Hosting a symposium in spring 2004 to bring together research organizations that have been active in conserving the bay to discuss research efforts and develop future collaborations among Mexican and international researchers
- Water quality analysis funded by The David and Lucile Packard Foundation Grant, which resulted in developing a water quality and green sea turtle monitoring program and alternative disposal recommendations, including the installation of a waste water filtration system at a local cannery that had been seriously polluting the bay
- Gray whale population study, which has led to a safe increase in whale watching permits
- Management plan for regional sustainable development created by a student-initiated, community-based conservation plan
- Joint SFS, government and local fishers' exploration of alternative shrimp net designs to reduce by-catch and destruction of the fragile bay bottom
- Socio-economic analysis of blue crab fishery, providing valuable data to the Puerto San Carlos Office of Fisheries to assist in developing management strategies for this critical resource
- Sea turtle research leading to increased awareness and stewardship for this endangered species
- Student presentations of their final directed research reports to an audience of more than 60 community members.





explore Costa Rica's incredible biodiversity and unique ecosystems.

Learn about natural resource management challenges in world-renowned protected areas. Work with local Costa Rican cooperatives to identify innovative sustainable agriculture options, such as organic farming models. Travel to Nicaragua on a field research expedition. Become a member of the warm and welcoming community of Atenas and enhance your Spanish conversation skills.





Our Research in Costa Rica

Costa Rica is currently undergoing a period of great economic and social change. The country has shifted from an economy predominantly based on agriculture to one driven by ecotourism and technology exports. At the same time, the population continues to rapidly increase, straining natural and developed resources. Our goal is to examine different sustainable management models that protect the biodiversity of Costa Rica's ecosystems while promoting socio-economic benefits for its people. Student research focuses on determining the ecological and economic viability of organic agriculture and developing protected area management strategies that conserve biodiversity and protect natural resources.

Students consider organic agriculture as a means for Costa Rica to generate income while minimizing natural resource degradation. In spite of the potential benefits of organic agriculture, small-scale farmers in Costa Rica risk becoming marginalized in world organic food markets due to the high cost of organic certification and insufficient information and technical support. For this to be a viable option, farmers need a comprehensive plan, certification process and protocols, and database to help them transition to organic production. Student research has been helping to provide organic certification guidelines and protocol to local farmers, some of whom are now certified.

Students also evaluate the success of Costa Rica's world-renowned management strategies to protect natural resources and maintain biodiversity. Visits to cloud forests, dry forests, volcanic parks and lowland rainforests offer opportunities to examine management schemes, identify the benefits of protected areas and determine which systems offer the best option for economic development, the maintenance of cultural norms and the preservation of biodiversity.

Semester student research takes them on an expedition to Nicaragua to compare development directions, flora and fauna, as well as the differing political history and culture between the two countries.

Field Research, Lectures and Exercises

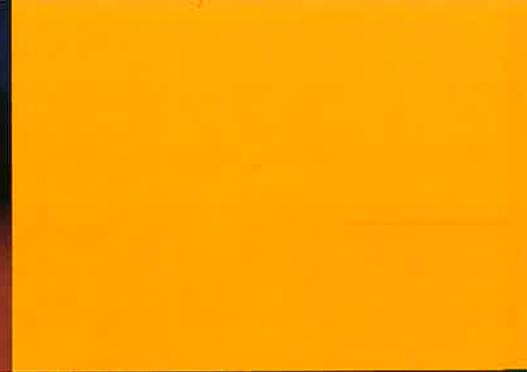
Field trips, lectures and exercises are interdisciplinary and teach students about tropical ecology, agro-ecology, sustainability, park management, natural resource management, ecological economics and Costa Rican history, culture and the Spanish language.

- Nicaragua: extended field expedition to compare development and resource use issues between the two countries
- Santa Rosa National Park: camping trip to explore a rare and threatened tropical dry forest ecosystem, site of one of the largest forest restoration projects in Latin America
- Volcan Poas National Park: investigate parks and people relations and park facility and visitor information needs
- Braulio Carrillo, Carara and Volcan Arenal National Parks; Eternal Children's Rainforest Private Reserve
- Local coffee plantations, farms, preserves, forests and the communities of Atenas
- Rincon de La Vieja National Park: camping trip to the cloud forest and volcanic mud piles.

Student Directed Research Projects

- Impact of illegal extraction of heart of palm on the population growth of *Euterpe precatoria* and development of alternatives for its sustainable use.
- Long-term monitoring Program of the Avifauna of Braulio Carrillo National Park. Analysis of the impact of the Highway as a fragmentation factor on bird diversity and distribution.
- Impact of seasonal changes in the abundance and diversity of aquatic macroinvertebrates as indicators of water quality in two pristine streams of Braulio Carrillo National Park.
- Volcan Poas National Park Visitors Satisfaction Study.
- Orchid bees as indicators of agro-ecosystem health.
- Seasonal changes in the colonization of tank bromeliads by canopy arthropods in the Cloud Forest.





Student Directed Research Projects

Examples include:

- Economic benefit and socio-economic analysis of whale-watching in Bahía Magdalena
- Assessment of the implementation of a sea turtle protected area and monitoring turtle populations
- Monitoring anthropogenic impact on the water quality of Bahía Magdalena
- Gray whale abundance, distribution and behavior during breeding season in Bahía Magdalena
- Regional environmental education model: marine mammals and sea turtles as a tool for involving teachers in curriculum development.

Connecting with the Local Community

Our program is oriented toward helping the community conserve its natural resources and develop sustainably. And close connections with the local community help establish SFS as a trusted and respected resource. In addition to working with local clients and interviewing community leaders, SFS students enjoy getting involved in community volunteer projects and social activities such as:

- Participation in the Puerto San Carlos Grey Whale and Sea Turtle Festivals
- Teaching English classes for local school children
- Attending the week-long Mexican Marine Mammal Conference
- Garbage clean-up day with the local schools
- Spanish lessons throughout the program, which help sharpen conversational and cross-cultural skills
- Participation in folkloric dance classes, Mexican holiday celebrations, short homestays and hosting community events at our field station to deepen students' experience of a different culture and connection with the local community
- Local sports, community meetings, conservation activities and environmental education programs for local school children.

Special note:

Due to our community focus and extensive interaction with the people of Puerto San Carlos, who appreciate attempts to converse in Spanish, applicants are strongly encouraged to develop their conversational Spanish skills in preparation for this program.



Our Field Station in Mexico

The Center for Coastal Studies looks out over beautiful Bahía Magdalena and lies on the outskirts of the fishing community of Puerto San Carlos on the west coast of the Baja peninsula. Bahía Magdalena stretches for 124 miles along the coast with spectacular sunsets draping the mountains of the off-shore islands in orange and purple shadows. Students share 4-person cabins. Additional facilities include a computer room, library, classroom, laboratory, kitchen, dining and study areas and a bath/shower house serviced by our artificial wetland waste water treatment system. Faculty live in cabins on site.

Visit our website to take a photo tour of our field station:
www.fieldstudies.org

"I went to Baja trying to figure out if this is the type of field research I would like to do after I graduate from college. My question was answered even before the first net was set—even before I saw my first turtle. I knew immediately that this is the type of environment that I could thrive in."

Semester Program Dates:

Spring 2005:
January 31—May 5

Fall 2005:
September 12—December 15

Semester students are registered in four academic courses accredited through Boston University:

BI/EE (NS) 379 Coastal Ecology

EE (NS) 374 Principles of Resource Management

EE (SS) 303 Economic and Ethical issues in Sustainable Development

EE 491 or 492 Directed Research

Please see Page 28 for course descriptions.

australia

Tropical Rainforest Management Studies

Environmental Issues

Rainforests are one of the world's most important and diverse ecosystems yet thousands of acres disappear each day. Along with the loss and fragmentation of rainforest areas, global climate change may be playing an important role in influencing the loss of plant and animal species.

Australia's spectacular tropical rainforests are home to numerous primitive plant species, birds and marsupials found nowhere else in the world. Giant strangler figs, crimson and green king parrots, sulfur crested cockatoos, rainbow lorikeets, bandicoots and tree kangaroos are just a few of the interesting species filling these forests with color and sound. Northeastern Queensland's ancient rainforests preserve millions of years of evolutionary history—a history which may now be showing evidence of global climate change. The eastern seaboard of northern Australia was once covered in rainforests, but agriculture—primarily sugar cane, dairy, mining and logging—have destroyed and disrupted rainforest habitat with only a fragmented narrow belt remaining along the eastern coast. It is also unclear to what extent climate change is affecting rainforest dynamics and human communities.

Australia confronted these threats faster than most tropical countries, and the majority of its remaining forests were protected under World Heritage designation in 1989. But this decision continues to be quite controversial as the country struggles with the conflict between preservation and the immediate need to use natural resources. Many farmers wish to utilize environmentally sound measures, yet face the possibility of going out of business in the next decade due to economic pressures. If efforts to restore the rainforests of Queensland are to succeed, they must also provide economic benefits for the local community, and consider larger scale impacts like global climate change.





research in a tropical rainforest amid an amazing variety of unique birds, plants and wildlife. Work with local tree-planting groups and research organizations to manage forest resources. Learn about the current condition and dynamics of a tropical rainforest ecosystem, including what might be happening to this system as a consequence of global climate change. Participate in research and community projects to restore tropical rainforests. Explore some of the most exciting natural wonders of Australia.





Our Research in Australia

While representing only a small percentage of the world's rainforest, the astonishing biodiversity of Australia's rainforest and the country's dynamic conservation efforts make Queensland an extraordinary laboratory for studying rainforest management and restoration. Conservation challenges and cutting-edge management strategies developed here will likely serve as a model for the rest of the world's tropical rainforests.

The ecological and economic benefits of rainforests are increasingly well understood, but much less is known about rainforest ecosystem dynamics and the ability to restore a rainforest once it has been cut. Our goals are to help understand the dynamics of rainforest ecosystems, including potential impacts of global climate change, and in turn develop rainforest restoration strategies and practices that benefit both ecosystems and human communities of the Atherton Tablelands. Our research plan addresses a critical local and regional environmental problem—rainforest health, and fragmentation between rainforest corridors. SFS staff and students, in collaboration with local landholders and stakeholder organizations, focus on enhancing the condition of tropical rainforest, as well as determining how and why we should regenerate and restore rainforest on the Atherton Tablelands.

Students collect data on potential responses to global climate change, habitat use and animal behaviors, land use, local resident involvement in restoration projects and cost effective and ecologically beneficial methods of restoration. Student work represents a vital contribution toward larger studies on global climate change, developing a restoration plan for selected sites within the Tablelands, and developing maintenance practices to maximize rates of tree growth. Students are also actively involved in either rainforest replanting or site maintenance with local landcare groups.

Field Research, Lectures and Exercises

Examples include:

- Chillagoe: camp in the Outback and explore caves, rock formations and eucalypt forests. Learn firsthand about the history of the Barabaram people at Petford, examine land management issues with members of the Barabaram community
- Cape Tribulation: experience lowland rainforests hikes through giant sedges with peppermint stick insects, mangrove forests and palm forests; traverse the Daintree River notorious for its crocodiles; visit the Cassowary Care Restoration Project and the canopy tower at the Daintree Environment Centre
- Participate in the TREAT and Wet Tropics Tree Planting Scheme nursery
- Geology of the Atherton Tablelands
- Tinnaroo Dam and agricultural industries, forest fragmentation
- Dairy, sugarcane and other agricultural industries
- Seedling recruitment of restored tropical rainforest at experimental site
- Growth and mortality of rare and endangered tropical rainforest species
- Bird territory and GIS mapping within a restoration site along the lower Peterson Creek.

Student Directed Research Projects

- Geographic Information System (GIS) mapping of the field station property
- Use of restored and natural rainforests by rainforest birds
- Patterns of colonization of restored rainforest by small- and medium-sized vertebrates
- Survey of monitoring techniques used by local conservation groups
- Cost benefit analysis of the Center's Nursery
- Determining a timber value for different age acacia regrowth
- Determining the value of carbon sequestration of different age acacia regrowth
- Monitoring the colonization of birds in different age acacia regrowth and different age restoration plots
- Conservation and restoration plan for the lower Peterson Creek
- Developing a monitoring system to determine the effectiveness of restoration on water quality.



semester course descriptions

BI/EE (NS) 371 Techniques of Wildlife Management introduces students to the questions, principles and tools used by resource managers in the Kenyan savanna ecosystem. Students study habitat assessment, plant and animal identification, associations and distributions and other approaches to evaluating the savanna ecosystems. Behavioral, physiological and social responses of animals to a changing environment will be examined. Field and laboratory techniques for monitoring ungulate populations and optimizing management practices will be presented. Decision-making processes, on which wildlife management programs are based, will be addressed.

BI/EE (NS) 372 Wildlife Ecology presents students with the information and conceptual background necessary to understand the underlying ecological principles of the East Africa savanna ecosystem. We will focus on the fundamental processes and inter-relationships between the biotic and abiotic environment. We begin with basic ecological principles, setting them against the background of East Africa. Factors underlying distributions, population biology and behavioral ecology will be examined along with competition and predation using African examples. Theoretical models will be discussed in light of our observations on field trips.

BI/EE (NS) 373 Tropical Marine Ecology discusses the interactions that determine the distribution and abundance patterns of tropical marine organisms, with emphasis on the ecology of near-shore areas. Basic principles of ecology are integrated with an understanding of the sea as a habitat for life. Physical, chemical and geological oceanography are discussed. Major groups of dominant marine organisms of the region are examined in the field. Major near-shore marine habitats are examined, along with their associated biotic communities. Coral reef ecosystems are emphasized to illustrate basic concepts. Applications to the management of indigenous marine resources are discussed and demonstrated.

BI/EE (NS) 369 Rainforest Ecology introduces structure and function of tropical rainforests including floral and faunal components. Ecological processes that maintain biodiversity and the evolutionary processes that generate it will be presented. We will examine the dynamic relationships between plants and animals including pollination and seed dispersal. On a larger scale, we will examine tropical vegetation patterns along climatic gradients and discuss mechanisms for preserving and restoring tropical ecosystems.

EE (NS) 370 Principles of Forest Management presents the ecological and analytical tools used in the management of terrestrial, living resources. We will use examples from the tropics to stress the theories and skills that provide the foundation for land management worldwide. The assessment and minimization of adverse environmental impacts caused by resource development, as well as the restoration and rehabilitation of areas suffering from chronic human induced disturbances, provide key foci for applying principles learned.

EE (NS) 374 Principles of Resource Management introduces practical tools used in addressing complex environmental problems including coastal zone planning, guidelines for ecologically sustainable development, environmental impact assessment, fisheries management and protected-area planning and management. We will review these tools in terms of their application to local issues and to Case Studies from the Caribbean, the United States, Central America and East Africa.

EE (NS) 377 Tropical Ecology & Sustainable Development examines the ecological impact of human activity, especially agriculture in a tropical country. The agroecology of important crops will be studied with emphasis on biodiversity as the source of production means and materials. Students will identify renewable and nonrenewable resources and examine their historical use. We will study the long-term and large-scale impact of local agricultural and other practices on the national and global environment (e.g. water pollution, waste management, climate change). Options for alternative resources use, land restoration and preservation will be examined from ecological, socio-political and economic viewpoints. Factors that constrain or promote particular options will be included. Basic field techniques and measurements will also be covered.

BI/EE (NS) 379 Coastal Ecology examines the ecological processes interface between land and sea in order to understand how human perturbations impact both marine and terrestrial systems. The watershed concept will be used to explore nutrient flow, energy cycling, coastal circulation, productivity and biotic interactions. This course provides a basic understanding of how natural systems work in order to help guide resource managers toward ecologically sound and sustainable decisions. Fieldwork exposes students to techniques of surveying, monitoring and the study of biotic interactions in a complex physical/chemical milieu.

EE (SS) 302 Environmental Policy & Socioeconomic Values provides insight into the broad social context surrounding natural resources to determine effective approaches to resource management. Objectives are to understand socio-cultural context including hierarchies and power structures; formal and informal decision making processes; value systems relevant to natural resources including religious factors and environmental ethics; past and present uses of natural resources; economic factors (local, regional, external); ownership patterns; attitudes and other factors that affect change and their historical basis; and legal basis for enforcement of environmental policy. Introduction of major constituencies which effect conservation (NGO conservation groups, economic interests, etc.) and their underlying philosophies.

EE (SS) 303 Economic and Ethical Issues in Sustainable Development addresses the principles and applications of Ecological Economics, or the scientific and management aspects of sustainability. Allocation, distribution and scale will be presented as parameters to assess the sustainability of development models (at a macro and micro level). Basic concepts of ecological economics cost-benefit valuation techniques will be presented and applied. The roles of local people, government, and private, national, and bilateral aid agencies will be examined as constraints for the implementation of sustainable development models. The empowerment of local people and their reaction to non-local proposals for sustainable development will be examined through the review of specific Case Studies.

EE 491 (Fall) EE 492 (Spring) Directed Research prepares students to distinguish hidden assumptions in scientific approaches and separate fact from interpretation, cause from correlation and advocacy from objectivity. Specific tools will include experimental design, field techniques, basic descriptive statistics and parametric and non-parametric quantitative analysis. Succinct scientific writing, graphic and tabular presentation of results and effective delivery of oral presentations will be emphasized.

LS 205E Language, Culture and Society of Costa Rica contains two distinct but integrated modules. The Spanish language module offers listening, oral and written practice of the Spanish language at beginner, intermediate, and advanced levels of proficiency. Students will engage in oral and written grammar and vocabulary exercises; and develop Spanish language skills and tools required for their research projects. The socio-culture module helps students develop a more refined understanding of Costa Rican culture and the various communities with which we work. Students participate in lectures, field exercises and other activities including a homestay— all of which teach them strategies and skills for working with people in a community-based research context and help them to assist with community extension projects.

LE 205E Introduction to Swahili Language and East African Tribal Communities, contains two distinct but integrated modules. The Swahili language module offers listening, oral and written practice of the Swahili language at a basic level of proficiency, to increase students' communication and comprehension skills. Much of the Maasai population does not speak Swahili, but it is the national language in Kenya—this phenomenon will be explained in the second course module. The socio-cultural aspects of East African tribes module emphasizes understanding of, and direct contact and interaction with the native communities with which SFS works, primarily the Maasai. This exposure to culture and language will be reviewed and processed through lectures, field exercises and classroom discussion. The socio-cultural module is designed to help students experience intense immersion in the culture and be therefore more adept at working effectively in their community-based Directed Research efforts.

BI/EE (NS) – Students choose to register for either Biology or Environmental Studies credit

EE (NS) – Environmental Studies (Natural Science)

EE (SS) – Environmental Studies (Social Science)



Center Contributions

SFS students come away with new perspectives, skills and friends, but perhaps more importantly, they make meaningful contributions to the community of North Queensland, including:

- Ongoing monitoring of the floral and faunal succession of the Toohey's Creek Wildlife Corridor, representing one of the first scientific attempts in Australia to link forest fragments to facilitate the movement of wildlife
- Assisting community members with planting more than 8,000 trees in the past 24 months, most of which were grown from seed at our field station, to restore degraded forests and improve water quality through plantings around watersheds
- Assessment of tree seedling recruitment and growth working towards recommending best practices for achieving a successful restoration
- Restoration of more than one mile of rainforest from grassland along the lower Peterson Creek.

Connecting with the Local Community

Conservation, resource use and rainforest restoration are extremely important to local farmers, resource managers and concerned community groups. With the results of our research, we offer advice to local decision-makers on extension programs and create linkages between our staff and the stakeholders involved in rainforest restoration and management. We have also established a professional Research Advisory Committee to provide local academic and community access to our resources. Close connections with the community help establish SFS as a trusted and respected resource, and SFS students enjoy getting involved in community volunteer projects and social activities such as:

- Attending a community Environmental Forum (part of a weekend-long environmental festival)
- Learning how to make (and hopefully play) their own didgeridoos with a local Aboriginal family, who enjoy sharing their perspectives on Aboriginal culture with students
- Community service trips to help local conservation groups and communities plant rainforest seedlings
- Attending special lectures on tree kangaroos, spectacled flying fox, rock wallaby and other local wildlife
- Hosting community dinners and participating in short homestays
- Meeting with Aboriginal elders of the Barbarum tribe to learn more about their culture
- Sporting competitions, such as lawn bowling with Aussies
- Bush dances, community festivals, visiting the Malanda theatre and socializing at the local pubs.

Semester Program Dates:

Spring 2004:

January 31—May 5

Fall 2005:

September 12—December 15

Semester students are registered in four academic courses accredited through Boston University:

BI/EE (NS) 369 Rainforest Ecology

EE (NS) 370 Principles of Forest Management

EE (SS) 302 Environmental Policy and Socioeconomic Values

EE 491 or 492 Directed Research

Please see Page 28 for course descriptions



Our Field Station in Australia

The Center for Rainforest Management Studies lies at the southeast end of the Atherton Tablelands. Protected World Heritage forests and farmland surround the rolling, hilly site. A third of the property's 153 acres is mature rainforest and the remaining area is forest regrowth. Student cabins are nestled within the rainforest, and sightings of tropical birds, bandicoots, pademelions, the primitive musky rat kangaroo, pythons and other species of rainforest wildlife are common. Students share eight-person cabins and the main building has lecture, computer, library rooms and a kitchen.

Visit our website to take a photo tour of our field station:
www.fieldstudies.org

"We planted over two hundred seedlings; we watered, weeded and mulched...I am proud to help the town improve its water quality, aesthetics, wildlife... I really feel like I am doing good work."



Center Research Contributions

- Lobster, conch and finfish stock levels assessment, which have provided important information for government agencies
- Natural resource workshop with the DECR and the National Park Service to provide TCI government workers with educational training about coral reefs, lobster biology, marine fishes and turtles, sharks, whales and navigation
- Working with the DECR, Protected Areas Department and local businesses to develop a protocol for coral reef monitoring and to share data about queen conch distribution
- Hosting or supporting public forums and activities attended by government officials and community members to facilitate communal problem solving
- Applying baseline data to examine reef health trends, species interactions and impacts of coral diseases.

Connecting with the Local Community

Our program in TCI is oriented toward helping the community conserve its natural resources and develop sustainably. Close connections with the local community help establish SFS as a trusted and respected resource. Students quickly become involved with the community, spending time with local residents, fishermen and resource managers, learning about the local Caribbean culture and the challenges they face. Some community activities include:

- Reading, tutoring and volunteering project at the local library (started by SFS alumna Nikki Seibert)
- School volunteer projects such as tutoring, reading, working with high school Science and Math Clubs.
- Hosting SEA DAY twice a year at our field station to introduce elementary students to the marine environment
- Basket weaving lessons from local island weaver
- Weekly soccer, softball and basketball matches, which attract enthusiastic crowds, as SFS teams challenge local teams (usually unsuccessfully) for the coveted tournament trophy.

SCUBA Certification

It is not necessary to use SCUBA to participate in our program—many students choose to snorkel instead. However, if you intend to use SCUBA you must be certified before arrival. Divers and snorkelers must bring their own SCUBA and snorkeling equipment. Weights and tanks are provided on-site at no cost.

Semester Program Dates:

Spring 2005:
January 31—May 5

Fall 2005:
September 12—December 15

Semester students are registered in four academic courses accredited through Boston University:

- BI/EE (NS) 373 Tropical Marine Ecology
- EE (NS) 374 Principles of Resource Management
- EE (SS) 302 Environmental Policy and Socioeconomic Values
- EE 491 or 492 Directed Research

Please see Page 28 for course descriptions.



Our Field Station on South Caicos Island

The Center for Marine Resource Studies, located just steps from our crystal clear ocean laboratory, is adjacent to Cockburn Harbour, a town of about 1,100 residents. The field station sits on elevated land about 40 feet above the water and looks directly out over the sea. Within a three-mile radius are coral reefs, mangrove islands, sea grass beds, carbonate platform flats and deep water diving. The main facility has a dining area, kitchen, classroom, library/computer room and a veranda with spectacular ocean views. Students share living quarters in two residence wings. We are fully equipped for marine operations with access to docks, motor boats, a commercial compressor and plenty of tanks and weights for SCUBA diving and snorkeling.

Visit our website to take a photo tour of our field station:
www.fieldstudies.org.

"I was able to dive down to 80 feet, look up, and have the sun still hurt my eyes through water so clear. I gained incredibly valuable research and field skills—most importantly, it reaffirmed my love and passion for my field of study."

turks & caicos

Marine Resource Management Studies

Environmental Issues

The British-governed Turks and Caicos Islands (TCI) lie at the southeastern end of the Bahamian archipelago, 575 miles southeast of Miami and 100 miles north of the Dominican Republic. The turquoise waters surrounding the eight main and numerous small islands are considered to be among the world's top 10 diving locations. Nearly 50 species of corals and over 350 large fish species, including spotted eagle rays, sharks, groupers, snappers and dolphin fish, are easily spotted in the clear, warm waters just steps from our field station. Nearby sea grass beds, mangrove-studded woodlands, sandy shoals and deep reefs lend a patchwork appearance to the miles of shallow blue waters that surround the Islands.

This abundant and relatively intact and healthy ecosystem supports much of the community on South Caicos Island, with fisheries providing the primary source of livelihood. However, pollution and overharvesting of precious marine resources, coupled with unsustainable tourism and industrial development, may soon do irreparable damage to this delicate ecosystem. The Turks and Caicos Islands are a major international exporter of queen conch and spiny lobster. Depletion of these resources would have a dramatic impact on employment and social structure on South Caicos Island; therefore, developing sustainable fishery is essential if this resource-dependent community is to survive.

While many Caribbean communities have promoted economic diversification, particularly tourism, to improve economic and social stability, impending mass tourism threatens fragile marine ecosystems and traditional Caribbean culture if it is not carefully managed. The spectacular marine environment that supports tourism can easily be degraded by uncontrolled and environmentally insensitive development. Other forms of economic diversification need to be explored to avoid overly stressing natural resources.





dive in one of the most spectacular marine habitats in the British West Indies. Learn about tropical marine ecology and environmental management. Help find innovative approaches to fisheries, marine protected areas and economic diversification. Join the friendly South Caicos Island community known as "Belongers" and learn about Caribbean culture.





Our Research in South Caicos

The SFS Center for Marine Resource Studies is working with the TCI government's Department of Environment and Coastal Resources (DECRC) and the National Park Service to develop management strategies that shield the TCI from the fate that has befallen other nearby areas in the Caribbean. Student field research is helping to provide the local government, community and tourism developers with advice that will help sustain the economic, societal and ecological stability of South Caicos and its island community. With so many local residents dependent on marine resources for their livelihood, and the likelihood of increasing tourism, there is an immediate need to find viable options for managing fisheries and conserving critical habitats, including coral reefs. Snorkeling and SCUBA diving in waters surrounding South Caicos, students learn to identify a wide range of marine organisms and habitats, and learn about marine ecology and coastal ecosystems. Students confront the challenges of fisheries management and analyze the costs and benefits of potential new fisheries. Assessing the pros and cons of resource management and habitat conservation options, and the social and economic implications of these options, brings students face to face with the real-life dilemmas faced by the governmental regulators and the residents of South Caicos.

Recent research indicates that conch and lobster nursery areas in dense sea grass beds need urgent protection in order to sustain these economically important resources. SFS students assist in researching the distribution and role of the seagrass habitats in the coastal environment of South Caicos. With the Admiral Cockburn Land and Sea National Park at their doorstep, students are able to evaluate the concept of Marine Protected Areas (MPAs) as a resource management tool. Students help monitor the condition of the spectacular coral reefs, both inside and outside the MPAs, using scientifically rigorous monitoring techniques. Based on their field observations, students assess the validity of indicator species for reef health, the effects of diver tourism, marine species interactions, the impact of coral diseases and many other issues related to marine natural resource harvesting, conservation and monitoring.



Reef fish stocks unprotected

The growing tourism industry in the TCI as a whole is slowly increasing the demand for reef fish on restaurant menus. Local fishers on South Caicos are starting to recognize this market and commercial sale of certain reef fish species has begun. Apart from having established a few "no-take" Marine Protected Areas and banning spear fishing, there are currently no regulations in place to manage the harvest of reef fish. It is critical for the TCI to establish a comprehensive management plan for reef fish species so that they can be harvested in a sustainable manner.

Endangered marine turtles illegally harvested

The harvest of vulnerable and endangered marine turtles in the Turks and Caicos Islands has occurred as a traditional, subsistence fishery for decades. There is currently no data on the numbers of turtles harvested around South Caicos, or the size of the populations of any species. The Hawksbill turtle is the most abundant turtle species around South Caicos and is frequently taken by local fishermen. As such, the harvest sustainability needs to be determined, as does the effectiveness of current regulations.

Field Research, Lectures and Exercises

Examples include:

- SCUBA or snorkeling for field research and species identification exercises
- Visual assessment of queen conch and coral reef fish populations
- Fish, seagrass and mangrove identification
- Zoning for multiple use in a marine protected area
- Ecosystem functioning and anthropogenic impacts
- Lecture from DECRC official on TCI government fisheries regulations and enforcement
- Lecture and site tour from local tourism developer on plans for constructing a resort
- Interviewing local fishermen about historic fishing practices and attitudes towards tourism.

Student Directed Research Projects

Examples include:

- Herbivorous reef fish: a comprehensive evaluation of density and biomass.
- Population size assessment of potentially commercial finfish species around South Caicos.
- Best practices zonations and utilization of National Parks' resources in TCI.
- Queen conch dispersal from nursery grounds: implications for designing no-take fishing reserves.
- Bonefish protection on the Caicos Bank and Bell Sound Nature Reserve.
- Spiny lobster assessment within the Caicos Bank.
- Expectations of the South Caicos community for the expected increase in tourism.

summer course descriptions

EE(NS) 355 Tropical Rainforests: Global Climate Change, Reforestation and Human Dynamics includes a wide range of lectures and hands-on field activities which will concentrate on developing management recommendations for reforestation practices on the Tablelands of Australia. We will explore the ecological roles, environmental services, and economic benefits of tropical rainforests. We will also look at the structure and function of Australian tropical rainforests and the roles that humans have played and are playing in current forest dynamics. From this point, we will examine reforestation applications on the Tablelands: the goals, techniques, successes, and the failures. Finally we will develop and maintain an actual rainforest restoration project.

EE (NS) 352 Sustaining Tropical Ecosystems: Biodiversity, Conservation and Community provides students with practical field skills necessary to develop and participate in on-going, long-term, community and tropical ecosystem-based research projects. Students will be introduced to the ecological, economic and natural resource management issues that surround protected area and tourism management, parks and people relations and biodiversity assessment and protection in national parks and surrounding areas—with the intent of exploring sustainable development and management strategies.

EE (NS) 350 Community Wildlife Management introduces students to wildlife management concepts and field skills to investigate the human-wildlife conflict dynamic present in Kenya. This course explores the potential for re-thinking wildlife as a source of income generation, rather than as a competitor for space and water and/or as a threat to human endeavor—which may provide an alternative and sustainable form of

human-wildlife co-existence and land-use option. We will explore possible commercial uses of wildlife such as game cropping, regulated sport hunting, and ecotourism. We will then compare the potential benefits of utilizing wildlife with alternative land-use options such as agriculture.

EE (NS) 356 Preserving Coastal Diversity: Sea Turtles and Bay Resources exposes students to the relationship between the decline in biodiversity and the health of the Magdalena Bay ecosystem. In this course, we will identify the most critically threatened areas in Bahía Magdalena as the essential first step in designing a strategy for protecting these resources. Lectures and field exercises will cover topics such as integrated coastal zone management, sea turtle protection, ecological economics, Mexican history and society, coastal ecology and fisheries management. The research component of the course will concentrate on the threatened green turtle, which uses Bahía Magdalena for both breeding and feeding habitat.

EE (NS) 351 Marine Protected Areas: Management Techniques and Policies will focus on lectures, field exercises and other activities that enable us to understand how the Caicos Bank ecosystem works, its resource development potential, the threats facing these resources, and the role of marine parks in protecting and enhancing these resources and their critical habitats. Particular emphasis will be given to commercially important resources such as conch and lobster stocks. Our project findings will contribute towards developing marine parks policy, management plans, and innovation and technology transfer to assist in the management of marine protected areas.



summer 2005 programs



kenya

mexico

turks & caicos islands

australia

costa rica



Our month-long, four-credit summer programs are a great option for students who wish to spend part of their summer break learning field research and environmental problem-solving skills. SFS summer programs combine interdisciplinary lectures with field research exercises and expeditions. Our classrooms include coral reefs, rainforests and African savannas; our research ranges from sea turtle conservation to rainforest restoration.

Students in summer programs assist our faculty in conducting research designed to support local communities in natural resource management decision-making. The work conducted by SFS faculty and students is helping to make a positive difference in the lives of resource-dependent people around the world. In return, students can explore potential academic and career choices while developing problem assessment and data gathering skills.

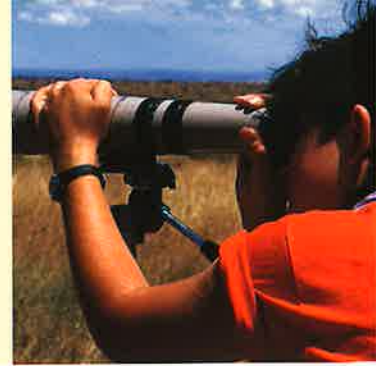
Each course carries four semester college-level credits in Environmental Studies. In some cases, the summer course may fulfill a university's field-study requirement. There are no course pre-requisites for summer courses, and we encourage students from many disciplines – environmental science, biology, liberal arts, economics, pre-vet and pre-med, engineers, business administration, communications, and more – to join our field research projects. The majority of summer participants are college undergraduates, but motivated high-school seniors and recent college graduates may also participate.



kenya

Community Wildlife Management Options

summer program



Urban, industrial and agricultural expansion and Kenya's soaring population increasingly threaten the habitat required by Kenya's wildlife. Lion, elephant, giraffe, rhino, monkey, zebra and other indigenous wildlife are the country's most famous and economically valuable resource, thanks to a well-developed global tourism industry. Previously nomadic peoples such as the Maasai and the cattle herds they depend upon have been confined to smaller plots of land, resulting in overgrazing and rangeland degradation. The wildlife, which has co-existed for centuries with these non-hunting peoples, are now seen as competitors for scarce water and grazing resources.

Project Focus

Community Wildlife Management Options

Students examine wildlife management from one of our two new field stations—the National Park Camp just outside Nairobi National Park, or the Kilimanjaro Bush Camp at the base of Mt. Kilimanjaro. Students based at the National Park Camp focus on management strategies for Nairobi National Park, Kenya's oldest and most profitable national park. Increased development and human settlement around the park threatens its biological integrity and has led to the decline of large mammal populations. Pollution threatens the water supply and contributes to mortality in numerous bird and animal species. Increased human and livestock populations around the park are leading to intensified human-wildlife conflicts, including disease and destruction of crops by migrating wildlife.

Students at the Kilimanjaro Bush Camp study the diverse habitat of the wildlife migration corridor between Tsavo and Amboseli National Parks. The Maasai also use this area primarily as a communal grazing zone for livestock. As a result, residents often face economic hardship due to crop damage and loss of livestock inflicted by migrating wildlife.

At both field stations, students study African climatology and geomorphology, plant and animal identification and theories of island biodiversity. Students meet wildlife managers and gain insight into cultural perceptions by speaking with members of the Maasai community. Data collected during field work will be used to assess the best land use and wildlife management options for the local community.

Field Work and Exercises

- Trips to National Parks, such as Amboseli, Tsavo and the Maasai Mara to camp and study the spectacular wildlife.
- Visits to cultural manyattas to gain insight into Maasai cultural history and traditions.
- Field expeditions to conduct vegetation sampling, community surveys and wildlife abundance assessments.

Connecting with the Local Community

Our program in Kenya is oriented toward helping the Maasai preserve their traditional way of life while peacefully co-existing with Kenya's important and threatened wildlife. Providing high-quality research data and advice along with maintaining close connections with the local community have helped establish SFS as a trusted and respected resource. Students have many opportunities to learn about Kenyan culture and interact with local communities, including the Maasai. Farmers, ranchers and park wardens may be interviewed during academic projects, and students often participate in community service activities and sporting events.



Summer Program Dates:

Session I:
June 6 - July 5

Session II:
July 11 - August 9

Departure Point:
Nairobi, Kenya

Course Number:
EE(NS) 350 Community
Wildlife Management

costa rica

Sustaining Tropical Ecosystems:
Biodiversity, Conservation and Community

summer program



Costa Rica's landscape is as varied as it is beautiful. Its cloud forests and rainforests are home to monkeys, sloths, jaguars and exotic birds. Dry forests, mountain plains and fields of coffee, bananas and pineapples help complete this stunning mosaic. Costa Rica has a long history of preservation and has developed an extensive national park system. However, with large-scale agriculture still playing a vital role in Costa Rica's economy, it is clear that parks may not be enough to sustain this incredible biodiversity. Costa Rica struggles to balance environmental protection with the economic needs of its people. It is crucial that effective alternatives and strategies are developed to ensure the long-term sustainable use of Costa Rica's treasured natural resources.

Project Focus

Sustaining Tropical Ecosystems: Biodiversity, Conservation and Community

In our search for viable management strategies, students examine issues of applied tropical ecology, ecotourism and protected area management. We work very closely with members of the local community, hearing from experts on federal protection schemes and the operation of privately owned reserves and local communities surrounding protected areas. Using data collected during field work, students examine the challenges and opportunities for maximizing effectiveness in protecting natural resources and conserving biodiversity in Costa Rica.

Field Trips, Exercises and Lectures

- Studying the incredible tropical ecology and assessing ecotourism efforts of several national parks, including expeditions to Braulio Carrillo, the most extensive rainforest national park in the country.
- Evaluating and comparing the efforts of private reserves like the Monteverde Cloud Forest Preserve and the Eternal Children Rainforest, home to jaguars, ocelots and quetzals.
- Visits to Volcan Poas, the second largest volcano crater in the world to study parks and people relations and develop environmental education programs.
- Monitoring biodiversity in forested versus non-forested areas.

Connecting with the local Community

Our program in Costa Rica is oriented toward helping the community conserve its natural resources and develop sustainably. And close connections with the local community help establish SFS as a trusted and respected resource. SFS students enjoy a warm welcome into the community of Atenas, with opportunities to interview residents during academic projects, practice Spanish, learn about Costa Rican culture and participate in community service projects. Students also enjoy joining local sporting events and spending time socializing with the Atenas community at local cafes.



Summer Program Dates:

Session I:
June 6 - July 5

Session II:
July 11 - August 9

Departure Point:
San Jose, Costa Rica

Course Number:
EE (NS) 352 Sustaining
Tropical Ecosystems:
Biodiversity, Conservation
and Community



mexico

Conservation of Coastal Diversity and Threatened Marine Turtles in Bahía Magdalena

summer program



Bahía Magdalena is an area of profound physical beauty. It is among the largest remaining intact coastal wetland/lagoon systems along the Pacific coast of the Americas. Habitat diversity in the bay is high, including extensive sea grass beds, mangrove stands and intertidal sand and mudflats. On the Pacific Ocean side of the bay, there are rocky shores along the coastlines of the barrier islands of Magdalena and Margarita where large populations of sea lions are common sights. The many habitats of the bay and the high productivity of the water produce a high diversity of marine life. The bay is also an important feeding ground and nursery area for several species of endangered sea turtles, and over 100 species of migratory and resident birds use the bay at various times of the year.

Project Focus

Conservation of Marine Turtles in Bahía Magdalena

According to a recent report from federal environmental officials in Mexico City, despite nearly two decades of conservation efforts, some species of sea turtle continue to disappear from Mexican waters and are sliding toward extinction worldwide. Bahía Magdalena has played an important role as a refuge (nursery and feeding ground) for several sea turtle populations, including Loggerheads, Olive Ridleys and the rare Hawksbill turtles. The endangered East Pacific Green turtle uses the Bay as nursery area and feeding habitat. These turtles have a high degree of both natural and human-induced mortality. Despite strong regulations against their exploitation, green turtles are still frequently poached and caught as by-catch in the harvesting of other marine resources. A complex interaction of community social and cultural factors, lack of protected area sanctuaries, lack of enforcement of existing regulations and economic hardship in local communities has led to the continued exploitation and the rapid decline of sea turtle populations throughout Mexico.

Students examine the ecological, societal and economic issues surrounding sea turtles in Bahía Magdalena. Students are exposed to a variety of environmental issues such as the over-harvesting of fisheries resources; a local cannery that is polluting the rich mudflats and seagrass beds; ranchers who are cutting too many mangroves for fence-posts; and poachers who continue to illegally take protected sea turtles. Using data collected during field work, student research contributes to the design of protection and management strategies for the sea turtles in Bahía Magdalena.

Field Trips, Exercises and Lectures

- Kayaking and camping trip to the off-shore Pacific island of Isla Magdalena to experience the incredible ecology of the Bay.
- Sea turtle population assessment by collecting biological data on live and stranded turtles in the Bay.
- Evaluating the social and economic importance of sea turtles by surveying local fishers and townspeople.

Connecting with the Local Community

Our program in Mexico is oriented toward helping the community conserve its natural resources and develop sustainably. With a history of providing the local community with relevant research data and sound management advice, as well as maintaining a close social connection with the local community, SFS has earned its place as a trusted and respected resource. SFS students enjoy a warm welcome into the community, with opportunities to interview residents, practice Spanish, learn about Mexican culture and participate in community service projects. Students also enjoy joining local sporting events and spending time socializing at taquerias and clubs.



Summer Program Dates:

Session I:
June 6 - July 5

Session II:
July 11 - August 9

Departure Point:
La Paz, Baja California
Sur, Mexico

Course Number:
EE (NS) 356 Preserving
Coastal Diversity: Sea
Turtles and Bay Resources



Australia

Tropical Rainforests Management and Restoration

summer program



Australia's spectacular tropical rainforests are home to primitive plant species, birds and marsupials found nowhere else in the world. Giant strangler figs standing 70 feet tall, green king parrots, sulfur crested cockatoos, rainbow lorikeets, bandicoots, musky rat kangaroos and tree kangaroos are just a few of the species filling these forests with color and sound. The rainforests of northeastern Queensland preserve millions of years of evolutionary history—the future survival of which may be uncertain due to the potentially adverse affects of global warming. Parts of Queensland were once covered in rainforests, but agriculture, ranching, mining and logging have destroyed and disrupted rainforest habitat, with only a narrow, fragmented belt remaining along the eastern coast. Global warming may be further contributing to its decline and degradation.

Project Focus

Tropical Rainforests Management and Restoration

Although the rainforests of the Atherton Tableland are protected as World Heritage sites, the pressures on them continue. The local community struggles with differing views about how these forests should be used and managed. Several groups have focused on the concept of rainforest reforestation. The basic premises of reforestation, and the benefits they promise for endangered wildlife species such as the cassowary and tree kangaroo, seem self-evident. Yet the realities of rainforest are much more complex.

Rainforest ecosystems are incredibly diverse, characterized by a slow rate of regeneration. It is not clear if degraded forest can ever be returned to its original state - particularly with the confounding influence of global climate change. In addition, given the differing views of the local community, any strategies for reforestation must be shown to have economic benefits if they are to be viable in the long term.

Lectures addressing relevant topics in conservation biology, forest ecology and tropical resource management provide the basis for our fieldwork. Students will monitor past reforestation efforts and assess specific reforestation and site management strategies. The culminating summer project will focus on one or more of the following themes: global climate change; ecological development; maintenance experiment costs and seedling recruitment and growth; or restoration planning and management.

Field Trips, Exercises and Lectures

- Chillagoe: camp in the Outback and explore caves, rock formations and eucalypt forests in a region once covered in rainforest. At Dimbulah we learn first hand about the history of the Aborigines, and examine land management issues with members of this community.
- Trip to past reforestation plots around the Tablelands to assess the success of various tree species and planting techniques.
- Field exercises in surrounding World Heritage rainforest—an area containing volcanic crater lakes, trees and wildlife.

Connecting with the Local Community

Students interact with farmers, resource managers, and members of community groups as part of their research work. Students also enjoy learning about Aboriginal culture and history, socializing with the local community by participating in volunteer projects, sporting events and visiting local historic pubs.



Summer Program Dates:

Session I:

June 6 - July 5

Session II:

July 11 - August 9

Departure Point:

Cairns, North Queensland Australia

Course Number:

EE(NS) 355 Tropical Rainforests: Global Climate Change, Reforestation and Human Dynamics



turks & caicos islands

Marine Protected Area Management

summer program



The reefs of South Caicos harbor an incredible array of marine life—resources that have proven to be critically important for the people of this island. The reefs provide excellent habitat for spiny lobster and queen conch, whose harvest provides the mainstay of the South Caicos economy. Increasingly, these reefs also attract tourists who come to view coral, spotted eagle rays, barracuda, sea turtles, grouper and sharks through water renowned for its outstanding clarity. The importance of these reefs has not guaranteed their survival, however, and the reefs face pollution, dredging, dumping, and damage from boats and divers. In 1992 the local government established a park system, which included marine parks, to preserve important natural areas, conserve economically important species and promote ecotourism. The management of these parks presents several challenges. The need for preservation and economic growth go hand-in-hand on South Caicos, and data are needed to determine the role of marine parks in stimulating the local economy.

Project Focus

Marine Protected Area Management on South Caicos Island

Students explore the effectiveness of marine protected areas (MPAs) in protecting biodiversity and critical habitats, enhancing stocks of queen conch, spiny lobster, and other commercially important species, and contributing effectively to the socio-economic sustainability of the local community. Students interact with and support the work of our clients and stakeholders, who range from local fishermen to members of key government agencies. Our goal is to collect data from the field, with the goal of influencing policy recommendations, MPA management plans and community projects.

Field Trips, Exercises and Lectures

The spectacular reefs and waters of South Caicos will serve as the laboratory for most of our field work. Students snorkel or SCUBA, and gain valuable experience in the use of transects, techniques for population sampling and statistical analysis. Potential research sites and trips include: East Harbour Lobster and Conch Reserve (EHLICR); Bell Sound Nature Reserve; Fish Cay; Admiral Cockburn Land and Sea National Park (Shark Alley; Long Cay; Dove Cay; The Point of Admirals Aquarium) and a mangrove Island.

Connecting with the Local Community

Our program in South Caicos is oriented toward helping the community conserve its natural resources and develop sustainable harvest strategies. With our field station located within the community of South Caicos, SFS students enjoy a warm welcome into the community. And our history of providing the Island community with relevant research data and sound management advice, as well as maintaining a close social connection with community members, has earned SFS its place as a trusted and respected resource. There are opportunities to interview fishermen and other residents during academic projects, learn about the local culture and participate in sporting events and community service projects.



Summer Program Dates:

Session I:

June 6 - July 5

Session II:

July 11 - August 9

Departure Point:

South Caicos Island,
TCI, BWI

Course Number:

EE (NS) 351 Marine
Protected Areas:
Management Techniques
and Policies

admission requirements & instructions

When to Apply

The School for Field Studies accepts and reviews complete applications for admission to all programs on a rolling basis. While there is no final admissions deadline, we encourage you to apply early to ensure admission to the program of your choice.

Who Should Apply

The SFS program will likely be very different from your traditional academic experience and different from a traditional study abroad experience. We expect you to take a proactive role in all aspects of your experience including scheduling activities, choosing research projects, managing risk and facilitating the day-to-day operation of the field station. Before applying, be sure to read the program components and relevant information for the program to which you are applying.

Requirements and Policies

Applicants for semester programs must be at least 18 years of age, in good academic standing and have completed at least one college-level ecology or biology course, and at least one semester of college prior to the start of the program.

**Applicants for the semester program in Costa Rica must have completed a college-level course in ecology or environmental studies, and are encouraged to have taken coursework in international development, economics or anthropology. Students must have one college-level course in Spanish or otherwise demonstrate a working knowledge of conversational Spanish prior to participation. Special note: A portion of Costa Rica semester program spaces are reserved for applicants from University of Michigan, Allegheny, Colby, and Dickinson Colleges. These applicants should consult their Environmental Studies Department for application information.*

Applicants for summer programs must be at least 16 years of age, in good academic standing and have completed at least the junior year of high school prior to the start of the program.

Applying to SFS

Your complete application for admission includes:

- **SFS Application for Admission form**—students may now apply online.
- **Participation Approval form** to be completed by your study abroad advisor or academic dean. Students from Affiliate Schools should have their form completed by one of the designated Affiliate representatives at your school. Please refer to our website to find out if your school is an Affiliate Partner and who your representatives are:
http://www.fieldstudies.org/pages/73_affiliation_with_sfs.cfm
- **Non-refundable application fee of \$45** (credit card or check made payable to The School for Field Studies)
- **Current, Official Transcripts** from all schools attended. It is not necessary for college students to submit high school transcripts after a full academic year of college coursework has been completed
- **References:** submit two (2) completed SFS Reference Forms.

SFS Academic Reference Form completed by a teacher, professor or academic advisor who is well acquainted with your current academic performance.

SFS Character Reference Form completed by someone who knows you well. This reference is often completed by another academic source, a job supervisor, volunteer advisor, athletic coach, etc. It is not appropriate for this reference to be completed by a relative, peer, or family friend.

- Please call the SFS Admissions Office if you have questions regarding your reference selection. You should request that each SFS Reference Form be

completed and returned to you in a sealed envelope, signed across the back. Supplementary letters of recommendation are welcomed but, at minimum, both individuals providing references must complete the SFS Reference Form.

- Once an application is received by SFS, an Admissions Counselor will contact you confirming the receipt of your application. If your application is incomplete, the Counselor will indicate which materials are needed. You will also be sent information on completing the confidential medical form and the financial aid application, if needed.
- All acceptances are contingent on medical approval
- SFS only reviews those applications that are complete. Once complete, review takes 2-4 weeks.

Steps to Apply

1. Review program information and prerequisites. Please feel free to call 800.989.4418 to let us help you decide which program is right for you.
2. Collect necessary materials to complete your application.
3. Complete Participation Approval form (Semester students).
4. Select application method:
 - Paper application
 - Download .pdf from www.fieldstudies.org
 - Submit application online at www.fieldstudies.org

Please return your complete application materials in one envelope to the following address: The School for Field Studies, 10 Federal Street Ste. 24, Salem, MA 01970-3876

Medical Approval and Disability Information

Physical Examination and Medical Insurance

All acceptances are contingent upon medical approval. You must present a completed **SFS Confidential Medical Form** signed by a qualified medical professional within two weeks of acceptance. Please refer to the SFS website (www.fieldstudies.org) for a copy of the form. Students with late medical forms may forfeit their space.

All medical forms will be reviewed by the SFS Medical Review Team. You must be able to meet the physical challenges presented by SFS programs without undue risk to yourself or others. Academically qualified individuals may be disqualified from participating on medical grounds. You will not be allowed to join an SFS program without proof of current medical insurance and a signed medical release.

Disability Information

Students with disabilities are welcome on SFS programs. However, you must notify SFS of your disability and any special needs within one week of acceptance. Students with physical disabilities should direct their correspondence to the SFS Safety Director and students with learning disabilities should direct their correspondence to the SFS Academic Dean. Please be aware that the level of accessibility, services, and accommodations to which you may have access to at your home campus may not be available overseas. Please refer to the appropriate SFS Academic Handbook for more information, or call us at 800.989.4418 for further assistance.

Dietary Restrictions

If you have any special dietary restrictions, please contact the SFS Safety Director within one week of acceptance and document the restrictions on your SFS medical form. *Students with dietary preferences (vegetarian, vegan, etc.) should discuss these with your Admissions Counselor.*

tuition, financial aid and scholarships

Financial Aid

A key component of the SFS mission is to ensure that as many interested and eligible students as possible are able to participate in SFS programs. Since our founding in 1980, close to 12,000 students have taken advantage of our semester or summer programs in all corners of the world. However, a significant challenge for a number of potential SFS students is the ability to meet our program and travel costs. For this reason, SFS has developed an array of financial resources to support our students. These resources include:

Andreas Family Fund Scholarships

SFS is pleased to announce a new scholarship initiative. Through the generosity of the Andreas family, we are launching The Andreas Family Scholarship Fund. This fund will initially focus on providing financial aid to students in U.S. public colleges who are academically eligible but may not be able to afford to participate in an SFS program. The fund's goal is to reduce the financial barriers to participation and broaden the range of students who participate in SFS programs. Application deadlines are October 15 for Spring semester programs; March 15th for Fall semester programs.

New Low Interest Loans

This new low interest loan program is designed to assist semester students in bridging the gap between current financial resources and total program cost. This loan is set at a competitive market rate with manageable repayment terms.

SFS Scholarships

This fund is supported by the generous contributions of alumni, donors and foundations and is designed to make the SFS experience available to students facing financial challenges. SFS Scholarship funds are awarded in conjunction with a zero interest loan.

Zero Interest Loans

Created through the generosity of the Merck Family Foundation SFS offers this fund to supplement SFS Scholarship awards. Semester loans must be repaid within two years and summer loans within one year of program completion. **SFS Financial Aid resources are subject to the availability of funds.*

Many applicants receive aid through their home schools or other outside sources. You may qualify for SFS assistance even if you are not receiving aid from your home school.

If you will need financial assistance in order to participate we strongly encourage you to complete an SFS Financial Aid Application as soon as possible. Financial Aid Applications are reviewed following acceptance. For an application or more information on how to qualify for assistance, please call the SFS Admissions Office at 800.989.4418.

Semester Students: A growing number of schools allow students to take institutional financial aid off-campus. Check with your financial aid office to see what aid you can apply to your SFS program. We encourage you to investigate applying for federal financial aid funds including loans through your home school. Because the credits you earn for your SFS participation will, in all likelihood, be applied toward your degree, your school should be able to process a Stafford Loan to assist your SFS participation. If you encounter difficulty in arranging to use federal financial aid funds for your SFS program, please contact us and we will do our best to assist you.

**You must complete and return the financial aid application within 10 days of acceptance to qualify for refund status on the registration fee and deposit.*

Refund Policies

SEMESTER • Refund Policy for Semester Program Costs

If you withdraw by notifying SFS in writing the following amounts will be refunded:

- Withdrawal 61 days or more prior to the first day of the program = 100% refund of total program cost (less deposit and registration fee).
- Withdrawal 60-31 days prior to the first day of the program = 50% refund of total program cost (less deposit and registration fee).
- Withdrawal 30 days prior - 14 days after the start of the program = 25% refund of total program cost (less deposit and registration fee).
- Withdrawal 15 or more days after the start of the program, or if a student is asked to leave the program = NO REFUND.

Students may transfer the non-refundable deposit to an SFS course within the next 12 months subject to acceptance. Financial aid candidates: deposits and registration fees are refundable if withdrawal is less than 10 days following financial aid offer. (You must complete and return the financial aid application within 10 days of acceptance to qualify for refund status on the registration fee and deposit).

Application fees are non-refundable.

SUMMER • Refund Policy for Summer Program Costs

If you withdraw by notifying SFS in writing the following amounts will be refunded:

- Withdrawal prior to 60 - 22 days before the start of the program = 100% refund of total program cost (less deposit and registration fee).
- Withdrawal 21 - 0 days prior to the start of the program = 50% refund of total program cost (less deposit and registration fee).
- Withdrawal after the program starts = NO REFUND.

Financial aid candidates: deposits and registration fees are refundable if withdrawal is less than 10 days following financial aid offer.

Application fees are non-refundable.

Summer Costs 2005

Program	Tuition	Program Fees	Total Program Cost
Kenya	\$2,610	\$1,385	\$3,995
Australia	\$2,610	\$1,200	\$3,810
Turks & Caicos	\$2,610	\$950	\$3,560
Costa Rica	\$2,610	\$800	\$3,410
Mexico	\$2,610	\$570	\$3,180

**All summer programs have an additional registration fee of \$100.*

Payment of \$450 (non-refundable \$350 deposit and \$100 non-refundable registration fee) is due no later than 10 days after acceptance in order to reserve a place in the program.

Semester Costs 2004-2005

Program	Tuition	Program Fees	Total Program Cost
Kenya	\$9,975	\$3,975	\$13,950
Australia	\$9,975	\$3,845	\$13,820
Turks & Caicos	\$9,975	\$3,335	\$13,310
Costa Rica	\$9,975	\$3,335	\$13,310
Mexico	\$9,975	\$3,335	\$13,310

**All semester programs have an additional registration fee of \$150.*

Payment of \$650 (non-refundable \$500 deposit and \$150 non-refundable registration fee) is due no later than 10 days after acceptance in order to reserve a place in the program.

expectations and responsibilities

Student Conduct

You are expected to conduct yourself in a mature and responsible manner. The School for Field Studies (SFS) reserves the right to require any participant to withdraw from any program at any time if the field station staff deem the student's conduct to be detrimental to or incompatible with the interest, harmony, comfort, safety or welfare of the program—including abuse of alcohol or use of drugs not authorized by a medical doctor, or uncooperative or disruptive behavior. Should such a decision be made, SFS will notify your guardians and return you to the point of program departure, at which time any and all responsibility on the part of SFS will cease. Students who are expelled or depart early from the program will be withdrawn from all courses and receive no credit.

Responsibility

In organizing and managing these programs, SFS, its agents, employees and staff shall not be liable, financially or otherwise, for among other things, non-performance or unsatisfactory service, injury to persons including death, loss of, or damage to property, for accident or delay, and/or expenses arising from strikes, weather, quarantine, sickness, government regulations, or from any act or omission of its agents, contractors, and/or airline, railroad, bus company, automobile rental agency, hotel, or other suppliers of service.

SFS is a charitable corporation located in Salem, Massachusetts, U.S.A. All matters relating to, arising out of, or involving in any way your relationship with SFS shall be governed by Massachusetts law and any legal dispute shall be determined by a Massachusetts court.

SFS reserves the right to refuse any applicant admission to any program if s/he is deemed unsuited for the program for any reason and at anytime during the admissions process. All courses, fees, and dates are tentative until verified and confirmed in writing by SFS.



SFS admits students of any sex, religion, race, color, national or ethnic origin, sexual orientation, or economic status to all the rights, privileges, programs and activities generally accorded or made available to students of SFS and does not discriminate on the basis of sex, religion, race, color, sexual orientation, national or ethnic origin, physical or mental disability or other protected status in the administration of its educational policies, admissions policies, scholarship loan programs and other School-administered programs. SFS is an equal opportunity institution.

Program Changes

SFS operates in a variety of environments. As a result, there are various factors that may have an affect on a program such as tenuous weather conditions, access to highly regulated and sensitive environments or changes in political conditions. SFS reserves the right to make changes before or during a program. Indeed, part of your challenge lies in adapting to changing conditions and overcoming the obstacles they may present.

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academic credit

SFS participants are registered at and receive transcripts from Boston University, which accredits SFS programs. The only exceptions are students from SFS Affiliate and Consortium schools who receive credit directly from their home institutions.

All SFS courses are approved and assigned course numbers by Boston University. SFS semester programs incorporate four courses and carry a total of 16 semester-hour credits (Costa Rica and Kenya programs carry 18 semester credit hours) in biology or environmental studies from Boston University. Summer courses carry 4 semester-hour credits in environmental studies. Participants receive an official transcript from Boston University approximately six to eight weeks after the conclusion of the program for delivery to the office responsible for credit transfer at their home institution.

Students come from more than 300 colleges to attend SFS programs each year and most are able to transfer credit for their participation. The final decision regarding credit and grade transfer rests with your home institution. Therefore, you should check with your advisor/registrar when applying to our programs to learn how your SFS course work will be applicable for credit in your degree program. If you have questions regarding credit transfer, please call the SFS Admissions Office at 1.800.989.4418. In most instances, we can direct you to someone on your campus familiar with credit transfer for SFS programs.

Following is a partial list of home schools of previous SFS participants:

Adelphi University	College of Santa Fe	Humboldt State University	Pomona College	University of California/San Diego	University of Texas/Austin
Albion College	College of Wooster	James Madison University	Providence College	University of California/	University of the South
Albright College	Colorado College	Kenyon College	Purdue University	Santa Barbara	University of Utah
Allegheny College	Colorado State University	Knox College	Reed College	University of California/Santa Cruz	University of Vermont
Alma College	Connecticut College	Lehigh University	Rice University	University of Cincinnati	University of Victoria
American University	Cornell University	Lehigh University	Rutgers University	University of Colorado	University of Virginia
Amherst College	Dalhousie University	Lewis and Clark College	Saint Lawrence University	University of Connecticut	University of Wisconsin
Auburn University	Dartmouth College	Macalester College	Saint Michael's College	University of Florida	University Pacific Lutheran
Barnard College	Davidson College	McGill University	Saint Olaf College	University of Georgia	University
Bates College	Denison University	Meredith College	Salem State College	University of Iowa	Vanderbilt University
Baylor University	DePauw University	Miami University	Santa Clara University	University of Kansas	Vassar College
Bennington College	Dickinson College	Michigan State University	Scripps College	University of Maryland	Villanova University
Binghamton University	Duke University	Middlebury College	Skidmore College	University of Massachusetts	Wake Forest University
Boston College	Earlham College	Mills College	Smith College	University of Miami	Washington and Lee University
Boston University	Elon University	Mount Holyoke College	Stanford University	University of Michigan	Washington University
Bowdoin College	Emory University	Muhlenberg College	SUNY/College of Environmental	University of Minnesota	Wellesley College
Brandeis University	Franklin and Marshall College	New York University	Sciences and Forestry	University of New Hampshire	Wells College
Brigham Young University	George Washington University	Northeastern University	Swarthmore College	University of North Carolina	Wesleyan University
Brown University	Georgetown University	Northern Arizona University	Texas A&M University	University of Pennsylvania	Wheaton College
Bryn Mawr College	Gettysburg College	Northwestern University	Texas Tech University	University of Pittsburgh	Whitman College
Bucknell University	Gonzaga University	Oberlin College	Trinity College	University of Puerto Rico	Willamette University
Carnegie Mellon University	Grinnell College	Occidental College	Trinity University	University of Puget Sound	William Woods College
Case Western Reserve University	Guilford College	The Ohio State University	Tufts University	University of Redlands	Williams College
Cedar Crest College	Hamilton College	Ohio University	Tulane University	University of Rhode Island	Wittenberg University
Claremont McKenna College	Hampshire College	Ohio Wesleyan University	University of Alberta	University of Richmond	Yale University
Clark University	Harvard University	Oregon State University	University of Arizona	University of San Diego	
Colby College		Pennsylvania State University	University of California/Berkeley	University of Southern California	
College of Charleston		Pepperdine University	University of California/Irvine	University of St. Thomas	
College of the Holy Cross		Pitzer College	University of California/Los Angeles	University of Tennessee	

The SFS Affiliate Program

The SFS Affiliate Program assists students in maximizing their SFS experience by building better linkages to the academic community from which SFS students are drawn. Students from Affiliate institutions receive preferential admission and financial aid from SFS. Affiliate schools typically provide direct academic credit for SFS participation and have curricular input into our programs. Each Affiliate school has at least one SFS liaison who is available to provide on-campus advising on our programs. All applicants must obtain permission from their study abroad office or academic dean to participate in our programs. Applicants from Affiliate schools must obtain permission to participate from their campus Affiliate Representative. Please use the enclosed Participation Approval Form.

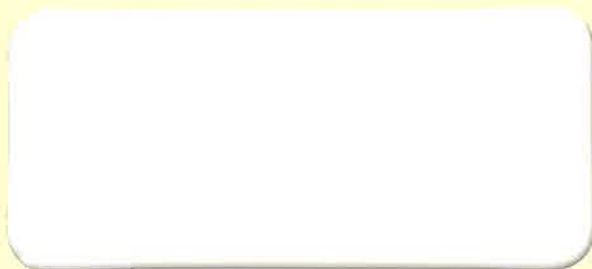
Current SFS Affiliate Member Schools:

Adephi University Dr. Gayle Insler	Cedar Crest College Dr. John Cigliano Dr. Amy Fairve	Denison University Dr. Jessica Rettig	Lenoir-Rhyne College Dr. Marsha Fanning Ms. Linda Kirby	SUNY/College of Environmental Sciences and Forestry Dr. Allen Drew	University of San Diego Dr. Michel Boudrias Ms. Shelley Smith
Associated Colleges of the South Dr. Wayne Anderson Ms. Teresa Wise	Clark University Dr. Todd Livdahl	DePauw University Ms. Lesley Davis	Meredith College Ms. Sara Milani Dr. Betty Webb	Texas Tech University Ms. Sandra Crosier Ms. Katherine Quinn	University of Southern California Mr. Peter Hilton
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Albright College Dr. Stephen Klein Dr. David Osgood	College of Charleston Ms. Sarah Simmonite Dr. Andrew Sobiesuo	Elon University Ms. Emma Jones	Mount Holyoke College Ms. Joanne Picard	University of Georgia Ms. Andrea Kiely Ms. Rebecca Lindsey Parsons	University of Texas/Austin Dr. James Boggs
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"My second reason for hope lies in the tremendous energy, enthusiasm and commitment of a growing number of young people around the world. As they find out about the environmental and social problems that are now part of their heritage, they want to fight to right the wrongs...They will be moving into leadership positions, into the work force, becoming parents themselves. Young people, when informed and empowered, when they realize that what they do truly makes a difference, can indeed change the world."

— Jane Goodall
www.janegoodall.org



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