



The School for Field Studies
Center for Marine Resource Studies
South Caicos, Turks & Caicos Islands,
British West Indies

EE(SS) 302 – ENVIRONMENTAL POLICY & SOCIO-ECONOMIC VALUES

SYLLABUS FOR SPRING 2009

FACULTY

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1. COURSE OVERVIEW

The conservation and utilization of marine and coastal natural resources requires understanding on several levels. In this class we will focus on human interactions with natural systems. Students will learn to apply a number of different models to understand human behavior in the context of natural resources and how to encourage sustainable behavior. Although theoretical at times, this course will help students understand the connection between theory and practice and how critical analysis through theoretical understanding can lead towards better management of development. This in turn can help create more sustainable programs that benefit the natural and social environment. Likewise, students will study the theory and ethics of development and sustainability and the need to view these issues from different perspectives and positions.

2. LEARNING OBJECTIVES

Following this course, students should

1. List and explain the assumptions and theories behind economic decision-making when applied to natural resources.
2. Describe a variety of ways in which people place value on natural resources.
3. Apply economic tools used to assess natural resources and be able to place values on non-market assets
4. Explain the need for environmental policy and discuss the practical and ethical issues that arise
5. Describe the potential economic, social and environmental costs and benefits of tourism development on small island developing states.
6. Explain the costs and benefits of MPAs when used as a policy tool.

3. CASE STUDIES

During the semester, we will use two case studies to frame our analysis and discussions, each of which addresses specific local issues. An understanding of marine ecology and resource management will be critical in framing our resource policy discussions and analysis, and will help focus our research. The two case studies are:

Case Study I: The status of the marine resources that are currently considered important to the ecological and socioeconomic well being of the TCI.

Case Study II: Management strategies that assist in maintaining or improving the status of the marine resources in the TCI and contribute to future economic development and diversification.

For Case Study I, students will be introduced to the socio-economic importance of marine resources as well as discuss various models for understanding why individuals often use natural resources unsustainably. We shall consider how to allocate monetary values to natural resources. The economics of market supply and demand will be discussed and students will be introduced to the various tools available to analyze this. The main techniques used to place values on environmental, non-market assets will be discussed, and we will also consider the need for environmental policy and discuss the ethical issues involved in placing a monetary value on natural resources.

In Case Study II, we will focus on eco-tourism and the potential for sustainable development, paying particular attention to future development on South Caicos. The establishment of marine protected areas as a tool for the sustainable management of marine living resources will also be considered. We will also explore some of the other major issues that threaten marine resources in the Turks and Caicos as well as some of the management and institutional arrangements used to address them.

4. ASSESSMENT

Assessment Item	Due date	Value (%)
Cultural Reflection 1	7 Feb	5
MSY Debate (Oral)	20 Feb	See below
MSY Debate (Written)	23 Feb	15 (Total)
Case Study 1 Exam	5 Mar	30
Field Exercise—Assessing impact of local tourism	14 Mar	5
Group Presentations—Ecotourism Development	24 Mar	10
Cultural Reflection 2	3 Apr	5

Case Study 2 Exam	6 Apr	20
Reading Quizzes/Participation		10
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TOTAL		100

Cultural Reflections

The two cultural reflection assignments consists of short (2-3 pages) papers discussing TCI culture, including its differences from United States' culture and the role that local culture plays regarding sustainability in TCI.

MSY Debate

Students will debate the usefulness of maximum sustainable yield as a marine resource management tool.

Field Exercise—Assessing the impact of local tourism

Students will interview representatives from local resorts. The questions should be based on previous course lectures, describing market and non-market values that resorts may consider in their management plans.

Ecotourism Management

Each group will present a proposed ecotourism project for TCI. Presentations will include expected economic and ecological effects that would likely result from the proposed project.

Case Study Exams

Each case study will be capped by a final exam. They will be more fun than words can describe.

Reading Quizzes/Participation

Many of the class sessions will be accompanied by a reading. These readings are to be done by the time you enter the class in which they are listed. Short, straightforward reading quizzes will be used often to help encourage careful readings. The average of your quiz scores will form the basis for this grade. However, as participation in class discussions and activities also factors into this grade, I reserve the right to adjust this grade 5% in either direction.

Cultural Readings

In order to provide a richer knowledge of TCI culture, you will each be required to present one brief report (3-5 minutes) on an article from a local newspaper or magazine, primarily summarizing what you read. These are intended to be informal and fun. They will count as one quiz grade, but failure to do it will do bad things to your participation grade.

5. GRADING SCHEME

A 92.50 - 100%	B+ 87.50 - 89.99%	C+ 77.50 - 79.99%	D 60.00 - 69.99%
A- 90.00 - 92.49%	B 82.50 - 87.49%	C 72.50 - 77.49%	F <60.00%
	B- 80.00 - 82.49%	C- 70.00 - 72.49%	

6. GENERAL REMINDERS

Readings - You are expected to have read all the assigned articles prior to each class. All readings are available as PDFs on the Student drive.

Plagiarism - Using the ideas and material of others without giving due credit, is cheating and will not be tolerated. A grade of zero will be assigned if anyone is caught cheating or aiding another person to cheat actively or passively (e.g., allowing someone to look at your exam). All assignments unless specifically stated should be individual pieces of work.

Assignments - Most EP assignments encourage you to work together, to share ideas and knowledge. This allows you to take advantage of the range of backgrounds within the group. Unless the assignment indicates that only one copy of the answers is required from the group, you are expected to complete your own assignment, and directly copying answers from one another will be treated as cheating.

Deadlines for written and oral assignments are instated to promote equity among students and to allow faculty ample time to review and return assignments before others are due. As such, deadlines are firm and extensions will only be considered under only the most extreme circumstances. Late assignments will incur a 10% penalty for each hour that they are late. This means an assignment that is 5 minutes late will have 10% removed, an assignment that is 1 hour and 5 minutes late will have 20% removed etc... Assignments will be handed back to students after a one-week grading period.

Participation – Participation in all components of the program is mandatory, as there will be no spare time to catch-up on any missed classes. Missing even one lecture or discussion can significantly affect the experience you and your classmates have while at CMRS. Within our teaching environment, there is no reason to miss classes.

7. LECTURES

Code	Titles of Lectures /Field Exercises	Type	Time (hr:min)
EP 01	Course Introduction	L	1:00
EP 02	Becoming native to your place--TCI Natural Resources	L	1:00
EP 03	TCI Resource Laws and Regulations	L	1:00
EP 04	Caribbean Culture and Pre-Columbian History of TCI	L	1:30
EP 05	Middleton Field Trip	FEX	2:00
EP 06	Cultural Reflections 1	D	1:00
EP 07	Concepts for Understanding Complex Systems I	L	1:00
EP 08	Concepts for Understanding Complex Systems II	L	1:00
EP 09	Resources Managing People: Role of Collapse in Fisheries	L	1:00
EP 10	Aspects of Behavior I: Social Traps	L	2:00
EP 11	Aspects of Behavior I: Caricatures of Nature	L	1:00
EP 12	Aspects of Behavior III: Ethics, Narratives ,and Norms	L	2:00
EP 13	Aspects of Behavior IV: Static Mental Models	L	2:00
EP 14	Processing Plant Tour	FEX	1:00
EP 15	Ecological Economics	L	1:00
EP 16	Assessing Economic Value	L	1:00
EP 17	Ecosystem Services from the Marine Environment	L	1:00
EP 18	Stock Assessment—MSY	L	2:00
EP 19	Role of Community in Conservation	L	1:00
EP 20	MSY Town Meeting	D	3:00
	EXAM I		
EP 21	Tourism and Sustainability: Introduction	L	1:00
EP 22	Tourism and Sustainability: Dynamics of Tourism	L	1:00
EP 23	Intro to Tourism Assessment Exercise	L	1:00
EP 24	Tourism Development in TCI / EIA	L	2:00
EP 25	Tourism Assessment Exercise	FEX	2:00
EP 26	Tourism and Sustainability: Ecotourism	L	2:00
EP 27	Public Perception of Tourism Impacts	L	2:00
EP 28	Tourism Assessment Presentations	L	1:00
EP 29	Socioeconomic aspects of MPAs	L	2:00
EP 30	Ecotourism Presentations	D	2:00
EP 31	Public Participation in the Formation of Policy	L	1:00
EP 32	Cultural Reflections II	D	1:00
EP 33	Life of a Fisher (Guest Speaker)	L	1:00
EP 34	Cultural Revival (Guest Speaker)	L	2:00
EP 35	Life on South Caicos (Guest Speaker)	L	1:00
EP 36	Ambergris Development Tour (Circumstances dependent)	FEX	4:00
	EXAM 2		
	Total hours		52:00

L: Lecture, D: Discussion, FL: Field Lecture, FEX: Field Exercise

8. LECTURE TOPICS, DESCRIPTIONS AND REQUIRED READINGS

Num ber	Lecture Title and Description	Readings
	Case Study 1	
EP 1	Course introduction We will go over the syllabus and take a quick look at the types of ideas we'll be wrestling with the rest of the semester.	N/A
EP 2	Becoming native to your place--TCI natural resources In the context of Wes Jackson's advice to become a native to where you live, we will look at the socio-economic situation in TCI both past and present. The past provides context for the current socio-economic setting within the TCI.	Sadler HE. 1997. <i>Turks Island Landfall: A History of the Turks and Caicos Islands</i> . Marjorie E. Sadler, Grand Turk, TCI p 132-151,276-278
EP 3	TCI Resource laws and regulations The ordinances may not make for exciting reading, but they are important to know, both for their academic value and because you will be expected to abide by them.	Fisheries Protection Ordinance—Catch Restrictions; Conservation; Enforcement; Licensing
EP 4	Caribbean culture and pre-Columbian history of TCI In this class we will take a look at some of the central issues in contemporary Caribbean culture—most importantly, the debate over what is Caribbean culture. We will also discuss the early residents of these islands, the Lucayans.	Walcott D. 1974. The Caribbean: Culture or Mimicry?. <i>Journal of Interamerican Studies and World Affairs</i> . 16(1):3-13.
EP 5	Middleton field trip Middleton is a nearby island with remains of a Lucayan settlement. We will take a look at this small island and talk about pre-Columbian life.	N/A
EP 6	Cultural reflections During this class, students will report on their first cultural reflection. Student reports will form the structure of ensuing discussion.	N/A
EP 7	Concepts for understanding complex systems I Environmental systems are complex, involving ecological, economic, and social processes. Here you will get an introduction to systems thinking as a way to improve our understanding of dynamics of complex social and ecological systems.	Bellinger G. "Systems Thinking."
EP 8	Concepts for understanding complex systems II Here we will continue our discussion of concepts useful for understanding environmental systems.	N/A
EP 9	Resources Managing People: The Role of Collapse in Fisheries: Humans tend to exhibit a repeating pattern when it comes to the exploitation of renewable resources. Here we will look at the role of collapse in the evolution of a fishery.	Jackson JBC. 2001. "Historical overfishing and the recent collapse of coastal ecosystems." <i>Science</i> 293: 629-638.
EP 10	Aspects of behavior I: Social traps We are not purely economic decision-makers. During the next few classes we will look at other aspects influencing how people interact with their environments, beginning with misperceptions about the way environmental systems respond to our behavior.	Costanza R. 1987. Social traps and environmental policy. <i>Bioscience</i> 37(6): 407-412. Hardin G. 1967. The tragedy of the commons. <i>Science</i> : 162, 1243-1248
EP 11	Aspects of behavior II: Caricatures of nature The way we interact with environmental systems depends largely on the mental models we use to understand their behavior. We'll look at several common models here and discuss their strengths and weaknesses, concluding with a discussion about how to interpret human impacts on environmental systems.	Nystrom M, Folke C, Moberg F. 2000. Coral reef disturbance and resilience in a human dominated environment. <i>TREE</i> 15(10): 413-417.

EP 12	Aspects of behavior III: Ethics, narratives, and norms Our interaction with environmental systems depends much on how we view our relationship with those systems. South Caicos residents are largely Christian, so we will look specifically at how such beliefs may affect the way in which one views natural systems and expand the discussion to include other worldviews. We will also look at the role social norms play in behavior.	White, L. 1967. The Historical Roots of Our Ecological Crisis. In <i>Ecology and Religion in History</i> , ed. by David and Eileen Spring (New York: Harper Torchbook, 1974), p. 24.
EP 13	Aspects of behavior IV: Static mental models In this class we will look at studies performed by Erling Moxnes in which he has removed many of the challenges (discussed in previous lectures) cited when explaining unsustainable behavior. Moxnes suggests a different reason for this behavior.	Moxnes E. 2000. Not only the tragedy of the commons: misperceptions of feedback and policies for sustainable development. <i>System Dynamics Review</i> 16(4): 325-346.
EP 14	Processing plant tour During this field exercise we will visit a local processing plant, to witness first hand the cleaning and packing of conch and lobster that takes place in South Caicos.	N/A
EP 15	Ecological Economics This is an introduction to the basic tools of economic analysis including supply, demand, and the strengths and weaknesses of Neo-classical economics	Gowdy and O'Hara. 1995. <i>Economics for Environmentalists</i> . Chapter 2 (pp. 15-35) and Chapter 5 (pp. 75-96).
EP 16	Assessing economic value Here we continue our overview of economics, introducing the concept of economic valuation for both market and non-market goods, as well as use and non-use services. Using the basic economic tools of supply and demand, we will introduce several methods of valuation, focusing on marine ecosystems.	World Resources Institute. 2006. <i>Value of Coral Reefs in the Caribbean</i> . Pp.1-27
EP 17	Ecosystem services from the marine environment Here we will look at the concept of ecosystem services and discuss the place that they hold in the valuation of natural systems.	Costanza et al. 1997. The value of the world's ecosystem services and natural capital. <i>Nature</i> 387: 253-260
EP 18	Stock assessment—MSY In this lecture we will define the concepts of stock and overfishing, and present fundamental models used in stock assessment, focusing on the strengths and weaknesses of these models.	Iudicello S, Weber M, Wieland R. 1999. Biology, Economics, and Bioeconomics of Fish Populations. In <i>Fish, Markets, and Fishermen</i> Island Press: Washington, DC.
EP 19	Role of community in conservation In this lecture we will look at various ways in which the community is included in conservation efforts and how social marketing techniques are used to effect ecologically sound behavior.	McKenzie-Mohr D. 2000. Fostering sustainable behavior through community-based social marketing. <i>American Psychologist</i> 55(5): 531-537.
EP 20	MSY town meeting In this activity, students will debate the concept of maximum sustainable yield, presenting both sides of the argument of whether it is a successful and useful management tool.	N/A
	Case Study 2	
EP 21	Tourism and sustainability: Introduction Tourism is arguably the largest industry in the world. In this lecture we will look at the major issues regarding this industry and sustainability.	Kreag G. <i>The Impacts of Tourism</i> . Sea Grant.
EP 22	Tourism and sustainability: Dynamics of tourism As with other natural resources, the development of tourism in an area often follows a predictable trajectory. We will look at this trajectory and the significance it has for TCI.	Lozano J. 2005. "An analysis of the evolution of tourism destinations from the point of view of economic growth theory."
EP 23	Introduction to tourism assessment exercise Here I will introduce the socio-economic tourism assessment assignment, and we will work as a group to produce a list of questions to ask local heads of development projects on South Caicos.	N/A

EP 24	Tourism development in TCI / EIAs In this lecture we will look at the types of developments taking place around TCI, including a look at environmental impact assessments (EIAs). EIAs are widely used to minimize and mitigate the environmental impacts of development. However, in a small developing country like TCI implementation may be difficult. We will explore the difficulty involved.	Bisset R (1992) Devising an effective environmental impact assessment system for a developing country: the case of the Turks and Caicos Islands. In: Biswas AK, Agarwal SBC (eds) <i>Environmental impact assessment for developing countries</i> . Butterworth Heinemann, Oxford p 214-234.
EP 25	Field exercise: Tourism assessment During this field exercise students will be divided into groups, with each group visiting a development on South Caicos. Students will assess the socio-economic impacts of the developments..	N/A
EP 26	Tourism and sustainability: Ecotourism Many countries, especially small islands economies with limited natural resources, view tourism as key to economic development. Ecotourism is often cited as a way to meet economic and ecological goals. We will look at several definitions of ecotourism and discuss its potential.	Blamey RK. 2003. Principles of Ecotourism. In <i>Encyclopedia of Ecotourism</i> .
EP 27	Public perception of tourism impacts If the impetus for tourism development stems largely from a desire to improve the quality of life of local residents, then it makes sense to see how local residents of tourist destinations feel about how development has affected their lives.	Perez EA, Nada JR. 2005. Host community perceptions: A cluster analysis. <i>Annals of Tourism Research</i> 32(4): 925-941.
EP 28	Tourism assessment presentations Students will report what they learned about their development to the rest of the class, including an evaluation of the sustainability of that development.	N/A
EP 29	Socio-economic Aspects of an MPA An MPA carries significant costs and benefits to various stakeholders. In this lecture we will look at those costs and benefits and introduce tools used for cost-benefit analyses.	Kelleher G. 1999. Guidelines for Marine Protected Areas. Read Executive Summary pp. xi-xiii. and "Placing marine protected areas in their wider context" Pp. 1-9.
EP 30	Ecotourism Presentations Students present their designs for a hypothetical Ecotourism development in South Caicos.	N/A
EP 31	Public participation in the formation of policy We have looked at studies of public perceptions of various marine policies. Here we will look at the role that the public can play in establishing marine resource policies including MPAs..	Stump and Kriwoken. 2006. Tasmanian marine protected areas: Attitudes and perceptions of wild capture fishes. <i>Ocean and Coastal Management</i> 49: 298-307.
EP 32	Cultural reflections II Similar to the previous discussion using these reflections, we will use the final set of student reflections to discuss Caribbean culture in the context of sustainability.	N/A
EP 33	Life of a Fisher (Guest Speaker)—TO BE SCHEDULED A local fisher, will discuss what it is like to be a fisher on South Caicos.	N/A
EP 34	Cultural Revival (Guest Speaker)—TO BE SCHEDULED TCI's Cultural Director, David Bowen, will deliver a talk on culture in TCI and his efforts to revitalize TCI traditions.	N/A
EP35	Life on South Caicos (Guest Speaker)—TO BE SCHEDULED Pastor John Malcolm, a native of South Caicos, will provide an interesting perspective of the recent history and current situation on the island.	N/A
EP 36	Ambergris Site Tour—TO BE SCHEDULED Ambergris is a nearby island and the site of a large new housing development. This trip will take an entire morning and students will learn about the various technologies being implemented in order to create an ecologically and economically sustainable development.	N/A