
APPENDIX A:

Facilitator's Guide

Timeline

The actual duration and time requirements are dependent upon how the instructor chooses to implement the project within their overall course design. As previously explained, this activity could be accomplished as a mini-activity within a single class session or it could serve as a longitudinal capstone project for an entire 15-week semester. Each student group would complete these general project phases:

- Planning, brainstorming, and team-building
- Research
- Webpage design
- Presentation
- Outreach/dissemination
- (Continual) Knowledge checks and formative feedback
- (Continual) Critical Reflection
- (Optional) Community-based service-learning project

Prior Knowledge Required

This activity is geared for first-year non-science majors. Thus, the average student in class has little to no content background when this project is assigned.

Considerations

- Student and instructor skills development with free website-building software
- Intentional connections to course academic content
- Local informal science education center site visits (to help explain regional ecosystems, ecology, and human impacts in an experiential manner)
- Online databases, search engines, and library support
- Digital presentation support (face to face or online)
- Group dynamics, peer-to-peer learning challenges, and grading team deliverables

Context and Concepts for Instructors

- This assignment constitutes a component of a SENCER Model course, described at <http://ncsce.net/environmental-biology-ecosystems-of-southwest-florida/>
- The following assessment materials are attached as supplemental digital content:
 - *Student version of the assignment*
 - *Simplified grading rubric*
 - *Midpoint assessment*
 - *Group assessment, final evaluation*
- To help foster authentic, emotional connections, consider introducing this exercise by showing students a picture of an island in Bimini (pre-development) that is pristine and serves as an important shark nursery. Then, show that same island with a picture that displays habitats completely bulldozed because a developer came in to build a resort. Next, explain that the developer departed following an economic downturn and this degraded island is all that is left. From that point, introduce the project goals, background information, and deliverables. Here is the link to a video that could be shown as an introductory exercise, to be followed by a discussion about key concepts: "Fabien Cousteau Presents: Bimini - Paradise in Peril".

- Because students become active producers of content rather than passive learners, they will use their higher-order thinking skills and are more likely to retain key academic concepts on which the assignment is based. Some of the instructions are intentionally left vague to help promote student creativity, enhance investigation, and enrich problem-solving. For example, common questions from students include the following:

- *What is the size of the island?*
- *What is the budget for our proposal?*
- *What materials do we have available to us?*

These are all fine questions, and an instructor could choose to answer them in any number of ways. But minimizing the constraints and not providing all information allows students to reflect broadly on sustainable practices that they have encountered in their classes.

- To avoid the use of large amounts of paper and ink that are consumed in printing hard-copy brochures, students create a webpage to publicize their resorts. Free and relatively easy-to-use resources are available that maximize inclusion and minimize extraneous cognitive load. Instructors may want to familiarize themselves with the webpage builder in advance and provide a brief tutorial in class.
- Students generally want to present their products to the class. Thus, an oral presentation opportunity for students is usually built into the final grade. For efficiency and livelier presentations, students focus on three key points (their Earth Charter learning module, the triple bottom line Venn diagram, and one "coolness" factor), rather than talking about their entire webpage.

Additional Resources

The following resource from the KQED QUEST project (<http://science.kqed.org/quest/>) relates to this assignment:

Taylor, Helen. (2012). *Help the Sea on Your Next Overseas Vacation*. Retrieved from <http://science.kqed.org/quest/2012/07/02/help-the-sea-on-your-next-overseas-vacation/>

The following resources also contain useful information:

Commission on Sustainable Development. (1999). *Tourism and sustainable development*. New York, NY: United Nations Department of Economic and Social Affairs. Retrieved from <http://sustainabledevelopment.un.org/content/documents/400iclei.pdf>

Economic and Social Commission for Asia and the Pacific. (1995). *Guidelines on environmentally sound development of coastal tourism*. New York, NY: United Nations Economic and Social Commission for Asia and the Pacific. Retrieved from http://www.unescap.org/ttdw/Publications/TPTS_pubs/Pub_1371/Pub_1371_fulltext.pdf

Conservation Gateway. (2018). *Marine conservation agreements: A practitioner's toolkit*. Arlington, VA: The Nature Conservancy. Retrieved from <https://www.conservationgateway.org/ExternalLinks/Pages/marine-conservation-agree.aspx>

Sealey, K. S., Binder, P. M., & Burch, R. K. (2018). Financial credit drives urban land-use change in The United States. *Anthropocene*, 21, 42–51. Retrieved from: <https://doi.org/10.1016/j.ancene.2018.01.002>

Earth Charter International. (2000-2021). *The earth charter*. San José, Costa Rica: Earth Charter International. Retrieved from: <http://earthcharter.org/discover/the-earth-charter/>

TourismConcern – Action for Ethical Tourism. <https://www.travindy.com/thirty-years-of-tourism-concern/>

World Travel & Tourism Council, International Hotel & Restaurant Association, International Federation of Tour Operators, International Council of Cruise Lines. (2002). *Industry As a Partner for Sustainable Development: Tourism*. Nairobi, Kenya: United Nations Environment Programme. <http://www.unep.fr/shared/publications/pdf/WEBx0012xPA-IndustryTourism.pdf>

APPENDIX A: Facilitator's Guide (continued)

Student Version of the Assignment

Team Project: Ecoresort and Sustainability

Learning Objectives

By the end of this team-based learning exercise, you will be able to:

- Conduct basic research related to current environmental issues such as energy consumption, food availability, freshwater supply concerns, waste generation, human health, and habitat restoration.
- Generate evidence-based decisions about the degradation of natural capital that results in human-dominated systems.
- Develop business proposals that incorporate environmental sustainability as a fundamental bottom-line consideration, while addressing social needs, economic interests, and cultural awareness of community members and/or tourists.
- Collaborate in teams to demonstrate effective communication, collaboration, and critical thinking skills.
- Connect issues of civic importance to your daily lives and decision-making processes.

Introduction

Imagine the world in 2030! Given your new knowledge of environmental sciences, your consulting firm was asked to create a pitch proposal for a sustainable eco-friendly island resort, while simultaneously mitigating ecological damage and restoring disturbed areas. You have several endangered species that must be protected on your island; they need access to upland and freshwater habitat, estuarine habitat, and offshore coral reef habitat.

As a team, complete a summary of your ecoresort proposal by building a webpage that addresses in detail all the questions listed below. You'll need to align with the concepts covered in class related to sustainability of natural resources, economic services, and ecological services. In short, what world do you want to create for humanity in 2030?

Tasks

- Elect a Board of Directors for your business and assign positions related to your majors.
- What is the company name of your resort?
- Why do people come to your resort? How many visitors do you receive annually? What recreational opportunities do you offer them? How do you mitigate environmental damage left behind from these recreational activities?
- How does your resort obtain the following?
 - Water
 - Food
 - Energy
- How does your resort get rid of waste?
 - imply shipping it to another location or dumping it in a landfill is not acceptable.
- What is the transportation plan?
 - On the island
 - Between the island and other places
- Describe housing that is available to employees. Where is it located? How does it minimize ecological impacts?
- How will you address public health issues? In what ways will you manage healthcare for your employees and guests?
- What types of wildlife areas have you included in your restoration plan?
 - Watershed
 - Inland, terrestrial, and freshwater reserves
 - Mangrove, salt marsh, and estuarine preserves
 - Marine and reef protected areas
- In what ways will you establish wildlife corridors? Why did you choose this type of ecological habitat restoration plan? Explain how this restoration plan preserves biodiversity.

- Choose a key indicator species found on your island and describe its total way of life (or niche) and its interactions with the biotic and abiotic components of the ecosystem. Make sure this organism has access to all the wildlife areas outlined above. Describe the organism's interactions in each ecosystem type.
- How will you protect your island from climate change impacts, including sea level rise, while maintaining ecological integrity and connectivity?
- Develop a learning module focused on the "4 Guiding Principles of The Earth Charter." Explain, *in detail*, how your resort will provide education and outreach to the local community regarding your sustainable development plans.
- How do you minimize the overall ecological footprint of the eco-resort? (Refer back to the ecological footprint exercise from earlier this semester to help gather ideas!)
- Create a digital "map" that illustrates the components and layout of your ecoresort.
- Generate a digital Venn Diagram that includes the following: Environmental Responsibility, Social Well-being, and Economic Growth. Explain how your resort relates to each of these underlying themes and to sustainability and the triple bottom line.

Team Project Deliverables

- Create a webpage that answers and advertises all the points outlined above in a highly descriptive and creative manner. Market your island resort as if you were an actual Board of Directors representing a major green-friendly resort. The actual layout of the webpage is entirely up to the team, but this advertisement must completely relate, in detail, all the above information, and you must demonstrate a thorough understanding of all concepts.
- Your team will collaborate in class and online (via Google Docs and/or the Canvas Learning Management System). Then, you'll submit your project via an online webpage. Here are a few options for your team to consider using:
 - <https://sway.office.com/>
 - <https://sites.google.com/>
 - www.weebly.com
- Please create a free account and provide me with your team's username and password information.

Due Date

- 2DEC20XX (Each team will also present their webpage to the class on this day.)

Please Note

- This project will be conducted in teams of three students that you will choose. Again, your team will evaluate and rate your participation and performance, which will ultimately be used to determine your individual final grade on the project. For full credit, your team must present a professional product that completely addresses the items outlined above.
- Creativity is highly encouraged! You must, however, perform all tasks outlined on this document and submit a project that includes alignments with the discussions of the topics covered in class this semester. Simply answering the questions above may not necessarily guarantee a desired grade. You must demonstrate complete and detailed understanding of the crucial concepts covered this semester in class and from the readings.
- Keep in mind that this is worth XX% of your final average, so that amount of effort must be put into the final product and deliverables. There will be no opportunity for late and/or make-up work.

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Simplified Grading Rubric

Group:		Ecoresort Name:	
Students:			
	Possible Points	Points Earned	Comments
I. Resort Background Info	10		
Board of Directors	2		Yes = 2
Resort Name	2		Yes = 2
Visitor Information	3		Yes = 3
Ecological Footprint from activities	3		Yes = 3
II. Resort Infrastructure	30		
Energy, Food, and Water	15		15 = Very Good; 12 = Good; 9 = Fair
Waste removal	5		5 = Very Good; 4 = Good; 3 = Fair
Transportation Plan	5		5 = Very Good; 4 = Good; 3 = Fair
Employee Housing	5		5 = Very Good; 4 = Good; 3 = Fair
III. Wildlife and Ecology	25		
Wildlife area types	10		10 = Very Good; 8 = Good; 7 = Fair
Wildlife area corridors	5		5 = Very Good; 4 = Good; 3 = Fair
Key Indicator Species and Niche	10		10 = Very Good; 8 = Good; 7 = Fair
IV. Overall Ecological Footprint of Resort	10		
Annual visitor info addressed	10		10 = Very Good; 8 = Good; 7 = Fair
V. Map of Resort	5		
Map Included	5		Yes = 10
<u>ORAL PRESENTATION</u>			
VI. Venn Diagram	15		
Includes all three sustainability themes	15		Excellent Description 15, 14, 13, 12, 11, 10, <10 Poor
VII. Education and Outreach	5		
Describes program designed to educate w/ strong relationship to G.P.'s of E.C.	5		5 = Very Good; 4 = Good; 3 = Fair
VIII. Oral Presentation	10		
Evaluation of presentations skills	10		

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Simplified Grading Rubric (continued)

Group:	Ecoresort Name:		
Students:			
	Possible Points	Points Earned	Comments
VII. Education and Outreach	5		
Describes program designed to educate w/ strong relationship to G.P.'s of E.C.	5		5 = Very Good; 4 = Good; 3 = Fair
VIII. Oral Presentation	10		
Evaluation of presentations skills	10		
IX. Webpage Presentation	40		
Organization and Flow	10		Great 10, 9, 8, 7, 6, 5 Fair
Transition between Topics	10		Great 10, 9, 8, 7, 6, 5 Fair
Creativity in Design	10		Great 10, 9, 8, 7, 6, 5 Fair
Professionalism in Final Product	10		Great 10, 9, 8, 7, 6, 5 Fair
Total Score:	= _____ / 150 (_____ %)		<i>Please see comments on back.</i>
X. Group opinion	Group Avg.	Deduction/Addition	Individual Final Score
1			
2			
3			
4			
5			
6			

Midpoint Assessment

Group Project Mid-point Assessment

Instructions: Please answer each question honestly. Your responses will be kept by me and are completely confidential. Circle the number on the scale that best applies to your views. This is an excellent opportunity for me to help your group, if you need it!

Your name: _____

Group Case Study Location: _____

1) Our Group is making good progress on our project:

0	1	2	3	4	5
Have not started			Satisfactory		Excellent progress

2) Our group is collaborating and working well together:

0	1	2	3	4	5
Not at all			Somewhat well		Excellent collaboration

3) Each group member is contributing equally to the project:

0	1	2	3	4	5
Not at all			Satisfactory		Excellent contributions by all

4) I am learning a great deal about the content of this course because of this project:

0	1	2	3	4	5
Not learning			Some learning		Excellent learning opportunity

Free-write responses (use back of handout if needed):

(a) Please write any additional comments about group dynamics that you would like to bring to my attention:

(b) Please share with me how this project is impacting your learning:

Final Feedback: Ecoresort Team Project

INSTRUCTIONS

Thank you for your participation in this team project. Please take a moment and provide us with authentic feedback. Your thoughts and perspectives are useful to us as we prepare future courses. This short survey is anonymous and will take about five minutes to complete.

Let's get started!

I. GENERAL FEEDBACK

I will recommend this project to my friends.

Circle one number that best describes your response on the 10-point scale below.

1

2

3

4

5

6

7

8

9

10

Not likely

Likely

And please explain your answer:

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Final Feedback: Ecoresort Team Project (continued)

II. PROJECT FEEDBACK

To what extent do you agree with the following statements?

Please place an "X" in the box that best represents your choice from the agreement scale for each of the prompts.

	Strongly disagree	Disagree	Agree	Strongly agree
This project held my interest.				
The project helped me to learn.				
What I learned from this project is relevant to my daily life.				
The project helped me to value what might be needed to live in an environmentally sustainable manner.				
The project helped me apply my knowledge gains to an authentic scenario.				
I will apply the information I learned to my own life.				

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Final Feedback: Ecoresort Team Project (continued)

III. YOUR LEARNING

When thinking about what you learned during this project, how would you rate the degree to which each of the following factors contributed to your learning?

Please place an "X" in the box that best represents your choice from the agreement scale for each of the prompts.

	Not at all	Low	Medium	High
The project topics				
Conversations with my team members				
My prior knowledge				
The online course materials (RLOs, online assignments, etc.)				
The face-to-face activities (labs, in-class activities, etc.)				
The "ecoresort" contextual situation				
The textbook				
The ability to be creative				
The personalized nature of the project				

APPENDIX A: Facilitator's Guide (continued)

Final Feedback: Ecoresort Team Project (continued)

IV. OUTCOMES

When thinking about what you learned during this project, please rate your degree of confidence by circling one number that best describes your response on each of the 10-point scales below.

a. I can conduct basic research related to current environmental issues such as energy consumption, food availability, freshwater supply concerns, waste generation, human health, and habitat restoration.

1	2	3	4	5	6	7	8	9	10
Cannot do at all									Highly certain can do

b. I can generate evidence-based decisions about the degradation of natural capital that results in human-dominated systems.

1	2	3	4	5	6	7	8	9	10
Cannot do at all									Highly certain can do

c. I can develop business proposals that incorporate environmental sustainability as a fundamental bottom-line consideration, while addressing social needs, economic interests, and cultural awareness of community members and/or tourists.

1	2	3	4	5	6	7	8	9	10
Cannot do at all									Highly certain can do

d. I can collaborate in teams to demonstrate effective communication, collaboration, and critical thinking skills.

1	2	3	4	5	6	7	8	9	10
Cannot do at all									Highly certain can do

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Final Feedback: Ecoresort Team Project (continued)

e. I can connect issues of civic importance to my daily life and decision-making processes.

1	2	3	4	5	6	7	8	9	10
Cannot do at all									Highly certain can do

V. FREE RESPONSE

Please describe what you enjoyed most about this project:

Please describe what you would like to see added to future iterations of this project:

Please add any general comments you may have:

APPENDIX A: Facilitator's Guide (continued)

Final Feedback: Ecoresort Team Project (continued)

Thank you for your thoughtful feedback. We are grateful for the time you spent completing our survey.

Your first and last name:	Your team's ecoresort name:
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Please rate the performance for each team member by circling the appropriate number value for each prompt below.

Student Name:					
Please rate this member's effort toward each of the following project components:	No effort	Below average effort	Average effort	Above average effort	Excellent effort
Conducting research	1	2	3	4	5
Project organization	1	2	3	4	5
Attending group meetings	1	2	3	4	5
Project preparation	1	2	3	4	5
Webpage production	1	2	3	4	5
Overall contribution and effort	1	2	3	4	5

Student Name:					
Please rate this member's effort toward each of the following project components:	No effort	Below average effort	Average effort	Above average effort	Excellent effort
Conducting research	1	2	3	4	5
Project organization	1	2	3	4	5
Attending group meetings	1	2	3	4	5
Project preparation	1	2	3	4	5
Webpage production	1	2	3	4	5
Overall contribution and effort	1	2	3	4	5

Student Name:					
Please rate this member's effort toward each of the following project components:	No effort	Below average effort	Average effort	Above average effort	Excellent effort
Conducting research	1	2	3	4	5
Project organization	1	2	3	4	5
Attending group meetings	1	2	3	4	5

APPENDIX A: Facilitator's Guide (continued)

Final Feedback: Ecoresort Team Project (continued)

Project preparation	1	2	3	4	5
Webpage production	1	2	3	4	5
Overall contribution and effort	1	2	3	4	5

OPEN-ENDED FEEDBACK ABOUT TEAM DYNAMICS

Please feel free to add any additional information about team dynamics in the space below.