

The SCHOOL for FIELD STUDIES

ENVIRONMENTAL FIELD STUDIES ABROAD

ECOLOGY  RESOURCE MANAGEMENT  ECONOMICS

Semester & Summer — Environmental Field Studies Programs —

CARIBBEAN/BRITISH WEST INDIES – Coral Reefs, Marine Parks, Fisheries Management

AUSTRALIA – Rainforest Ecology, Tropical Reforestation

PACIFIC NORTHWEST CANADA – Coastal Rainforests, Native Communities,
Watershed and Fisheries Management

BAJA, MEXICO – Marine Mammals, Sea Turtles, Latin American Communities

COSTA RICA – Sustainable Development, Tropical Ecology, Latin American Communities

KENYA – Wildlife Management, Maasai Communities

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The world is your classroom **Environmental Field Studies Abroad**

Testing innovative stock enhancement strategies in the Caribbean.



Planting trees to restore wildlife corridors in Australia



Understanding how wildlife impacts Kenyan communities.



Tending a demonstration garden in Costa Rica



Working with First Nation groups to preserve Vancouver Island's threatened forests and streams.



Collecting data to address threats to biodiversity in Mexico's Bahia Magdalena.



The Mission

of The School for Field Studies is to provide motivated young people with an excellent practical education in environmental studies, enabling them to become more environmentally literate and aware and to make immediate and future contributions to the sustainable management of the world's natural resources.



THE SCHOOL FOR FIELD STUDIES
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Center for Coastal Rainforest & Fisheries Studies
PACIFIC NORTHWEST CANADA

Center for Coastal Studies
BAJA, MEXICO

Center for Marine Resource Studies
BRITISH WEST INDIES

Center for Sustainable Development Studies
COSTA RICA

Center for Wildlife Management Studies
KENYA

Center for Rainforest Studies
AUSTRALIA

Since our founding in 1980, over 10,000 college and high school students have conducted hands-on, community-based environmental field work in SFS programs around the world. SFS is the country's oldest and largest educational institution exclusively dedicated to teaching and engaging undergraduates in environmental problem solving.

This catalog will help you discover how you can address critical environmental issues while on a Fall or Spring semester program or 30 day Summer course at SFS field centers in AUSTRALIA, BRITISH COLUMBIA, THE CARIBBEAN, COSTA RICA, BAJA MEXICO and KENYA.

THE SCHOOL FOR FIELD STUDIES

On an
SFS program
you will...

- ◆ Live and study in some of the most beautiful and threatened ecosystems in the world;
- ◆ Travel and visit people and places most tourists never get to see;
- ◆ Learn from accomplished researchers and local experts;
- ◆ Experience a new culture as you work and develop friendships with local residents;
- ◆ Gain valuable hands-on field experience and analytical skills while you earn college credit;
- ◆ Be part of team of students from around the country committed to addressing environmental problems;
- ◆ Make a real contribution as you help preserve entire ecosystems or individual species, balance economic development and conservation, and find ways to manage and maintain wildlife, marine and agricultural resources.

"I was looking for something more... Many study abroad programs are located at foreign universities where students take classes just as they would at their home school. I was looking for a program where students worked in biologically significant ecosystems, met local people and developed skills that can't be taught in a classroom. I found this at SFS."

David Moeller,
Washington
University



Who Goes On An SFS Program

Each SFS team consists of a Center Director, two to three full-time faculty and additional staff, and an average of 28 students. Each year students come to SFS from over 275 colleges, universities, public and private high schools.

(For a partial list of home schools please see Page 41).

You'll Meet Some Very Special People...

SFS offers you a chance to work closely with people who share similar goals and interests.

SFS participants major in everything from science to economics to liberal arts. They come from across North America and from many other countries. Most semester participants are college sophomores, juniors and seniors; summer participants range in age from 16 to the mid-twenties.

Approximately one in three SFS participants receives financial aid from SFS to enable their participation; others are able to access federal aid programs and assistance from their home schools. Please see page 42 or call the SFS Admissions Office at 1-800-989-4418 for financial aid information.

Although SFS students come from diverse backgrounds, they all share a commitment to learning, a concern for the environment, and a desire to make a real contribution to the future of our planet.

ALUMNI COUNSELORS

A network of SFS alumni are ready and eager to share their experiences with you.

To get a first-hand, student perspective please call the SFS Admissions Office at 1-800-989-4418 or check the appropriate box on the Information Request Form.

We will put you in touch with an alumnus from your region, school or the program(s) you are considering.



"My fellow students were incredible - I definitely made some friends for life. The dynamics of the group were awesome; each student came from a different part of the country, a different school, a different background, with different philosophies and aspirations; therefore, each brought his/her special touch to everything we did."

Sonia Leah Thompson, Waukesha, WI -
University of Wisconsin



Working where we make a difference...

Luis Carmona Araya, Technical Forestry Official for MINAE (Secretariat for the Environment) Atenas, Costa Rica, talks about his relationship with SFS.

“We support each other which is the way things should work. Environmental education has been developed in coordination with the SFS program. The recycling program has inspired questions about trash dumps and I have used the Center as a clearinghouse for information and education. The Center has



supported the establishment of a day to celebrate the environment. We coordinate on regulations and team up with the Center's resources to help execute plans and procedures. The Center has helped to develop reforestation programs that coordinate not only the type of species but also the locations in which they are

needed. Research support and data from the directed research projects has been presented to me and I can then present it to the main office of MINAE. The students' Directed Research projects have also given me a better understanding of the resources vs. social needs in the protected zones including a map of land use and soil capacity. Water quality research conducted by the Center has given me data to support policies. The Center also supported the creation of greenhouses for use in protected areas. Finally, there has been a cooperative effort to monitor the protected zones. Continuing this coordination is important to me in order to fulfill my activities as a government official.”



Because we're not just passing through but actually have a community base at each center, you have a chance to get to know local residents and understand their perspectives and values. Participating in community social events, soccer and basketball games, tutoring in the schools, working with local farmers, ranchers, fishermen, and foresters, conferring with park managers, and setting up recycling programs leads to friendships and a very personal cultural experience.



“Every time you walk into town or start a conversation with one of the fishermen at the dock you find yourself picking up little details and seeing how everything you learn really does apply to and matter to the community around you.”

Molly McAllister, Portland, OR -
Lewis & Clark College

Who Teaches SFS Programs

Teaching you, providing you with the context and the knowledge and the skills to understand and address complex environmental issues, is the core of the SFS mission. We have designed the SFS program to be a guided experience, emphasizing teaching and mentoring and providing you with access to as much information and guidance as possible.

Every SFS Center is staffed with a Center Director and two to three full-time faculty (*usually an ecologist, a resource manager and an ecological economist*) who are easily accessible to answer your questions or give you input.

A Student Affairs Manager at each center coordinates volunteer and service opportunities in the community and helps students develop leadership skills. Additional support is provided by interns, site managers and local support staff.

This level of staffing provides students with a remarkably low student to faculty ratio (*no higher than 10:1*) and enables you to gain an interdisciplinary perspective on complex environmental issues.



Bruce Williams, Director
Center for Rainforest
Studies

The SFS Faculty Teams



"Every day we were immersed in new and conflicting ideals as one of the guest speakers, professors, or even students threw a new angle in our discussion. My mind was turned inside out with conflicting reasoning from morality to economics. I had never been forced to questions my ideals this way. The professors never once let us get away with blanket generalizations, without pushing us to make those ideals applicable to the real world."

Amielle DeWan, Huntington, NY
Binghamton University

Jorge Barrantes,
Site Manager, Center for
Sustainable Studies



Nolan Quiros, Director
Center for Sustainable
Development Studies



Andy Danylchuck,
Faculty, Center for
Marine Resource
Studies

teach (tech) v.

1. To impart knowledge or skill.
2. To provide knowledge of.
3. To cause to learn by example or experience.

"Webster's Dictionary"



The teaching staff at each SFS Center has over 20 years of combined experience in the subjects and ecosystems we're studying - they know their stuff! These men and women are committed educators, selected for their interdisciplinary teaching and research approaches as well as their leadership qualities. They are successful practitioners in careers you may be considering and are the source of a wealth of information and advice.



Maria Clara Silva-Forsberg, Ph.D., Environmental Sciences, Indiana University. Most of Maria Clara's fieldwork has been based in the Brazilian and Colombian Amazon. In her masters work, she focused on human ecology, with an emphasis on subsistence ecology of a Brazilian Amazonian Population. She then continued her teaching and research career in the Brazilian Amazon, investigating mercury contamination in river populations and gold miners in the Madeira and Negro River basins and teaching several courses at the University of Amazonas in Manaus. Maria Clara's Ph.D. dissertation focused on protecting an urban forest reserve in the Amazon. She assessed relevant issues related to management and conservation of forest reserves in tropical areas by integrating theoretical and methodological tools applied to problems that were relevant to that region. Her research interests include land and water use, community-based conservation, watershed management, institutional analysis of natural resource management and conservation, and bio-institutional assessment of protected areas under different governance regimes such as state, private and communal. She joined the staff of the SFS Center for Sustainable Development Studies in Costa Rica in 1999.



Simon K. Ole Seno, Ph.D., Wildlife and Fisheries Science, Minor in Cultural Anthropology, University of Arizona. A Maasai from Narok, Seno went to school when most Maasai did not send their children to school. He joined Egerton College where he obtained a Diploma in Range Management in 1977. After working for the Kenya government as an extension officer for two years, Seno obtained a scholarship to New Mexico State University from where he obtained a B.S. in Range Science and an M.S. in Wildlife Ecology. Later, Seno attended the University of Arizona where he received his Ph.D. Before joining SFS in July 1999, Seno worked for the

government of Kenya for 7 years and taught at Moi University for more than 15 years. During his University career, he developed and taught wildlife biology and wildlife-human related courses and supervised masters research projects. Seno has also taught Kiswahili language and has traveled extensively in Zambia, Zimbabwe, Botswana, Namibia and Uganda to study human related conservation problems. Seno was recently named Director at the SFS Center for Wildlife Management Studies in Kenya.



Wayne Vos, Faculty, Center for Wildlife Management Studies

"It is obvious that the faculty is not only extremely qualified to teach the material, but more important, they are genuinely devoted to the process of teaching. They have a sincere desire to arm students with knowledge. The entire SFS staff was dedicated to the program and this was very inspirational."

Juliana Garzon, North Potomac, MD,
Dartmouth College

Safety is a Priority

Like any educational experience, including attending a college or university in the United States, studying abroad carries with it inherent risks which include injury, illness or even death. The School for Field Studies (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 of the SFS approach to program safety and risk-management include:

- A full time Safety Director who focuses on managing the risks in our programs by promoting a high awareness of safety through training and risk assessments.

- A Safety Advisory Committee comprised of individuals with medical, international, and outdoor program expertise.

- A Student Affairs Manager (SAM) at each center who is responsible for promoting safety in our programs. At a minimum, the SAMs are trained as Wilderness First Responders, an 80-hour medical training course. Other training SAM's may have include Wilderness EMT, Lifeguard, EWS (Emergency Water Safety), Rescue SCUBA Diver, British Canoe Union/ American Canoe Association kayak training.

Detailed predeparture information that includes information on risks, safety, and health issues; a thorough on-site orientation to the country and the community in which our students will be living; and ongoing education on the potential risks and hazards, both physical and cultural, in their environment.

Live and Learn Where You Can Make a Difference...

Each SFS Center is located in a resource dependent community that has requested SFS assistance in addressing their environmental challenges. From our community base, SFS students investigate real local environmental problems (we call them "case studies") from a number of disciplinary perspectives (*usually ecology, resource management, economics, applied anthropology, and political science*). All of these perspectives must be considered if we are to successfully develop solutions that allow natural resources to be utilized in a sustainable manner.

Lectures by faculty and guests provide the theoretical and local background information needed to address the problem. Hands-on field exercises help develop research techniques and analytical skills. Field trips take us to stunning examples of biologically diverse ecosystems as well as both successful and unsuccessful management schemes. Through social encounters, guest lectures, field trips and regular involvement in the local community, students are exposed to the attitudes and values of the local residents who utilize the resources in question and whose perspectives must be considered as part of any viable solution. For many students, this is one of the most valuable parts of their experience as their view of the issues is challenged and expanded by their interactions with local residents.

Once they have developed an understanding of the local context and the skills needed to address these issues, students choose a directed research project from a list of projects that have direct impact on local environmental issues. These projects usually last for more than half the program, culminating in presentations to both the local community and the larger outside community of scientists, researchers and representatives from SFS partners and clients.

Our goal in this process is to produce first-rate applied research in the form of practical reports to local resource managers and information that is of value to the community in their efforts to sustainably manage their natural resources. The responsibility to learn in an SFS program extends beyond academic study to many aspects of group dynamics, community relationships and daily living. Students are challenged in many ways during an SFS experience. Mastering these challenges requires flexibility and teamwork, as participants develop the technical, analytical and risk management skills that are useful long after they have left the field.

NOT JUST YOUR AVERAGE DAY!

Many considerations drive the daily schedule and every day is a little different from those before or after. There are some consistencies too - every day brings some new discovery, a new awareness or understanding and a sense that time is passing too quickly. The following journal entry offers a glimpse into a day at the Center for Coastal Studies in Babia Magdalena, Mexico



5:30 a.m. Got up early to go fishing with a shrimp fisherman using a traditional hand-thrown net. We only spent an hour and I'm exhausted - I can't imagine hauling that net all day long! Saw lots of dolphins and got great data for our project on the ecological impacts of different types of traditional fishing gear.

8:00 a.m. Got back just in time for breakfast before Salvador's lecture on the economic importance of fishing to the community - fishing or working in the local cannery are about the **only** job options here so the town really depends on them.

12:00 p.m. A visiting sea turtle researcher gave a great lecture on the threatened green turtles in this area. Turtles face several threats here - some are caught in fishing nets and drown and he explained some of the new kinds of fishing gear that can help prevent this from happening. One problem is that local small-scale fishermen can't afford new gear. Lack of money, especially with fishing being less profitable, also drives people to poach turtles for food. Next week we'll be helping tag turtles so we can monitor their movement and



physiology. The problems here are more complex than I thought at first... I hope our research can help the town.

4:30 p.m. Lunch was quesadillas, rice and beans - not bad! We spent the afternoon on a field exercise investigating sources of pollution into the bay. The stuff we learned this morning really makes sense now! What a contrast to yesterday's trip to the mangrove forest and giant sand dunes. I'd hate to think that pollution could ruin that beautiful place.

6:00 p.m. Some of our group just finished (lost) a basketball game against the local team. Jason, Megan and I decided to take the kayaks out for a short (and beautiful!) paddle. Off for a quick shower, then dinner; I hear we picked up some blue crabs from a local fisherman.

7:15 p.m. Our research group met to write up the results yesterday's social survey field exercise. It was fun to sit with local people and learn about their lives - everyone is so friendly! My Spanish is getting better; thanks to language tutorials we have, I can communicate pretty well.

We finished just in time to watch yet another gorgeous sunset... This place is so amazing!

8:30 p.m. Planned our next visit to the elementary school - we're going to use a scavenger hunt to teach the children about their environment.

9:30 p.m. Some students headed into town but I decided to hang out here. The moon is lighting up the Bay and there's a breeze blowing through our palm trees. I'm going to crash hard tonight! Tomorrow is another early one as we're loading up the boats (called pangas here) and heading out to Isla de Magdalena where we'll camp and talk to villagers whose families have fished here for centuries...

SFS Semester Programs

Semester programs run for 95 days including a five day midterm break (*usually the only time you are free to travel on your own*). Students in semester programs are enrolled in four courses of four credits each. (For more information on Academic Credit please see page 41).



"Being immersed in the environment was vital to our being able to learn about and discuss the environment. Lectures were given in the 'chumba' where one could look out at acacia trees and often see

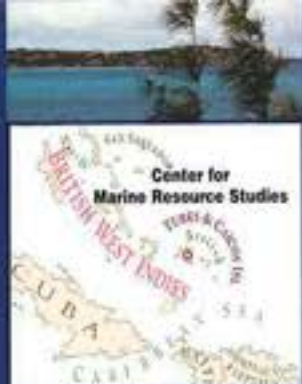
roaming ostrich or oryx. Lecturers often had to speak over the sound of vervet monkeys scampering across the roof. These weren't distractions, instead they made what we were studying seem all the more real and relevant."

Jana Macaleer, Trafford, PA

The program begins with an orientation to the site, the community, center policies and the local environmental issues. The daily schedule varies. The first half of the semester includes approximately 15, one to one and one half hour long, lectures a week plus 3-5 other meetings (*organizational, research/paper presentations, guest lectures*). Afternoons are generally filled with field trips or laboratories/field exercises. Academic activities are usually held six days a week with at least part of one day each week devoted to a community service activity. Extended field trips, weather conditions and schedules of guest lecturers often impact the daily schedule and we try to remain flexible in order to take advantage of unscheduled learning opportunities.

Later in the semester, there are fewer lectures and organized classes and more time is allocated for Directed Research projects. Additional meetings offer training sessions in the skills (*statistics, paper writing formats, computer spreadsheets, and laboratory analysis*) needed to complete the research. In addition to daily chores like kitchen duty, several hours are scheduled each week for a thorough site clean-up.

Note: Detailed syllabi are available for all programs.



Center Facilities

The Center is based in a former hotel just steps from our ocean laboratory and the 800 resident town of Cockburn Harbor. The main facility has a large, screened dining area, kitchen, classroom,



library/computer area and a covered veranda with spectacular ocean views. Students live 3-6 to a room in two, newly renovated residence wings. We are fully equipped for marine operations with access to two docks, four motorized boats, a commercial SCUBA compressor and plenty of tanks.

The Center for Marine Resource Studies

- ◆ Dive and snorkel in one of the most spectacular marine habitats in the Caribbean.
- ◆ Research innovative approaches to fisheries enhancement and marine park development.
- ◆ Get to know the friendly local residents known as "Belongers".

The British-governed Turks and Caicos Islands lie at the southern end of the Bahamas chain, 100 miles north of the Dominican Republic. The turquoise waters surrounding the Islands are considered to be among the premiere scuba and snorkeling locations in the Caribbean. Over 40 species of corals and 200 species of fish including spotted eagle rays, sharks, groupers, snappers and mahi-mahi are easily spotted in the clear, warm waters just steps from the Center. Nearby seagrass beds, mangrove forests, sandy shoals, and patch, fringing and deep reefs lend a patchwork appearance to the miles of shallow blue waters that surround the Islands.

The Turks and Caicos Islands (TCI) are a major international exporter of conch and spiny lobster. South Caicos has been the country's most important port for the fishing industry that, in turn, is the economic mainstay of the area. The potential depletion of this resource and its impact on employment and social structure has become a major concern and developing sustainable fisheries is an immediate priority for this island community.

Many Caribbean communities have encouraged development as a means to diversify and strengthen their economies. This has often led to rapid and sometimes detrimental social, economic and ecological change. Tourism and development could become major issues for South Caicos, as they already are on neighboring islands. The spectacular marine environment is drawing developers whose actions may help degrade the very attributes that drew them here initially. Rapid development may offer residents short term financial gains while threatening the island's resource base. If the TCI are to escape the detrimental environmental effects of development, environmentally sound and sustainable community development strategies that are socially responsible and beneficial to local residents must be identified without delay.



WEST INDIES

Turks & Caicos Islands



SFS in South Caicos

SFS students and staff are assisting the Department of Environmental and Coastal Resources and the newly formed National Park Service in their efforts to

determine how to develop and manage the fisheries, park and reserves for the benefit of residents and visitors without degrading valuable marine resources. With so many local residents dependent on marine resources for their livelihood, there is an immediate ecological and economic need to identify viable management options for the fisheries and the reefs that sustain them.

Snorkeling and diving in the waters surrounding the island students learn to identify the wide range of marine organisms and habitats found here. Once they have developed an understanding of marine ecology and the diversity of coastal ecosystems, students confront the challenges of fisheries management. The costs and benefits of potential new fisheries including fin fish and sport fishing are analyzed. Assessing the pros and cons of resource management options and the social and economic costs of limited harvesting brings students face to face with dilemmas directly impacting the residents of South Caicos.



Recent research indicates that historical nursery areas in dense seagrass beds may be the most effective sites for stock enhancement of the economically important queen conch population. SFS students are beginning to explore and map these important sites. With the newly created Admiral Cockburn Land and Sea National Park at their doorstep, students are ideally positioned to evaluate the emerging concept of Marine Protected Areas (MPAs) as a resource management option. With a new hotel under construction, we have a timely opportunity to assess whether MPAs can mitigate the impacts of development on coastal resources.

Please turn the page for more on the people we will meet, the places we will go and the results of our efforts to date...

Looking for a summer course option in the Turks and Caicos? Check out page 35

TURKS & CAICOS ISLANDS

SEMESTER PROGRAM

MARINE RESOURCE MANAGEMENT

**Field Work/
Course Work/Field Trips**

Days are spent in a combination of lectures, field trips, field exercises and research that focus on the development and management of fishery resources and the attractions offered by the spectacular natural marine environment which could potentially draw paying visitors. Faculty lectures provide the theoretical background for our studies. Students also meet with local experts including government officials, resource managers, researchers, fishermen, educators, community leaders and business owners/developers during the course of the semester. Potential field trips include:

- ✦ Visits to the historical boiling hole and salinas salt ponds to assess their potential as ecotour attractions;
- ✦ Boat trips to the shallow waters of the Bell Sound Bonefish Nursery and Marine Reserve;
- ✦ Camping trips to Long Key and Ambergris Key to explore the rich biodiversity of these uninhabited islands;
- ✦ Meetings at government ministries in Grand Turk and Providenciales.

Many field work sites are nearby and include the colorful and fish filled reefs and shallow banks, seagrass beds, mangroves and beaches surrounding the island as well as the docks, schools and community of South Caicos. Student directed research projects will focus on issues of concern to the local community.



"None of us could believe we were actually going to school in such a beautiful place. From any place on campus we could see the beautiful clear Caribbean waters. I had never taken classes that I could relate to my surroundings so well. The faculty would tell us something about the island in lecture and that night a fisherman would tell us exactly the same thing. In such a small and friendly community we could see the direct results of our work and feel like we were actually making a difference."

Sarah McCarthy, Santa Cruz, CA -
Santa Clara University



There are many opportunities to get to know local residents from interviews with local fishermen, to weekly soccer games, to community functions and our activities in the local schools. SFS students host a SEA DAY at the Center to help elementary school students learn more about their ocean environment.

Semester Program Dates:

- September 10 - December 13
- February 1 - May 6

Departure Point:

South Caicos Island, TCI, BWI

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

B/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 32 for course descriptions.

Recent student directed research projects have included:

- Atlantic Gulf and Rapid Reef Assessment for Reefs around South Caicos;
- Grouper Abundance and Habitat Distribution on the eastern Caicos Bank;
- Best Practices Zonations and Utilization of National Parks Resources in the Turks and Caicos Islands;
- Effect of a Marine Protected Area on the stock of adult and juvenile Queen Conchs (*Strombus gigas*) in the Turks and Caicos Islands;
- Analysis of the Seafood Market: Effects of the Import Tariff.

Involvement in the Local Community

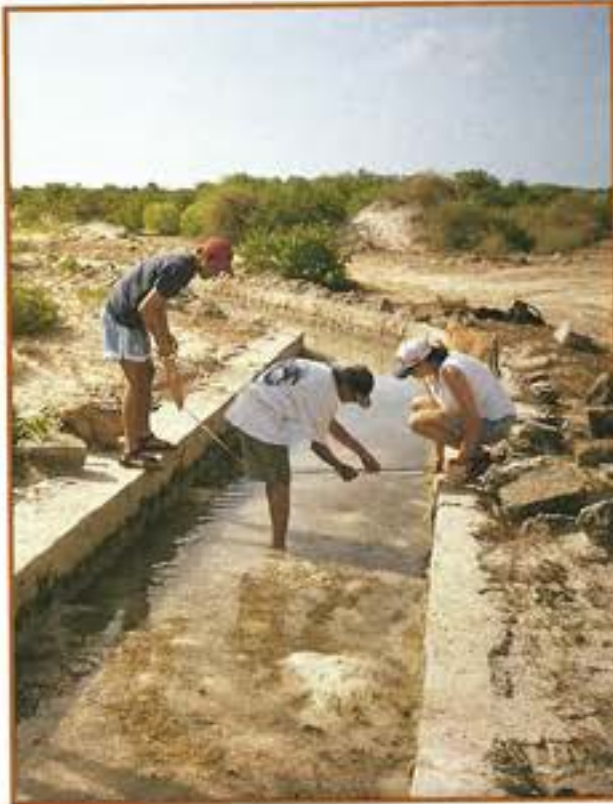
The Center is literally steps away from the town of Cockburn Harbor and students quickly become involved with the community spending time with local residents, fishermen and resource managers. Community activities may include:

- Weekly soccer and basketball matches that attract enthusiastic crowds as SFS teams challenge local teams (usually unsuccessfully) for the coveted tournament trophy;
- Involvement in the schools where students tutor in reading, work with the high school Science and Math Club and judge the debate competition;
- Hosting a SEA DAY at the Center to introduce elementary students to the marine environment.

Note: 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 may be rented on site.

Students assessing the status of canals that carry water to the historic salt salinas, a possible tourist destination if ecotourism takes hold here. "Directed research was my favorite part of the program because it really allowed the students to become leaders. We were able to formulate a research project from the beginning design to preparing a final draft and presenting it. I had the honor of presenting my research groups' conclusions to the Governor of the Turks and Caicos Islands and other officials. This gave me a feeling that all my hard work was for something."

Brendan J. Reed, Edgemont, PA - University of Richmond



Weighing conch. In South Caicos, many residents are economically dependent on the conch and lobster fisheries. Our case study on the effectiveness of catch and size quotas as a way to manage the fisheries challenges students to reconcile local economic needs with national and international conservation interests.

Recent Center Contributions

SFS students come away with countless memories, new perspectives, skills, and friends. They also leave something of value behind. Recent efforts by SFS staff and students have addressed timely issues relevant to the South Caicos community including:

- Projects assessing stock levels of lobster and conch that have provided important information for the Fisheries Department;
- Testing the effectiveness of artificial lobster shelters in critical nursery and feeding grounds that show early potential to significantly increase lobster yields;
- Surveying, mapping and recommending boundaries for the new Admiral Cockburn Marine Reserve while helping to create "trails" through the marine park;
- Hosting or supporting public forums and activities, attended by the governor and other officials, to enable community members to come together to discuss communal problems;
- Assisting government evaluators in reviews of Environmental Impact Assessment reports on local resort developments.

We're very proud of what we've accomplished to date, but there are still many challenges to ensuring sustainable development for South Caicos Island.

**Looking for a summer course option in the Turks & Caicos Islands?
Check out page 35**

A U S T

The Center for Rainforest Studies

- ◆ Live in a tropical rainforest, surrounded by an amazing variety of exotic birds, plants, and unique wildlife.
- ◆ Work with local residents to sustainably manage forest resources and restore degraded rainforest.
- ◆ Explore some of the most exciting natural attractions of Australia.

Center Facilities

Called "Warrawee," aboriginal for "You are welcome here," the Center lies in the northern foothills of the Atherton fableland. Protected World Heritage forests surround the rolling,



hilly site. A third of the property's 153 acres is mature rainforest, and another 50 are forest regrowth. Student cabins are nestled within the rainforest, and sightings of tropical birds, bandicoots, pademelons, and other species of rainforest wildlife are common. Students share eight person cabins. The main building has lecture, computer, and library rooms, and a kitchen. The faculty live in cabins on site.

Australia's tropical rainforests are unique and spectacular in their beauty, and home to primitive plant species, birds, and marsupials found nowhere else in the world. Giant strangler figs standing 70 feet tall, crimson and green king parrots, sulfur crested cockatoos, rainbow lorikeets, bandicoots, and tree kangaroos are just a few of the species which fill these forests with color and sound.

Much of Queensland was once covered in rainforests that were subjected to the same pressures that rainforests the world over continue to experience. Agriculture, ranching, mining and logging have destroyed and disrupted rainforest habitat, and all that remains is a narrow belt along the eastern coast. Australia moved to confront these threats faster than most tropical countries, and most of its remaining forests were protected under World Heritage designation in 1988.

This decision was quite controversial, as the country struggles with the conflict between preservation and the immediate need to use natural resources. Many farmers face the possibility of going out of business in the next decade due to economic pressures. Although many farmers wish to utilize environmentally sound measures, they are often faced with difficulty remaining economically viable, and even with simply putting bread on the table. If efforts to restore the rainforests of Queensland are to succeed, they must also provide economic benefits for the local community.



R A L I A

Australia



SFS in Australia

While representing only a small percentage of the world's rainforest, the incredible biodiversity of Australia's rainforest has a unique significance in

global conservation. Queensland presents an extraordinary laboratory to study this ecology, and examine issues of rainforest management and restoration. A mosaic of protected lands, rainforests managed for sustainable use, reforested lands, and degraded rainforest utilized for agriculture or pasture is found here. Local governments, resource managers, and conservation groups struggle with revolving issues of ecology and economics. In short, Australia's rainforests are representative of where many of the world's tropical rainforests will be in 20 to 30 years. The conservation problems and the cutting edge management strategies developed here will likely serve as a model for the rest of the world.

It is this reality that makes our work in Australia so important. The ecological and economic benefit of rainforests are increasingly well known, but much less is understood about the ability to restore rainforest once it has been cut. Our work explores the benefits of rainforest restoration for the human and non-human residents of the Tableland. Students will explore the rainforests and diverse ecosystems surrounding the Center, collecting data on biodiversity and examining the success of various management and reforestation efforts.

In the second half of the semester, students will apply this knowledge to the surrounding area. Working for members of the local community, students will explore options such as sustainable harvest of timber in forested areas, utilizing degraded farmland for timber production, and developing sound restoration plans for areas to be replanted. In addition, students will be actively involved in rainforest replanting. Our work will venture to support both the economic needs and ecological limitations of the area.

Please turn the page for more on the people we will meet, the places we will go and the results of our efforts to date...

Looking for a summer course option in Australia? Check out page 36

A U S T R A L I A

SEMESTER PROGRAM

TROPICAL RAINFOREST MANAGEMENT

Field Work/ Course Work/Field Trips

Our days are spent in a combination of lectures, field trips, field exercises and research. We will compare and contrast the ecology and management strategies of various ecosystems and protected areas throughout Queensland. Our work will enable us to interact with many local experts including resource and park managers, officials from government management agencies, researchers, farmers, aboriginal and community group leaders. Potential field trips include:

- ✦ A visit to Mission Beach that will enable us to examine the endangered Licuala palm forest and initiate discussion on how rainforest issues impact coral reefs. This trip typically includes a nonscheduled program day where students can snorkel off the Great Barrier Reef;
- ✦ Chillagoe, where we camp in the Outback and explore the caves, rock formations, and eucalypt forests of this region once covered in rainforest. At Petford we meet "Uncle Tom" and learn first hand about the history of the Aboriginals, and examine land management issues with members of the aboriginal community;
- ✦ The ancient Stockwellia rainforest will provide us with additional examples of rainforest ecology, and may allow us to view plants and wildlife found nowhere else in the world.

Our field work sites also include several rainforest and modified forest habitats, banana and sugar cane plantations, and dairy farms. Student directed research projects will focus on issues of concern to the local community.



"Australia is an amazing place and, environmentally, Queensland offers many different ecosystems to explore. I can't even begin to count all the different forests, swamps, rivers, geological formations and coastal areas we visited. In each we had the chance to observe different plant and animal species and to understand how they worked together."

E. Rae LeGrone, Charlotte, NC -
University of North Carolina



Students and staff have planted over 10,000 trees, most grown from seed in the Center's shade house. "The rainforests were lush and green, filled with lianas, epiphytes and trees teeming with wildlife. I felt like I had stepped into a picture in one of my textbooks. We were right in the middle of our own experimental laboratory and the view was spectacular."

Erin Grimm, Fredericktown, OH - Ohio State University

Semester Program Dates:

- September 10 - December 13
- February 1 - May 6

Departure Point:

Cairns, Queensland, Australia

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

BVEE (NS) 369

Rainforest Ecology

EE (NS) 370

Principles of Forest Management

EE (SS) 302

Environmental Policy and
Socioeconomic Values

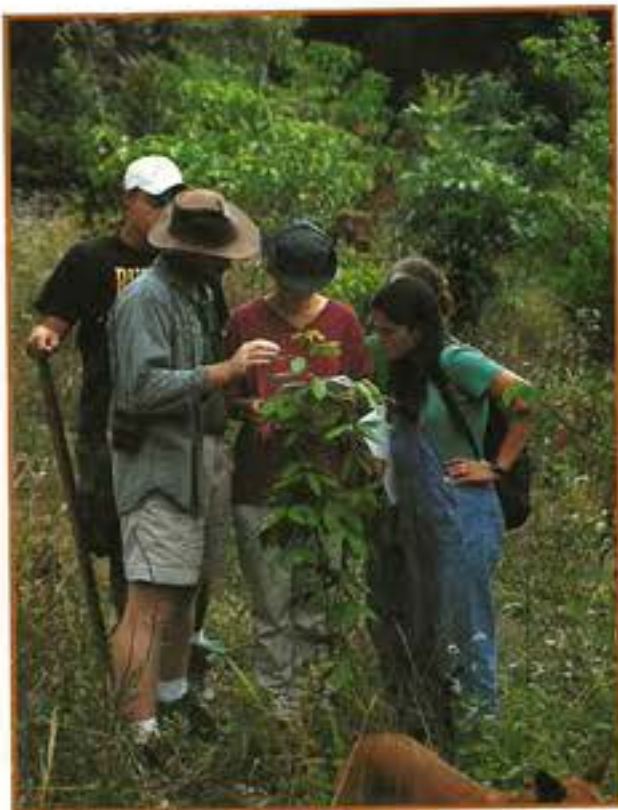
EE 491 or 492

Directed Research

Please see page 32 for course descriptions.

Recent student directed research projects have included:

- ✦ Vegetation monitoring of the Lakes corridor and two rehabilitated sites within the corridor;
- ✦ Pre and post logging assessment and timber market analysis of *Acacia* dominated rainforest on Graham Cossin's Property, Danbulla;
- ✦ Development of a data base for the CRS using a GIS;
- ✦ The feeding ecology and use of rainforest and grassland habitats by the Blue Faced Finch;
- ✦ A comparison of butterfly communities in replanted corridors and mature rainforest on the Atherton Tablelands;
- ✦ A comparison of detritivore communities in replanted areas and rainforest on the Atherton Tablelands;
- ✦ The ecology of wild tobacco tree (*Solanum mauritianum*) in wet tropics of North Queensland.



"Learning from indigenous rainforest peoples was the most exciting thing I've ever done; I can't wait to rediscover this feeling during my graduate studies, indeed, to rediscover this feeling again and again throughout my life! I consider myself very lucky to have had such field research experience during my undergraduate career. The directed research gave me excellent practice in writing research proposals, alerted me to some of the nuances and difficulties of performing field research, and prepared me to approach future endeavors with confidence."

Dorian Fougères, Pittsburgh, PA - Cornell University



"My time planting trees with local community groups was some of my best spent hours in Australia. Learning about the area from people who have grown up here was very meaningful. We were there to learn, not to teach. These are the people who are going to make a real difference here, I feel a real accomplishment having assisted them."

Maggie Smith, Port Angeles, WA - Stanford University

Recent Center Contributions

SFS students come away with countless memories, new perspectives, skills, and friends. They also leave something of value behind.

Recent efforts by SFS staff and students have addressed several issues important to the people of Queensland. These include:

- ✦ Developing a management plan for the Tolga Scrub, a rare and endangered rainforest fragment, facing ongoing degradation. This plan included weed control, replanting canopy gaps, and creating an education program;
- ✦ Ongoing monitoring of the floral and faunal succession of the Toohey's Creek Wildlife Corridor, which represents one of the first scientific attempts in Australia to link forest fragments in order to facilitate the movement of wildlife;
- ✦ Planting over 10,000 trees grown from seed in the Center's shade house to restore degraded forests, improve water quality through plantings around watersheds, and increase economic output through plantings on pasture lands.

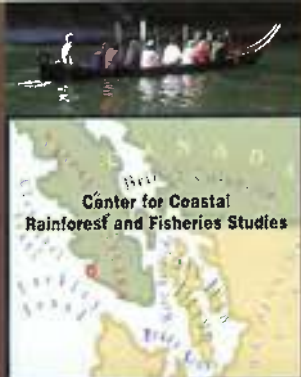
We're very proud of what we have accomplished to date. There are many more additional challenges to face, and we look forward to having your help in addressing these.

**Looking for a summer course option in Australia?
Check out page 36**

Involvement in the Local Community

The issues of conservation, resource use, and rainforest restoration are extremely important to this community. As a result, students interact with farmers, resource managers, the Yadinji tribe and members of community groups. In addition to working with local clients, we also are involved in many volunteer and social activities.

- ✦ Students work with local conservation groups and other members of the community to build trails and plant rainforest seedlings;
- ✦ Sporting competitions with Aussies range from formal lawn bowling matches to pick-up soccer and ultimate frisbee games on the Yungaburra common;
- ✦ Social activities with the local community may include bush dances, community festivals, visiting the Miranda theatre, and several local pubs.



Center Facilities

Our Center is located in the small town of Bamfield, a community of both native and non-native people along Vancouver Island's rugged West Coast. Our base is Aguilar House, a



former sport-fishing resort overlooking Bamfield Inlet and accessible only by boat. Stunning beaches and intertidal zones are steps away. The main house contains the dining/study/lecture area, kitchen, lounge, library and computer rooms. Students are housed in four large rooms, each with a bath. Faculty and staff live in nearby buildings.

The Center for Coastal Rainforest & Fisheries Studies — British Columbia

- ◆ Live surrounded by a coastal temperate rainforest and a stunning ocean view.
- ◆ Learn forest management practices in one of the most politically charged areas of the world.
- ◆ Work with local conservation and First Nation groups to revive salmon populations through stream restoration.

There is growing urgency to protect and conserve the temperate rainforests in the Pacific Northwest. These forests support some of the oldest and largest trees in the world. Much of the remaining temperate rainforests are found along Vancouver Island's West Coast, home to The School for Field Studies. Forests of towering cedar, Sitka spruce, and Douglas fir are a haven for wildlife, including bald eagles, wolves, and black bears. The coastal marine zone provides for abundant fish and seabird populations, as well as marine mammals including orcas, porpoises, and sea lions.

Today the future of this area is being hotly debated, from logging camps and homes of native peoples, to the seats of government. The Clayoquot and Barkley Sound regions, rich in natural resources, are being exploited for their extremely valuable tree species, and for their fish populations, most notably salmon and shellfish. Timber and fisheries provide the economic base for many people of this region, thus creating a heavy dependency on logging and related industries. This current conflict between resource conservation and utilization in the area is of deep concern for the local community.

Over the past ten years, controversial land-use decisions for this area have polarized not only the communities of Clayoquot and Barkley Sounds, but people across Canada and around the world. There is a great need here for social, economic and ecological data, problem-solving strategies, and training in co-management techniques. The lessons learned working in a leading developed country are directly transferable to the U.S. or to other countries facing similar challenges.



Vancouver Island



SFS in British Columbia

The defense and conservation of coastal temperate rainforests is at the forefront of environmental commitment and controversy in the Pacific Northwest. This complex issue is at the center of debate between local indigenous groups, logging industries, and scientific teams. The link between social activism, environmental awareness, and economic profitability resonates along Vancouver Island's West Coast.

Students begin the semester examining forestry practices in the Barkley Sound region through fieldwork and research. By applying the principles and ideas of landscape ecology, ecosystem management, and conservation biology, students will help to facilitate long-term sustainability goals. As the semester progresses, students gain a greater understanding of different forest management regimes, the cultural integrity of First Nation peoples, and the necessity for forest policy and legislation.

The second half of the semester will introduce students to problems and issues of watershed management. The area around Bamfield is an ideal location to investigate the interrelationship between forestry practices and fisheries management. Students will grow to understand the linkages between economic and environmental activities, and community-based conservation.

Please turn the page for more on the people we will meet, the places we will go and the results of our efforts to date...

Looking for a summer course option in British Columbia? Check out page 37

VANCOUVER ISLAND

SEMESTER PROGRAM

RAINFOREST AND FISHERIES STUDIES

**Field Work/
Course Work/Field Trips**

Days are spent in a combination of lectures, field trips, field exercises, and research. Students will have the unique opportunity to speak with a diverse group of experts while they focus on community watershed planning and resource management. These local experts range from municipal foresters, representatives from logging industries, park managers, First Nation Elders, salmon fishermen, local artisans, and community leaders.

We will visit temperate forests, lakes, beaches, and coasts of the watershed and the islands near Bamfield as the basis for our fieldwork and field trips.

- ◆ A multi-day camping excursion to Carmanah National Park immerses students in the home of some of the oldest and largest trees in the world and the site of one of the best known examples of successful community activism.
- ◆ On a camping trip to Sproat Lake students will experience first hand how the logging and paper industry has affected the local ecosystem.
- ◆ A visit to Port Alberni introduces students to the economic and ecological challenges faced by the logging and tourist industry.
- ◆ Enhancement, mitigation, and restoration options for fisheries are the focus of the field trip to Tofino.

Student directed research projects will focus on issues of concern to the local community.



Students at Cow Bay.

"I am still amazed at how much I learned about forestry, fisheries, marine life, ecotourism, etc. Living in the environment which I was studying made all the difference. The knowledge just sunk in because it was not all from reading textbooks and it was so interesting. We got to do some amazing, hands-on learning."

Meghan Cole, Worcester, MA -
University of New Hampshire



SFS is working with First Nation groups on stream restoration to reestablish economically important salmon runs. "After talking with my professors, I chose to go to the Pacific Northwest. The courses related to the forestry, economic and ecology skills I'll need to get a job in the forestry field in the U.S. The approach to learning used by SFS prepared me with the skills to confidently approach complicated environmental problems and culminated in the best learning experience I've ever had."

Sean Libbey, Westwood, MA - Muhlenberg College.

Semester Program Dates:

- September 10 - December 13,
- February 1 - May 6,

Departure Point:

Vancouver Island, British Columbia

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

B/E/E (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 32 for course descriptions.



Recent student directed research projects have included:

- ❖ Sockeye salmon spawning habitat and stream morphology assessment;
- ❖ An analysis of stream restoration efforts in the Sabrina Creek, Vancouver Island;
- ❖ A study of sedimentation in the Sarita and Pachena Watersheds;
- ❖ A study of aquatic macroinvertebrates to determine water quality in Sabrina Creek;
- ❖ Mapping interpretive trails in the Bamfield community woodlot;
- ❖ An assessment of aquaculture potential for the Sarita River Delta.

Involvement in the Local Community

Students have numerous opportunities to integrate into the local Bamfield community. Many will experience the rich culture of the First Nation Bands who have inhabited this region for over 4,000 years.

- ❖ In addition to tutoring in the schools, engaging in local sporting events, participating in beach clean up and community recycling efforts, students have hosted a variety of events for local residents including guided forest hikes, coffeehouses and picnics.

- ❖ Student research presentations are an open event to the community at the end of the semester.
- ❖ SFS students periodically are included in a number of First Nation group events and celebrations.



Taking a core sample. "The local residents took a real interest in what we were doing. That is what I believe made the program so great. We weren't just studying problems halfway around the world, but were searching for solutions while living among the people who would be most affected by any decision made. They weren't just numbers of people who would lose a job if a mill closed or a fishing boat went out of business. They were real people with families. That kind of grounding is impossible to get in a lecture hall."

Curtis Weinrich, Rosebud, MO - Northland College



Magnificent First Nation carvings, such as this boat, are plentiful in the area. The holistic Nuw-Chah-Nulth belief system, and the concept "hishuk ish ts'awalk" - everything is one, is illustrated in lectures by visitors including an ethnobotanist and a Hereditary Whaling Chief, on field trips and in our community interactions.

Recent Center Contributions

SFS students come away with countless memories, new perspectives, skills, and friends. They also leave something of value behind.

Recent efforts by SFS staff and students have addressed timely issues relevant to the Bamfield community including:

- ❖ Assisting the town of Bamfield with a successful proposal to put a provincially managed woodlot under the community's oversight;
- ❖ Developing recommendations for a management plan for the proposed Huu-ay-aht National Historic Site;
- ❖ Creating guidelines for monitoring water quality in streams impacted by logging;
- ❖ Implementing stream restoration efforts to improve diminishing salmon habitat.

We're proud of what we have accomplished to date but there are many more challenges to face, and we look forward to having your help in addressing these.



**Looking for a summer course option in British Columbia?
Check out page 37**



BAJAN

The Center for Coastal Studies

Center Facilities

Bahia Magdalena runs for 200 kilometers along the west coast of the Baja California peninsula. Our center lies on the outskirts of the town of Puerto San Carlos, a 4,000 person fishing



community. Sandy beaches lined with palms fringe our two acre property and nearby mangrove-fringed lagoons give way to white sand beaches backdropped by a colorful, cacti-strewn desert. Spectacular sunsets drape the mountains and dunes of the off-shore islands in orange and purple shadows. Students share four person, solar-powered cabins. Additional facilities include a computer room, library, classroom, laboratory, kitchen, dining and study areas and bath/shower house. Faculty live in small houses on site.

- ◆ Enjoy a warm welcome into the friendly community of Puerto San Carlos.
- ◆ Help residents identify sustainable management options for spectacular natural resources including endangered sea turtles and marine mammal species.
- ◆ Explore incredible natural habitats ranging from flowering deserts to species-rich marine systems.

Bahia Magdalena is an area of astonishing physical beauty. White sand dunes, cacti-strewn desert, mangrove filled lagoons, extensive sea grass beds, and blue ocean waters provide an intense variety of color, and support an incredible diversity of life. Large populations of bottlenose dolphins and sea lions are common sights. The Bay is an important feeding ground and nursery area for East Pacific green turtles, Loggerheads, Olive Ridleys, and the rare Hawksbill turtles. Over 100 species of migratory and resident birds use the Bay at various times of the year. Bahia Magdalena is one of the three most important calving areas for the entire East Pacific Gray whale population, and literally hundreds of these animals can be found here between January and April.

For centuries, Bahia Magdalena has also played a critical role in supporting its human residents. Fishermen ply the waters for tuna, sardines, scallops, shrimp, abalone, blue crabs, grouper, halibut, and many other commercially important species. A growing tourism industry, supported largely by whale watching, provides an additional source of income for many residents.

Many conservation groups now consider Bahia Magdalena to be one of the most critically threatened ecosystems in Mexico. Many fisheries are near collapse from over-harvesting. The catch of several species has been banned, but their harvest continues as enforcement is insufficient and fishermen lack alternatives. Sea turtle poaching critically endangers already threatened species. Pollution threatens the water quality of the bay, and the species that live there. Whale watching has dramatically increased in recent years, with a potentially negative effect due to increased boat traffic and disturbance of the gray whales.

Most residents of the coastal town of Puerto San Carlos are economically dependent on the Bay's marine resources, yet little research has been done on the ecosystem of the Bay, and the ways in which its resources may be best utilized. The question remains - how can conservation and economic development be balanced to the benefit of all of the Bay's residents?



MEXICO

Baja, Mexico



SFS in Baja, Mexico

It is not uncommon for resource dependent communities to increase the exploitation of their resource base in their quest for economic growth. This has been the



case in Bahía Magdalena. And as a result of the increasing pressure on the fisheries of the Bay, landings of many of the most valuable commercial species are in a decline that threatens the economic base of this fishing community. Despite the importance of the fisheries, little research has been done on fisheries management here. SFS students are interviewing fishers, exploring changes in fishing technology and collecting and analyzing catch data as part their efforts to identify alternative management strategies for the small and large-scale fisheries of Bahía Magdalena. The current focus of our research is on shrimp, blue crab, abalone, grouper lobster and scallops. Additional research focuses on another threat to the Bay's productivity as students explore the impacts of pollution on the mangrove and seagrass beds near Puerto San Carlos.

Since commercial whaling was banned in 1946, the Eastern Pacific gray whale population is thought to have recovered to near 20,000 whales. Only three calving and breeding grounds for this species are known to exist and Bahía Magdalena is the only one not currently protected. Potential threats to marine mammals in the Bay include shipping traffic, vessel noise, pollution, commercial development, fishing and habitat degradation. SFS students are conducting research to determine the effects of human activity on the whale populations with a goal of mitigating these threats in the future. Students in fall and summer programs are exploring conservation strategies to protect several marine turtle populations rendered to near-extinction levels in the Bay as a result of exploitation and incidental capture.

Please turn the page for more on the people we will meet, the places we will go and the results of our efforts to date...

Looking for a summer course option in Baja, Mexico? Check out page 38

B A J A M E X I C O

SEMESTER PROGRAM

MARINE MAMMAL CONSERVATION AND
COASTAL ECOSYSTEM STUDIES**Field Work/
Course Work/Field Trips**

Days are spent in a combination of lectures, field exercises, field trips and research. In addition to lectures by Center faculty, local experts including resource managers, university faculty, researchers, representatives of national or international conservation initiatives, local employers, fishermen and community leaders provide background for our research. Field work takes place on the beaches and in the communities of Bahia Magdalena. Small boats called "pangas" facilitate exploration of nearby islands, mangroves and coastal waters. Several longer field trips are taken each semester.



Students in the Fall semester will examine human impacts on and conservation strategies for the threatened sea turtle populations of Baja California Sur. Spring semester students will consider the impacts of development and a burgeoning whale watching industry on the gray whales that return to the Bay each year to bear and nurse their calves.

- On a boat trip to the small island fishing village of Puerto Bahia Magdalena, students visit the homes of the most traditional fishing families of the peninsula.
- Camping trips to offshore islands offer an opportunity to explore the area's rich biodiversity, stark dunes and sandy white beaches.
- The small aquaculture initiatives seen on visits to the Estero San Buto introduce examples of alternative fisheries.
- The intertidal zones of Punta Santa Maria illustrate the incredible diversity of marine life in this region.

Student directed research projects will address issues of concern to the community.

Note: Due to our extensive interaction with the people of Puerto San Carlos who recognize and appreciate any attempt to converse in Spanish, applicants are strongly encouraged to develop their conversational Spanish skills.



Camping on the off-shore islands. "There are awesome moments when you may share a small square of ocean with a gray whale and her calf; or look up from dinner to see the colorful sunset over the islands of the bay. You realize that you are no longer a student fulfilling graduation requirements, you are part of a family of people who care intimately for the bay they have come to know and love. And most importantly, you learn that you can make a difference in its future."

Molly McAllister, Portland, OR •
Lewis and Clark College

Semester Program Dates:

- September 10 - December 13
- February 1 - May 6

Departure Point:

La Paz, Baja California Sur, Mexico

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

BVEE (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 32 for course descriptions.

Recent student directed research projects have included:

- Economic benefit and socio-economic analysis of whale-watching activities in Bahia Magdalena;
- Stock assessment of shrimp populations in Bahia Magdalena;
- Assessment of anthropogenic impact on water quality of Bahia Magdalena;
- Fisheries management techniques used in the Bahia Magdalena-Almejas lagoon system for the blue crab;
- Bay Business: A look at business practices in fishing cooperatives of Bahia Magdalena;
- Regional environmental education model: marine mammals as a tool for getting teachers involved in curriculum development.



Checking out the catch in a crabtrap. "It is nearly impossible to state what I learned in this program - it is so much more than textbook facts and things learned in class. My only regret is now that I've found a place that I can live and learn with the 'something more', I wish it were a four-year university."

David Pesnichak, Bloomington, IN - Indiana University



There are many opportunities to get to know local residents including sporting and social events and tutoring in the schools. "I found myself entering another culture, another world. The experience has filled me with a deep respect for others' values, lifestyles, hardships. It is funny the differences a border can generate. A single imaginary line has imposed staggering contrasts between the United States and Mexico - differences that mean so much more after seeing them firsthand."

Helene Poulshock, Cherry Hill, NJ - Barnard College

Recent Center Contributions

The Center opened in early 1997, funded in part by one of the first ever debt for environmental education swaps. As the only permanent research base on the Bay, the Center has drawn many researchers from Mexico and abroad, involving

SFS students in several important investigations.

Involvement in the Local Community

Because this program is oriented toward helping the community conserve its natural resources and develop sustainably, students spend significant time working within the local community of Puerto San Carlos. In addition to working with local clients and interviewing fishers, business owners, and community leaders, there are many opportunities to become involved in local social activities.

- Spanish lessons throughout the program help sharpen conversational skills.
- A short homestay extends students' personal connections to the community.
- Students quickly become involved in local activities ranging from weekly basketball and volleyball games, to community meetings and developing environmental education programs in local schools.
- Participation in Mexican and local holiday celebrations are often remembered as highlights of the program.

Note: For more on a typical day at this Center, please see pages 6 & 7.

- A study of the gray whale population led to an increase in whale-watching permits for local boat operators.
- A student initiated, community-based conservation plan has laid the groundwork to create a management plan for regional sustainable development.
- Joint exploration with the Government and local fishers investigated alternative shrimp net designs to reduce by-catch and destruction of the fragile bay bottom.
- A socio-economic analysis of the blue crab fishery has provided valuable data to the Puerto San Carlos Office of Fisheries to assist in the development of management strategies for this critical resource.
- A water quality analysis project, designed to discover the sources and impacts of wetland contamination, has resulted in the development of a monitoring program and alternative disposal recommendations.

We're very proud of what we've accomplished to date, but there are still many challenges to preserving the Bay's biodiversity and ensuring sustainable development for the communities of Bahia Magdalena.

**Looking for a summer course option in Bahia Magdalena?
Check out page 38**



COST

The Center for Sustainable Development Studies

Center Facilities

Our base is a small farm on a hillside with spectacular views overlooking the Rio Grande river in the fertile Central Valley. The property includes a large house (where meals are eaten) surrounded by small



faculty cabins, an outdoor classroom, an organic garden, orchards, patio and pool. Students live in a refurbished chalk factory converted to dormitory space; there are five large bedrooms (6-7 students per room), bathrooms, a classroom, a small laboratory, and a library/computer room. We look out over green hillsides dotted with farms growing coffee, mangoes, bananas, citrus and pineapples. The friendly community of Barrio Los Angeles is a short walk from the center while Costa Rica's tropical forests, beaches, mountains and volcanoes are easily accessible in a day's travel.

- ◆ Explore the biodiversity of Costa Rica's unique ecosystems.
- ◆ Work with local residents to identify innovative and sustainable resource development options.
- ◆ Immerse yourself in the welcoming community of Atenas.

Spectacular natural resources draw ecotourists from all over the world to Costa Rica. The cloud forests, rainforests, volcanoes and mountain plains here are thought to shelter more than 6,000 plant species (including more than 1,000 orchid varieties). The presence of over 500 species of butterflies has led to profitable "butterfly ranching" while more than 800 bird species - quetzals, toucans, hummingbirds, scarlet macaws - are found in the wet and dry forests. The magnificent beaches fringing both coasts are among the world's largest-known nesting grounds for sea turtles.

Costa Rica is acknowledged as an international leader in land preservation with 27% of the country designated as protected zones. Residents now face a struggle common to developing countries: How to preserve beautiful (and increasingly economically valuable) natural resources while fostering a desire for prosperity. Resource managers now recognize that protected areas operating as isolated units cannot fulfill their mission to safeguard biodiversity and contribute to sustainable development. Issues such as river pollution, soil protection, and the need for biological corridors to allow for animal migration can only be addressed by protecting whole regions. This concept competes head-on with the escalating needs of the Costa Rican people for productive agricultural land and housing. Although ecotourism has been hailed as a possible economic and land use alternative, there is no concrete evidence that it is a sustainable solution, and the development which follows may be as destructive as agriculture has been to date. Identifying economically and ecologically sustainable resource management options is becoming a priority for this rapidly developing country.



A R

I C A

Costa Rica



SFS in Costa Rica

Costa Rica is currently undergoing a period of great economic and social change. In our eight years at this Center, the country has shifted

from an economy predominately based on agriculture, to an economy that is now driven by technology exports and eco-tourism. This fiscal and cultural transition makes this a very exciting and rewarding time to be studying here.

Our primary work in Costa Rica focuses on the identification of sustainable development opportunities. Students begin by exploring the country's most famous Protected Areas to collect data on biodiversity, and evaluate the economic success of different management strategies. Visits to cloud forests, dry forests, volcanic parks, and lowland rainforests offer the opportunity to examine management schemes and determine which systems offer the best option for economic development, the maintenance of cultural norms, and the preservation of biological diversity.

In the second half of the semester, students apply this knowledge to the seven Protected Areas in the local canton of Atenas. When talking with the residents of Atenas, students quickly realize one of their key environmental issues is the availability and quality of water. We will explore options such as organic farming to increase product value and to reduce pollutants, and develop a plan for managing the municipal forest. These options are the cornerstones of our work to protect the local watershed and to positively contribute to the local environment and people.



Please turn the page for more on the people we will meet, the places we will go and the results of our efforts to date...

Looking for a summer course option in Costa Rica? Check out page 39

C O S T A R I C A

SEMESTER PROGRAM

STUDIES IN SUSTAINABLE DEVELOPMENT

Field Work/ Course Work/Field Trips

Our days are spent in a combination of lectures, field trips, field exercises and research. As we compare and contrast the ecology and management success of protected areas we will explore diverse ecosystems and meet resource and park managers, officials from government management agencies, researchers, farmers and cooperative members, representatives of multi-national corporations, community leaders and local grassroots organizers.

Publicly managed protected areas include national parks, forest preserves, conservation areas and protected zones and we will visit several examples.

- On a camping trip to Santa Rosa National Park's tropical dry forest we will explore an ecosystem that is rarer and more threatened than better publicized rain forests. This is the site of one of the biggest forest restoration projects in Latin America.

- A visit to Volcan Poas introduces us to the country's first volcanic national park.
- A huge variety of plant and animal life awaits at Braulio Carrillo, a national park encompassing a wide range of altitudes and ecosystems.
- The rainforests of Reserva Biologica Carara on the Pacific coast offer additional lessons in biodiversity and are home to monkeys, sloths, scarlet macaws and crocodiles.

Visits to several private reserves that have been developed to preserve biodiversity and generate income through tourism offer an alternative approach to conservation. Potential destinations include:

- Villa Blanca, a reserve amid the Los Angeles Cloud Forest operated by a former President of Costa Rica;
- The Monteverde Cloud Forest Preserve, first established by Quakers from the U.S., and the nearby butterfly gardens and women's artisanal operations.

Our field work sites also include local coffee plantations, farms, preserves, forests and the communities of Atenas. Student directed research projects will focus on issues of concern to the local community.



"The most valuable lessons were learned outside the classroom, from the community and from the farmers. The lectures solidified facts and helped me make important connections but to see what we learned in context, in the field, made so much sense. I understand now that diplomats at a UN Conference cannot create a treaty that will miraculously solve environmental problems. In each case there needs to be an understanding of the problem in its local context."

Christina Beaumier, Haydenville, MA - American University



Students at Parque Nacional Volcan Poas, Costa Rica's first volcanic park. Field trips explore a variety of ecosystems and allow us to compare preservation strategies. In conversations with other travelers we soon became aware of how special our experience was as they talked of disappointing and overcrowded places. We were able to have lecture hikes through rarely visited cloud forest, live in a cabin in the rainforest and visit remote communities.

Carly Anderson, South Windsor, CT - Emory University

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

Semester Program Dates:

- September 10 - December 13
- February 1 - May 6

Departure Point:

San Jose, Costa Rica

Semester students are registered in four academic courses 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)

Please see page 32 for course descriptions.

Recent student directed research projects have included:

- ❖ Integrated pest management in annual crops;
- ❖ Effects of urbanization on natural resources;
- ❖ The role of women in protection of natural resources;
- ❖ A comparison of energy efficiencies in the production and processing of coffee;
- ❖ Bird species diversity in shaded vs. unshaded coffee plantations;
- ❖ Ground cover crops as alternatives to herbicides;
- ❖ Energy flows in natural and managed ecosystems;
- ❖ Economic and natural diversity issues associated with the Pacuare Dam.

Involvement in the Local Community

Because the communities' land-use choices are among our chief concerns, we spend sizable blocks of time with local residents, farmers, and members of agricultural cooperatives to understand their perspectives and needs. There are many opportunities to become involved in local social activities.

- ❖ Spanish lessons throughout the program help sharpen our conversational skills.
- ❖ A short homestay solidifies our personal connections to the community.
- ❖ Students quickly become involved in local activities ranging from weekly soccer games, community festivals and tutoring in local schools, to volunteering in orphanages, and establishing local recycling efforts.
- ❖ Highlights of each semester include participation in Costa Rican holiday celebrations and hosting local residents at events held at the Center.

"SFS presents issues in their full social, cultural and environmental context and does an exceptional job of showing us the places that embody the problems and solutions."

Zackry Guido, Chester, VT -
Lafayette College



Holiday celebrations are colorful and memorable events, often involving the whole community. SFS students have built floats for parades and enthusiastically joined in the festivities. "Our interactions with local families provided a complete cultural experience...no classroom experience can provide that type of learning."

Matthew Provost, Wareham, MA -
Ithaca College

Recent Center Contributions

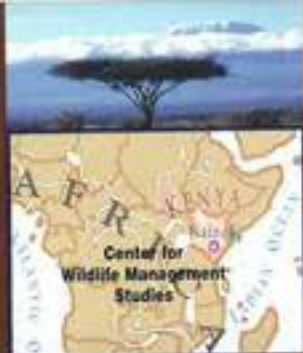
SFS students come away with countless memories, new perspectives, skills, and friends. They also leave something of value behind. Recent efforts by SFS staff and students have addressed timely issues relevant to communities in Costa Rica and have led to the development of:

- ❖ an operational management plan for two protected areas, Cerro Atenas and Rio Grande, in one of the most important watersheds in Costa Rica;
- ❖ recommendations for controlling the economically devastating white fly using integrated pest management options, at the request of local farmers;
- ❖ book chapters on the energy necessary to produce coffee locally and recommendations for alternative, poly cropping systems with lower environmental impacts as well as on the results of a study of shifting womens' roles in crop protection decision-making;
- ❖ a profile of customer awareness and attitudes towards organic products for use by NGO's and local farmers;
- ❖ guidelines for protecting Costa Rican wildlife in captivity.

We're very proud of what we've accomplished to date, but there are still many challenges to preserving biodiversity and ensuring sustainable development for Costa Rica.

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

**Looking for a summer course option in Costa Rica?
Check out page 39**



EAST A

The Center for Wildlife Management Studies

Center Facilities

Students have the incredible opportunity to conduct research from two unique locations. The SFS Center at Game Ranching Ltd. (GRL), is located on a remote corner of an 81 square kilometer game



ranch on the high plains, forty minutes from Nairobi. Oryx, giraffe and vervet monkeys roam freely on a landscape dotted with umbrella-shaped thorn trees. Mount Lukenya dominates the northern horizon; Dinesen's beloved Ngong Hills lie due west. Students sleep in thatched bandas. The second SFS base camp is located on the Kuku Maasai Group Ranch near Amboseli National Park and the Kimana Wildlife Sanctuary. Students sleep in large tents at this remote and rustic setting, rising each day to a view of Mt. Kilimanjaro in the distance. Additional facilities at both these base camps include a dining/kitchen building, classroom, library, outhouses and open-air showers.

- ◆ Live in close proximity to wildlife while studying on an innovative Maasai Group Ranch, a managed game ranch and in national parks.
- ◆ Explore human-wildlife conflicts from the perspective of local ranchers, park managers and local communities.
- ◆ Visit areas of Kenya and meet residents inaccessible to many tourists.

The habitat required by Kenya's wildlife is increasingly threatened by modern pressures and the country's soaring population growth. The lions, elephants, giraffes, rhinos, monkeys, zebra and other wildlife found here are the country's most famous and economically valuable resource. At the same time, many Kenyans struggle to raise enough food just to survive. Farmers are being forced onto land that is marginal or unsuitable for agriculture and traditional pastoralist lifestyles are also threatened. Previously nomadic peoples, such as the Maasai, and the cattle herds that provide their primary sustenance, have been confined to smaller plots of land while their numbers grow leading to overgrazing and



rangeland devastation. The wild animals, which have co-existed for centuries with these non-hunting people, are now seen as competitors for scarce water and grazing resources.

The parks and reserves that offer protection to wildlife are becoming more and more isolated. Buffer zones surrounding the protected areas are being converted to food production using methods

hostile to wild animals. Reduced habitat undermines the long-term viability of Kenya's irreplaceable wild animal populations and the booming tourist industry they support. The search for ecologically appropriate solutions to the conflict between food production and wildlife habitat must proceed without delay.



AFRICA

Kenya



SFS in Kenya

Our current research focuses on exploring ways in which Kenya's wildlife resources can be both conserved and even expanded as an income source.

Identifying appropriate land-use practices that enable local residents to maximize production without degrading their environment is a second priority for SFS students and staff.

While based at GRL, students focus on management strategies for Kenya's oldest and most profitable national park. Increased development around Nairobi National Park threatens its biological welfare and has led to the decline of large mammal populations. Pollution threatens the water supply while litter plays a role in the death 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 by migrating wildlife. SFS students are assisting The Kenya Wildlife Service, managers of the Park, with a series of research priorities including vegetation mapping, grass and browse impact surveys, large mammal population counts and distributions, upgrading educational facilities and monitoring impacts of humans in the park.

The diverse habitat surrounding the Kuku Maasai Group Ranch is used by wildlife as a migration corridor between Tsavo and Amboseli National Parks. The primary use of the area by the Maasai has been as a communal grazing area for livestock and residents often face economic hardship as a result of crop damage and loss of livestock inflicted by migrating wildlife. During the portion of the semester that they are based here, students will engage in an ecological and land use characterization of the Group Ranch. Interviews with Maasai residents give students a perspective on their priorities as well as on the challenges facing wildlife conservation among resource-constrained communities. This 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.

Please turn the page for more on the people we will meet, the places we will go and the results of our efforts to date...

Looking for a summer course option in Kenya? Check out page 40

K E N Y A

SEMESTER PROGRAM

WILDLIFE ECOLOGY AND MANAGEMENT

Field Work/ Course Work/Field Trips

Days are spent in a combination of lectures, expeditions, field exercises, and research. Field work sites include the acacia thickets and extensive rangelands and savanna of Game Ranching Limited and other local ranches. Nairobi National Park, home to numerous large mammal species and the site of the largest single day bird species count worldwide is only 8km from the Center and is the site of much of our research. The grasslands of southern Kenya and wildlife migration routes between Amboseli and Tsavo National Parks as well as the Kimana Wildlife Sanctuary are primary research sites for the students based at the Group Ranch.



"We spent a lot of time with the Maasai people, talking to them and visiting their homes. Our objective was to get a good understanding of their position on wildlife management and then help them design a management plan. I would never have understood the problems, such as elephant overpopulation and destruction, if I hadn't visited Kenya and met these people."

Andrea Michlovitch, East Syracuse, NY -
SUNY College of Environmental Sciences and Forestry

Field trips enable us to compare conditions between sites and the success of various management schemes.

- ♦ A multi-day excursion to the Maasai Mara may include sightings of lions, leopards and buffaloes and a visit to the hippo pools. Cries of hyenas can be heard at night, while by day students conduct vegetation analyses comparing fenced and open grazing areas.
- ♦ Manyatta visits offer an up close view into Maasai culture including some rural villages not usually visited by tourists. Recent trips have involved students in a musical ceremony by Maasai women, demonstrations in fire-making, a traditional rite of bleeding cattle, dances by Maasai "morans" (warriors) and lessons in spear throwing.
- ♦ Students often trade or make purchases of spears or beaded jewelry on visits to Magadi and Kimana and the markets at Machakos.
- ♦ A week-long expedition to Amboseli and Tsavo National Parks illustrates the management implications of high concentrations of animals in a confined area. The impacts of the elephants whose trumpeting punctuates the night are clearly visible by daylight.

Semester Program Dates:

- September 10 - December 13
- February 1 - May 6

Departure Point:

Nairobi, Kenya

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

BI/EE (NS) 371

Techniques of Wildlife Management (4 credits)

BI/EE (NS) 372

Wildlife Ecology (4 credits)

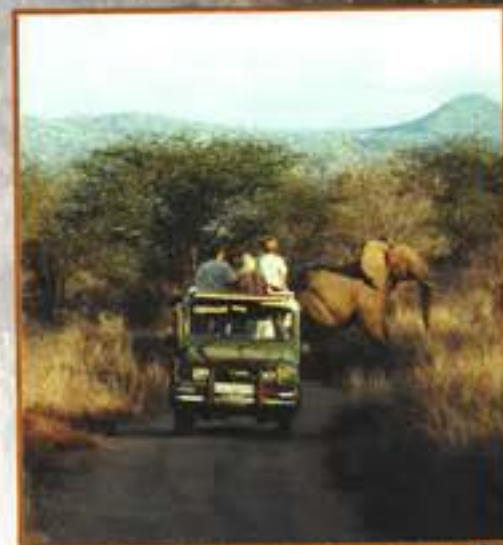
EE (SS) 302

Environmental Policy and Socioeconomic Values (4 credits)

EE 491 or 492

Directed Research (4 credits)

Please see page 32 for course descriptions.



"We had to count herds that refused to stand still and blended into the grass and trees. Another mystery of the difficulties of wildlife management was illuminated - no one knows the exact status and viability of any one species because they are so hard to see (except maybe elephants!)."

Elizabeth Derryberry, Asheville, NC -
Princeton U



Recent student directed research projects have included:

- An assessment of vegetation damage by elephants in Kimana Community Wildlife Sanctuary;
- Developing a management plan for the Ngong Hills Forest Reserve;
- An investigation of possible negative effects of cropping on Thomson's Gazelle populations;
- Development of an ecotourism plan for Insinye Group Ranch;
- Assessment of rangelands to establish sustainable livestock stocking rates.

Involvement in the Local Community

Because a primary goal of our efforts is to understand community views on wildlife as well as the challenges faced and management policies employed by park managers, involvement with Kenyans is key to our research. We spend time with park wardens and with local ranchers, farmers and community members. Students can also take advantage of other opportunities for social interaction including:

- Discussions with Center staff who come from various regions of Kenya and belong to several Kenyan tribal groups including Kamba, Maasai and Luo;
- Informal lessons in Swahili and Maa offered by Center staff;
- Manyatta visits with the Maasai in areas off the regular tourist routes;
- Community service work in local schools.

"It was an amazing opportunity to study human/wildlife conflicts with our professors and then walk down the road and speak with farmers about how they feel about the wildlife that eat their crops every night. This was very eye-opening and powerful and drove home the importance of involving the community in conservation efforts."

Stefani Kovacovsky, New Bethlehem, PA -
Mount Holyoke College



Sharing a story with Maasai children. "Kuku bush camp was such a beautiful place. We woke up every morning to "wild" sounds, Maasai herdsman and children whistling."

Mark Grgurovic, North Andover, MA -
University of Massachusetts

Recent Center Contributions

SFS students in Kenya leave with countless memories of a different culture, new perspectives on solving environmental problems, and long lasting friendships. They also leave behind many valuable hours of fieldwork and research.

SFS has been in Kenya for almost 20 years and has

contributed to the management plans for the game ranch on which the Center is based, several Maasai groups ranches as well as national protected areas such as Nairobi National Park. Other contributions include:

- An 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 Kenya Wildlife Service 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;
- An analysis of 17 years of data on Thomson's gazelle to identify possible reasons for a recent population decline. Data suggest that the decline is due to predation on juveniles;
- SFS teams helped build a library in the town of Magadi and taught the local schoolchildren about the environment through skits, songs, and readings.

We're very proud of what we've accomplished to date. We hope you will join us to address the many remaining challenges to sustainable wildlife management and reducing human wildlife conflicts.

**Looking for a summer course option in Kenya?
Check out page 40**

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 will study habitat assessment, plant and animal identification, plant and animal associations and distributions, and other approaches to evaluating the savanna ecosystems. The behavioral, physiological, and social responses of animals to a changing environment will be examined. Selected field and laboratory techniques useful 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 African savanna ecosystem. We will focus on the fundamental processes and inter-relationships between the biotic and abiotic environment. We begin with a discussion of basic ecological principles, setting them against the background of East Africa. The 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 the ranch and 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 described and 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 the structure and function of tropical rainforests including the 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 then 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 the principles learned in this course.

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 techniques, 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.

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)

EE (NS) 377 Tropical Ecology and 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 by people in the region. 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 resource 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 at the interface between land and sea in order to provide an understanding of how human perturbations can impact both marine and terrestrial systems. The watershed concept will be used to explore nutrient flow, energy cycling, erosion, coastal circulation, productivity, and biotic interactions. This course is designed to provide a basic understanding of how natural systems work in order to help guide resource managers toward ecologically sound and sustainable decisions. Field work exposes students to techniques of surveying and 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 which surrounds the natural resources under study and which will determine, in part, which approaches to resource management are practiced. Objectives include the development of an understanding of: sociocultural context including hierarchies and power structures; formal and informal decision making processes, value systems relevant to natural resources including religious factors and environmental ethics, and past and present uses of natural resources; economic factors (*local, regional, and external*); ownership patterns; attitudes and other factors that affect change and their historical bases, and legal basis for enforcement of environmental policy. The course also introduces subjects such as the major constituencies which affect conservation (*NGO conservation groups, economic interests, etc.*) and their underlying philosophies.

EE (SS) 303 Economic and Ethical Issues in Sustainable Development develops 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, the government, and private, national, and bilateral aid agencies will be examined as constraints for the implementation of sustainable development models. We will address the problem of designing and setting up sustainable development models with communities. 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.



SUMMER WITH SFS

SFS 30 DAY Summer Programs In

*Australia,
Baja Mexico,
Costa Rica,
British Columbia,
The Turks & Caicos Islands
and Kenya...*

▶ Travel and explore new ecosystems

▶ Gain hands-on field experience

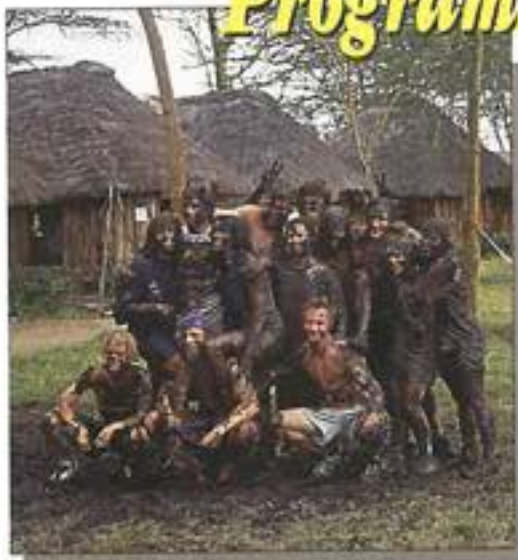
▶ Meet people from different cultures

▶ Make a real contribution as you
address critical environmental issues

▶ Be part of a problem-solving team

"What a first-rate, first-hand experience it was. Culturally, academically, socially, personally and spiritually I can honestly say I'm enriched. I am now able to state more clearly the reasons conservation is so important and also the complications that come along with it."

Sanjeev Martyn,
Winchester, MA -
Cornell University



SFS 30 DAY Summer Programs In

Australia,
Baja Mexico,
Costa Rica,
British Columbia,
The Turks & Caicos Islands
and Kenya...

SFS offers summer courses at each of the six Centers described in the Semester Program section.

Summer programs provide students with an exciting opportunity to explore new ecosystems, view incredible sights, and meet people from different cultures. In addition, students have the opportunity to make a real difference, as they conduct hands-on work addressing environmental problems.

Summer courses are intense 30-days experiences, comprised of lectures, field exercises, research, and expeditions. Programs are offered for college credit and are academic in nature, but are derived from real environmental issues facing real communities. Our classrooms include coral reefs, rainforests, and African savannas; our topics range from sea turtle conservation to rainforest restoration. Students move well beyond the textbook, and learn from first hand exposure to environmental issues.

With The School for Field Studies, learning about these issues is only the beginning. We seek solutions, and students should come prepared to be an active part of this. Our Centers are located in communities that depend on the use of natural resources to support their economy and culture.

Students join our faculty in conducting research to assist these communities with the wise management of these resources. Our search for solutions also includes hands on involvement in community service projects, and activities such as replanting areas of rainforest. Results from all summer projects are delivered to members of the local community. The work conducted by SFS students has the potential of making a positive difference in the lives (and livelihoods) of individuals around the globe.

We also strive to make a positive difference in the lives of our students. Each course carries four semester credits in Environmental Studies, and in some cases, the summer course may fulfill a university's field study requirement. The interdisciplinary nature of SFS programs provides a well-rounded view on environmental issues from a variety of perspectives. The skills acquired on an SFS summer program are readily transferable, and many students have left with increased focus for future academics and careers.

There are no course pre-requisites for summer courses, and programs are open to students from academic backgrounds ranging from environmental studies and biology to arts and languages. The majority of summer participants are college undergraduates, but motivated high school seniors and recent college graduates may also participate.

The SFS summer program is much more than an opportunity to visit amazing places. Our students frequently comment that they have learned more and accomplished more in 30 days than they imagined possible. Students who seek an excellent education in environmental problem solving and who wish to contribute to the solution of environmental problems are encouraged to apply.



Several projects at the Center for Coastal Studies in Mexico address the threatened blue crab fishery. Because directed research projects are chosen from a list of projects requested by local clients, you know someone is interested in and will use your work.

SOUTH CAICOS ISLAND

MARINE PARKS MANAGEMENT

Project focus: Assessing the role of Marine Parks for the community of South Caicos.

The reefs of South Caicos harbor an incredible array of marine life, and these marine resources have proven 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 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. This system included marine parks intended to preserve important natural areas, conserve economically important species, and promote ecotourism. The management of these parks present several challenges. The need for preservation and economic growth go hand in hand on South Caicos, and data is needed to determine the role of marine parks in stimulating the local economy.

Summer Program Dates:
Session I: June 11 – July 10
Session II: July 17 – August 15
Departure Point:
South Caicos Island, TCI, BWI
Course Number:
EE (NS) 373

We will focus on the role of marine parks in enhancing the resource development potential of South Caicos. Issues of marine ecology, ecotourism, fish stock assessment, and coastal zone management will all play a role in our efforts. We will work very closely with members of the local community, ranging from local fishermen to members of key government agencies. During field work, we will collect data which may lead to policy recommendations, marine parks management plans, and community projects.



"I actually got to use the methods I was taught, to see the results for myself, and incorporate how the results affected what I was doing. I cherish this experience for opening my creative mind and encouraging me to problem-solve in real-world situations."

Jennifer Ninneman,
Milwaukee, WI -
Regis University

Field Work and Expeditions

The spectacular reefs and waters of South Caicos will serve as the laboratory for most of our field work. Students will snorkel or scuba, and gain valuable experience in the use of transects, techniques for population sampling, and statistical analysis.

Interactions with the Local Community

Our Center is located within the community of South Caicos, and students will have ample opportunity for cultural interaction.



Fishermen and other residents may be interviewed during academic projects, and students may participate in sporting events and community service activities.



"As good as the lecture portion of the class was, the field exercises were even more educational. We spent afternoons in the ocean learning numerous data collection techniques from using quadrats to map habitat, to how to measure coral growth, to how to identify many of the species of fish, coral and plant life that surrounded us."

Sarah Glasser,
Manhattan, KS -
Kansas State University

For further information on the Center facilities and the community where this program takes place, please refer to pages 8 through 11.

Note: 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 may be rented on site.

AUSTRALIA

TROPICAL REFORESTATION

Project focus: *Reforestation of the Atherton Tableland.*

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 local groups have focused on the concept of rainforest reforestation. The basic premises of reforestation, and the benefits it promises for endangered wildlife species such as the cassowary and tree-kangaroo, seem self-evident. The realities of rainforest restoration, however, are much more complex. Rainforest ecosystems are incredibly diverse, and characterized by a slow rate of regeneration. In fact, it is not clear if degraded forest can ever be returned to its original state. 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, tropical resource management, and population demographics provide a base for our fieldwork. Students will monitor several past reforestation efforts and assess specific reforestation and management strategies. These data will be used to develop a reforestation plan for a new plot in the Atherton Tableland, where students will be involved in physically planting rainforest seedlings.

Summer Program Dates:

Session I: June 11 – July 10

Session II: July 17 – August 15

Departure Point:

Cairns, North Queensland, Australia

Course Number: EE (NS) 355

Tropical Reforestation



"The site chosen for the Center was perfect for the course. How amazing it was to be able to live right there in the middle of the environmental issue we were studying. After having studied ecology and biology and botany for so long, it was fascinating to finally see it all live and in color."

Jennifer Banner,
Provo, Utah -
Brigham Young
University.



Field Work and Expeditions

- Camping in the Outback town of Chillagoe, known for its spectacular caves and rock formations;
- Examining past reforestation plots around the Tableland to assess the success of various tree species and planting techniques;
- Numerous field exercises in surrounding World Heritage rainforest, an area containing spectacular waterfalls, trees, and wildlife.

Interactions with the Local Community

Students will have the opportunity to work with members of local conservation groups, and may interview farmers and other local residents. Less formal activities for social interaction may include participation in sporting events and visiting local historic pubs.



*"The days that we planted trees were some of the best times at the Center. I was able to plant seedlings that may grow to be healthy *Neolitsea dealbata*, or *Acacia North Queensland* sp. that will host birds and lichen and contribute to a successful reforestation project. It's a great feeling that gives me hope for the future."*

Katie DeGoosh, Troy, New York - Russell Sage College

For further information on the Center facilities and the community where this program takes place, please refer to pages 12 through 15.

VANCOUVER ISLAND

CONSERVING MARINE RESOURCES AND COASTAL RAINFORESTS

Project focus: *Conserving Coastal Rainforests and Marine Resources.*

The ecosystems and communities of Vancouver Island are unlike any on earth, and present an exotic blend of environments, cultures, economy, and politics. Visits to the old-growth and temperate rainforests are nothing short of awe inspiring, with ancient stands of sitka spruce and cedar towering overhead. Bald eagles, black bears, and sea lions are common sights, and gray whales and orcas may occasionally be seen. At night, stars fill the sky, and eerie bioluminescence and the Aurora Borealis can contribute to nighttime displays. The human community is no less diverse, with Native First Nations people coexisting with non-aboriginal people who have been on Vancouver Island for generations. The local economy is strongly dependent on three industries - logging, fishing, and tourism. With these complex factors, it is easy to understand why past conservation strategies have been extremely politically charged. Successful conservation strategies must contribute to the economic needs of the people, while also contributing to the long term conservation of the incredible ecology and cultural heritage found here.

Summer Program Dates:

Session I: June 11 - July 10

Session II: July 17 - August 15

Departure Point:

Vancouver Island, British Columbia

Course Number:

EE (NS) 353



"Working on my SFS directed research project was the first time I actively solved an environmental problem instead of reading about someone else doing it. This was the first time I became aware of my own abilities and potential. I won a scholarship for my work on behalf of animals and the environment. The chairman of the committee was especially impressed with what I wrote about my SFS field experience in British Columbia."

Anne Yureniuk,
Longmeadow, MA
Bryn Mawr College



"I wasn't just attending classes, I was immersed in my studies both mentally and physically. The lectures directly related to the field work. Everything had an application. I wasn't striving to finish a paper, I was striving to stop a proposed cutblock or restore an unhealthy stream. I wanted to understand what I was learning so I could apply it and make a difference."

Melody Kemp, Indianapolis, IN -
Marian College

Field Work and Expeditions

- ✦ Camping in the spectacular old growth forest of Carmanah Provincial Park;
- ✦ Visiting the House of Huu-ay-aht to gain insight into First Nation history and culture;
- ✦ Examining forest stands managed by industrial logging organizations and ecoforestry organizations;
- ✦ Numerous hikes to surrounding beaches and through temperate rainforest.

**Interactions with the Local Community**

This area of Vancouver Island can present students with a cultural experience unlike anything from the United States, and there are numerous opportunities to meet and work with the locals. Community service projects such as beach cleanups are common, and students frequently host open houses. Past students have engaged in traditional First Nations activities, including salmon feasts and dugout canoe rides. Less formal activities may include socializing at the local pub.

For further information on the Center facilities and the community where this program takes place, please refer to pages 16 through 19.

We will use traditional First Nation territory lands and other protected areas as our laboratory. By utilizing a watershed approach, we will examine the interconnectedness of forestry and fisheries. Areas from the top of the watershed to the ocean will be examined, and specific topics will include the river continuum, ecoforestry, stream restoration, and estuary and intertidal ecology. The issues and solutions we examine here are critically important, and are frequent topics of current local and national news. With data collected during field work, we will attempt to design forest management strategies which do not negatively impact critical salmon fisheries.

BAJA, MEXICO

PRESERVING COASTAL DIVERSITY

Project focus: Conservation of Marine Turtles in Magdalena Bay.

Magdalena Bay has served as a refuge for several sea turtle populations, including Loggerheads, Olive Ridleys, and the Eastern Pacific Green. The Green turtles are an endangered species that uses the bay for both breeding and feeding habitat. These turtles have a high degree of both natural and human-induced mortality. Despite strict laws and prohibitions against their exploitation, Green turtles are still frequently harvested for meat and eggs, and unintentionally caught as the by-catch of other fisheries. A complex interaction of social factors, mismanagement, and economic hardship has led to the rapid decline of sea turtle populations throughout Mexico.

Summer Program Dates:

Session I: June 11 – July 10

Session II: July 17 – August 15

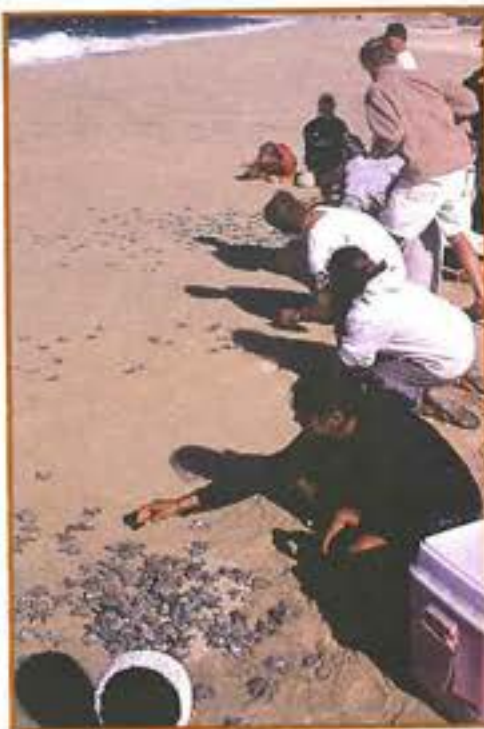
Departure Point:

La Paz, Baja California Sur, Mexico

Course Number:

EE (NS) 356

We will examine the ecological, social, and economic issues surrounding sea turtles in Magdalena Bay. We will be exposed to a variety of environmental issues such as fishing cooperatives who are over-harvesting the fisheries; 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, we will attempt to design strategies for the protection and management of sea turtles in the Magdalena Bay area.



Newly hatched turtles make their way to the Bay. "The SFS program works closely with the local people. By the end of our session, a major step in sea turtle conservation was taken, which was the formation of the Sea Turtle Conservation Committee, and the decision to establish a sea turtle sanctuary. The formation of these shows the important contributions the SFS program has made in this region."

Si Shen, Charleston, South Carolina - University of Southern California.



Field Work and Expeditions

- ★ Camping on the off shore Pacific island of Isla Magdalena, to view first hand the incredible ecology of the Bay;
- ★ Assessing the status of sea turtle populations in the Bay, by collecting biological data on live and stranded turtles;
- ★ Evaluating the social and economic import of sea turtles by surveying local fishers and townspeople.

Interactions with the Local Community

Students will have numerous opportunities to interact with the local community, ranging from community service projects, to interviews with locals, to volleyball, basketball, and soccer games.



"So many ecosystems exist in this location, and I created a species list containing 149 different species during my trip! The snorkeling, boat rides, and turtle captures were priceless additions to my experience in field research. What an amazing feeling it was to be holding a marine turtle in my bare hands, and contributing to the work researchers do to protect these marvelous creatures."

Saundra Embry, Flagstaff, Arizona - Northern Arizona University.

For further information on the Center facilities and the community where this program takes place, please refer to pages 20 through 23.

COSTA RICA

STRATEGIES FOR SUSTAINING TROPICAL ECOSYSTEMS

Project focus: *Developing strategies for Sustaining Tropical Ecosystems.*

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. Sea turtles nest in its vast expanse of white sand beaches. 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 parks may not be enough to sustain this incredible biodiversity. Costa Rica struggles to balance environmental protection with the economic needs of its people. Successful management strategies must incorporate both.

In our search for viable management strategies, we will examine issues of applied tropical ecology, ecotourism, watershed management, and sustainable agriculture. We will work closely with members of the local community, and will hear from experts on federal protection schemes, the operation of privately owned reserves, and alternative methods of agriculture. Using data collected during field work, we will attempt to design several strategies which provide for the long term protection of Costa Rica's biodiversity, and the economic needs of the local community.

Summer Program Dates:
Session I: June 11 – July 10
Session II: July 17 – August 15
Departure Point:
San Jose, Costa Rica
Course Number:
EE (NS) 352



"We saw monkeys, quetzels, and scarlett macaws as well as walking palm trees and other incredible examples of botanical life. Having the opportunity to explore off the beaten track definitely added to our experience."

Carly Anderson, South Windsor, CT - Emory University



For further information on the Center facilities and the community where this program takes place, please refer to pages 24 through 27.

Field Work and Expeditions

- Viewing the incredible tropical ecology and ecotourism efforts of several national parks, including expeditions to Braulio Carillo, the most extensive rain forest national park in the country;
- Evaluating and comparing the efforts of private reserves like the Monteverde Cloud Forest Preserve, home to jaguars, ocelots, and quetzals;
- Visits to Poas Volcano, the second largest volcano crater in the world;
- Assessing the efforts of coffee cooperatives and organic agriculture ventures in the surrounding area.



Interactions with the Local Community

Students will enjoy a warm welcome into the community of Atenas, and will have many opportunities to practice Spanish and learn about Costa Rican culture. Students will interview residents during academic projects, and may participate in sporting events and spend some time socializing at local cafes.

"Because I am a Natural Resource major, most of the material I learned in Costa Rica I had actually studied in some shape or form before. What I didn't learn before was how it actually applied to real life. I had sat through the lectures, but I never really realized the importance of buffer zones and forest cover until I examined a watershed which was surrounded by coffee farms. Actual field experience is crucial in the studying of the natural environment."

Madeleine Geschwind, Belchertown, MA - University of Massachusetts

KENYA

COMMUNITY WILDLIFE MANAGEMENT

Project focus: Investigating community wildlife management options.

The magnificent wildlife of Kenya has inspired novels, movies, and countless passionate discussions about the protection of species. Real management strategies, however, must incorporate the human factor. As Kenya's human population continues to grow, so does the need to utilize land for agriculture and livestock.

Wildlife are increasingly seen as competitors

for limited resources, and the need for humans to provide enough food to survive typically takes precedence over the fate of wildlife. Examining how wildlife might generate increased income for humans may prove to be the best strategy in their conservation.

Students will have the opportunity to examine wildlife management at one of two locations - Nairobi National Park and the Kuku Group Ranch. Nairobi National Park is the oldest National Park in Kenya and is unique in that it has an incredible variety of wildlife, and yet is only 8 km from the center of Nairobi. It is not unusual to see lions or buffalo against the backdrop of Nairobi's sky scrapers. Industrialization, land sub-division and human encroachment are isolating the park and cutting off migration routes between the park and the Athi-Kapiti Plains to the south. The park is thus becoming an "ecological island" and large mammal populations have recently declined. Kuku Group Ranch is an expansive area of land owned by number of individuals from the Maasai community. It forms a corridor between Amboseli and Tsavo National Parks, and has traditionally been used by

Summer Program Dates:
Session I: June 11 - July 10
Session II: July 17 - August 15
Departure Point:
Nairobi, Kenya
Course Number:
EE (NS) 350



"The interactions with the local community are what I remember most. When we spoke with the farmers about human-wildlife conflicts, it really gave an insight into what sort of problems the area had. I loved going to the local markets, when complete strangers would say hello or even stop and chat. It was a surprise to have a Maasai warrior, fully decked out, stop in the street and start speaking to my fellow classmate and me in English!"

Lindsay Smythe, Albuquerque, New Mexico - Colorado State University



"In addition to the studies and work planned in the course outline, we had ample opportunities to simply enjoy the country and the environment. We got to see such places as the Rift Valley, the Maasai Mara, and many small towns throughout the countryside. Additionally, simply being able to enjoy the thrill of having an ostrich look through your window or to stare up at the beautiful night sky for endless hours are experiences that I will never forget."

Jennifer Grabowski, Jenison, Missouri - Illinois Wesleyan University



the Maasai to graze livestock. Recent years have seen a steady increase of agriculture, further increasing the potential for human-wildlife conflict.

Although very different in focus, these two regions present very real needs for sound land use and wildlife management practices.

Topics covered will include African climatology and geomorphology, plant and animal identification, socio-economic parameters, animal social organization and behavior, plant/herbivore interactions, and theories of island biodiversity. We will 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 Expeditions

- ♦ Expeditions to one or more National Parks, such as Amboseli, Tsavo, and the Maasai Mara, to camp and view the spectacular wildlife;
- ♦ Visits to cultural manyattas to gain insight into Maasai history and traditions;
- ♦ Conducting vegetation sampling, community surveys and wildlife abundance assessments.

Interactions with the Local Community

Students will have many opportunities to interact with the local communities, including members of the Maasai community. Farmers, ranchers, and park wardens may be interviewed during academic projects. Students often have the opportunity to participate in sporting events and community service activities.

For further information on the Center facilities and the community where this program takes place, please refer to pages 28 through 31.

Academic Credit

SFS participants are registered at and receive credit from Boston University in Boston, Massachusetts, which accredits SFS programs. The only exceptions are students from SFS Affiliate and Consortium schools who receive credit directly from their home institutions. *(Students from these schools should see the section on this page regarding Affiliate schools and on Page 26 regarding Consortium schools).*

A non-refundable registration fee of \$150 for semester programs and \$100 for summer courses is due from all SFS students 10 days after acceptance into the program.

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 credits in biology or environmental studies from Boston University. Summer courses carry 4 semester credits in environmental studies. You will receive an official transcript from Boston University approximately six to eight weeks after the conclusion of your program. Many students have arranged either to transfer credit from Boston University or to receive credit directly from their home school.

The following is a partial list of the home schools of previous SFS participants. Over 250 institutions, including the majority of these schools, have accepted or awarded credit for SFS participation. **As the final decision regarding credit transfer rests with your home institution, you should check with your advisor/ registrar before going into the field.** If you have questions on credit, please call the SFS Admissions Office and we may be able to direct you to someone on your campus who is familiar with credit transfer for SFS programs. Many schools award credit on a case by case basis and credit granted to previous students does not imply automatic credit approval.

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

* Member of Sustainable Development Studies Consortium (please see page 26 for details)

* SFS Affiliate School

The SFS Affiliate Program

The SFS Affiliate Program was initiated to help students maximize 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. The home schools typically provide direct academic credit for SFS participation and have curricular input into the SFS program. An SFS liaison has been identified at each affiliate school who is available to provide on-campus advising on SFS programs. Applicants from Affiliate schools must obtain permission to participate from their campus Affiliate Representative. The current SFS Affiliate Members are:

Bennington College - Dr. Kerry Woods	Ohio State University - Ms. Grace Johnson
Boston University - Dr. Cullen Cleveland	Santa Clara University - Dr. Dennis Gordon
Brandeis University - Dr. Attila Klein	Scripps College - Ms. Valerie Eastman
Clark University - Dr. Todd Lydahl	Smith College - Dr. Adrian Beaulieu
Colby College - Dr. David Fennage	SUNY College of Environmental Sciences and Forestry - Dr. Neil Ringler
Connecticut College - Ms. Shirley Parson	Trinity College - Ms. Maureen Brady
Davidson College - Dr. Mike Dorcas	University of Miami - Dr. Dan DiResta
Denison University - Dr. Jessica Rettig	University of Redlands - Dr. Ben Dillow
DePauw University - Dr. Dorothy Guyot	University of San Diego - Dr. Michel Boudhrias
Dickinson College - Dr. Kirsten Hurd	University of Southern California - Dr. Linda Duguay
Gonzaga University - Ms. Wanda Reynolds	Wells College - Dr. Tom Vawter
Grinnell College - Dr. Richard Bright	Whitman College - Ms. Susan Brick
Kenyon College - Dr. Ray Heibhaus	William Woods College - Dr. David Schmidt
Miami University - Dr. Don Kaufman	
Mount Holyoke College - Ms. Joanne Picard	

Requirements for Admission

We are seeking a body of curious students with a thirst for learning and the maturity and personal initiative to make use of our unique educational opportunities. Our goal is to create well balanced teams of students who will best benefit from and contribute academically and socially to this experience. Applicants should also exhibit enthusiasm, character, compassion, flexibility and social concern, as well as a willingness to, at times, put the needs of the group ahead of your own. The essay in which you define your motivation for participating in an SFS program is a strong determining factor in the admission process.

Participants are screened by the Admissions Committee to insure that they are choosing the appropriate course for the right reasons and that they have the background necessary for a successful academic and personal experience. The Committee strives to bring together students from diverse academic, economic, cultural and social backgrounds, with varied interests and talents, who support the mission of The School and are committed to working with others toward a common goal. If you are willing to commit your emotional, intellectual, and physical energies to working toward a better understanding of critical environmental issues, we encourage you to apply to join us.

Before completing your application for admission, carefully consider the fact that this experience will likely be very different from your academic experience to date. We are setting off together on a journey during which we ask that you consider yourself to be crew, not a passenger.

- We expect and encourage you to take a proactive role in all aspects of your education from scheduling activities, to choosing research projects, to managing risk.

Admission to SFS is open to qualified students without regard to sex, race, sexual orientation, color, national or ethnic origin, economic status, physical or mental disability or other protected status.

Acceptance

Applications for all programs are reviewed on a rolling admission basis, as soon as all required information is received.

Teams fill quickly. We strongly urge you to apply early to join the course of your choice. Waiting lists are maintained for courses that fill early.

All acceptances are contingent upon medical approval. Course syllabi will be sent to all accepted applicants and are available upon request.

HOW TO APPLY

An Application for Admission and SFS Reference Form can be found at the back of this catalogue.

All applicants for admission are required to submit an SFS application form and essay, a \$5 application fee and an SFS reference form before the application will be reviewed.

In addition, all applicants must submit an official, current transcript to complete their application

Applicants for semester programs must be at least 18 years of age and have completed at least one college-level ecology or biology course and, preferably, at least one semester of college.

Applicants for summer courses must be at least 16 years of age and have completed at least the junior year in high school.

For further information regarding admission, please call the SFS Admissions Office at

1-800-989-4418

Financial Aid

We are committed to involving as many qualified students as possible in SFS programs and will work with you to facilitate your participation. **Thanks to generous support from foundations, corporations and individuals, one in three SFS students received financial assistance through SFS in 2000.**

SFS Financial Aid, in the form of scholarships and/or interest free loans, is available to qualified students based on need. For the 2000-2001 academic year, we expect to have over \$300,000 in scholarship and \$300,000 in loan funds to make the SFS experience accessible to over 225 students facing financial challenges. Some applicants receive a combination grant and loan while others receive only loan funding. In addition, many applicants receive aid through their home schools or other outside sources as well. 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 in a summer or semester program, we strongly encourage you to request, complete and return an SFS Financial Aid Application as soon as possible. Financial Aid applications are reviewed following admissions decisions. **For an application or more information on how to qualify for assistance, please call the SFS Admissions Office at 1-800-989-4418.**

Semester students: We expect that you and your parents will contribute at least the same amount that you are paying per semester at your home school, and more if you are able. A growing number of schools allow students to take some or all of their 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 Stafford 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 may 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 ask your financial aid officer to give us a call and we will do our best to assist you.

Expectations and Responsibilities

Changes and Cancellations

SFS programs are obviously different from travel or adventure programs. We have tried to give accurate portrayals of every program in this catalogue. All course descriptions have been written in consult with faculty members. However, each project is unique and often cannot be implemented exactly as planned for a variety of reasons. There are factors which, although monitored closely, are beyond our control. For example:

- ♦ Over half of our projects take place in highly regulated and sensitive environments, usually requiring special permits, such as in Kenya and Mexico.
- ♦ Some projects depend on the goodwill and generosity of individuals and institutions which lend support.
- ♦ Tenuous weather situations, natural disasters or changes in political conditions in another country may require last-minute changes in sites or research plans.

You are advised that these or other variables (including staffing) may result in changes before or during a course. **As the course catalogue is often written up to a year before a program actually goes into the field, students should rely on their program syllabus for up-to-date course descriptions.** Indeed, part of your challenge lies in adapting to changing conditions and overcoming the obstacles they may present. In other words, the elephants are not always where we want them to be, so please be flexible.

Student Conduct

You are expected to conduct yourself in a mature and responsible manner. SFS reserves the right to require any participant to withdraw from any program at any time if the faculty deem the student's conduct to be detrimental to or incompatible with the interest, harmony, comfort or welfare of the course — including use of alcohol or drugs not authorized by a medical doctor, or uncooperative or disruptive behavior. Should such a decision be made, SFS will notify your parents and return you to the point of course departure, at which time any and all responsibility on the part of The School for Field Studies will cease.

Scholarship Donors

Generous support from numerous individuals and the following have made the SFS Financial Aid Program possible:

The Andreas Foundation
The Hunt Foundation
The Merck Family Fund
The Laurance S. Rockefeller Trust
The Roy Foundation
Archer Daniels Midland Company

"Over the past 12 years we have had students go on every SFS program and we have never had a student return and say "that was a mistake". I see a tremendous boost in confidence in our SFS returnees, because they know they have a real expertise that is different from everyone else's. Their idealism is tempered with real-world knowledge. They know what they have done, why it matters and they are articulate in talking about it.

Is it worthwhile? If a student or parent asks me this, I cite case histories of students who have used their SFS experience to land jobs in environmental education, field biology positions, agency work, international employment and strong graduate programs. My point to them is that we have over and over seen the SFS experience become an investment that pays off."

Dr. Janet Wright, Professor of Biology,
 Dickinson College

Responsibility

In organizing and managing these courses, The School for Field Studies (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 regulation, 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.

The School for Field Studies is a charitable corporation located in Beverly, Massachusetts, U.S.A. All matters relating to or 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 he/she is deemed unsuited for the project for any reason. All courses, fees, and dates are tentative until verified and confirmed in writing by The School for Field Studies.

The School for Field Studies 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 The School 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.

Tuitions, Costs and Refund Policies

Fees, Tuitions and Deposits

Like other non-profit, tax exempt educational institutions, SFS meets its expenses with a combination of tuition charges and income from grants and donations. Your tuition pays for instruction, room and board, and ground transportation during the course. It also covers group equipment, supplies, scientific instruments and material. It does not include transportation to and from the program.

A non-refundable deposit of \$350 for summer courses or \$500 for semester programs is due no later than 10 days following acceptance in order to reserve a place in the program. All students will be registered for academic credit. A non-refundable registration fee of \$100 for summer courses or \$150 for semester programs is due with your deposit. *(Deposits and registration fees for financial aid candidates are non-refundable 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.)*

Full tuition is due sixty days prior to course departure. A late fee of \$150 may be assessed to students with an outstanding balance after this point. You will not be allowed to participate in the program with an outstanding tuition balance. *Note:* The tuition fees listed in this catalogue are based on estimates made up to a year in advance of departure and involve many variables - currency rate, outside project support, enrollment projections, etc. - all of which may change. The tuition for each program is tentative until confirmed in writing by SFS.

In addition to tuition charges, please also consider the following to determine the total cost of participation:

Transportation and Travel

Arrangements: To insure orderly arrival at the site as well as low fares, we work with one travel agency to handle all travel. This agent will arrange travel to the program, with any special arrangements you require. If you do not use the SFS agent, you **must** have your travel plans approved by the SFS Admissions Office. You will receive specific travel details after your acceptance. You are responsible for passport/visa fees as well as all transportation costs to and from the departure point.

Tuition (bold) (ital) (sidebar)

SFS Fall and Spring Semester Programs:

Marine Resource Studies/BRITISH WEST INDIES	\$12,575*
Tropical Rainforest Studies/AUSTRALIA	\$12,925*
Marine Mammal Conservation and Coastal Ecosystems/BAJA, MEXICO	\$12,800*
Coastal Rainforests and Marine Resources/CANADA	\$12,425*
Sustainable Development Studies/COSTA RICA	\$12,800*
Wildlife Management Studies/KENYA	\$13,400*

* Tuitions listed are for Spring 2001 programs. Fees for Fall 2001 and Spring 2002 will be announced in Spring 2001.
(All semester programs have an additional \$150 registration fee).

Summer 2001 Programs (30 Days)

(All summer programs have an additional \$100 registration fee)

Marine Parks Management/BRITISH WEST INDIES	\$3,345
Tropical Reforestation/AUSTRALIA	\$3,545
Conservation of Marine Turtles/BAJA, MEXICO	\$2,995
Conserving Marine Resources and Coastal Rainforests/CANADA	\$2,995
Alternative Strategies for Sustaining Tropical Ecosystems/COSTA RICA	\$3,195
Community Wildlife Management/KENYA	\$3,895

Financial Aid is Available, please see Page 42 for details.

Clothing and Equipment: SFS will provide food, cooking equipment, tents and all scientific and research equipment. You are responsible for personal gear including sleeping bags, backpacks, clothing, SCUBA gear (if applicable). You may find you already have much of what you need.

Physical Examination and Medical Insurance: You must present a completed SFS Medical Form, signed by a doctor, no later than 30 days before program departure. Students with late medical forms may forfeit their space. All medical forms must be approved by the SFS Medical Committee. 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 up-to-date medical coverage and a signed medical release.

Refund Policies

Summer Courses: Registration fees are non-refundable and non-transferable. Deposits are non-refundable. If you withdraw prior to 21 days before the start of the course, it may be possible to transfer your non-refundable deposit to another SFS program within a 12 month period. If you withdraw 21 days or less before the start of your course, SFS will retain 50% of the course tuition. No refunds are made once the course has begun.

Semester Programs: Registration fees are non-refundable and non-transferable. Deposits are non-refundable. If you withdraw more than 30 days prior to the start of the program, SFS will retain 50% of the program tuition; it may be possible to transfer your non-refundable deposit to another SFS program within a 12 month period. If you withdraw from a course 30 days prior to the program commencement to 14 days after the program departure, SFS will retain 75% of the tuition. No refunds are made after the second week of the program or to students asked to leave the program.

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