BIOL 599- Seminar in Marine Conservation Biology  
Winter 2004

Meeting: Biology 415; R 13:00-14:50.
Instructor: Alejandro Acevedo.
Office Hours: M 9:00-10:10; W 9:00-11:10; R 15:00-17:10
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SYLLABUS

Course Description
What are the most important threats to the marine environment? What contributions can scientists make to diminish these threats? In this course we will address current and emerging issues in marine conservation biology by discussing and critically examining the primary scientific literature. At the end of the course you will be:
- able to evaluate the relative impact of the current threats to the marine environment,
- aware of the tradeoffs and choices involved in attempting to conserve the marine environment,
- familiar with the current relevant topics in the field of marine conservation biology,
- able to search, read, critique and discuss orally and in writing the primary literature.

Grading
• Leading a discussion, including an annotated bibliography: 30%.
  I will grade based on the conceptual organization of your overview, the degree of insight displayed by the questions you prepare, the conciseness with which you present the material, depth with which you critique the papers and analyze the ideas in them, the manner in which you supplement the assigned readings by employing additional references and the ability to keep the discussion focused on the relevant issues.

• Participation in other discussions: 20%.
  I will grade based on contribution to the discussion and evidence of critical thought about the papers. It will not be sufficient to merely read the papers without thinking about them, nor will it be sufficient to come to class thoroughly prepared without becoming involved in the discussion.

  Discussion attendance is mandatory and constitutes an important component of the class. Each class missed without a pre-approved excuse will result in a loss of 5% of total points.

• Term paper summarizing threats and future directions in marine conservation biology: 50%.
  The paper will be a review of threats and future directions in marine conservation biology based on the discussions held and independent reading. Analyze in a critical manner the literature on a topic of your choice and present a cogent discussion of the main ideas, including your assessment of the support for those ideas. The format of the paper will be the one employed in the journal Conservation Biology. You should write the paper with the motivation of submitting it for publication as a Review Article, even if you do not actually submit it. Send me an e-mail and I will send you a sample review paper.

  Instructions to authors: http://conbio.net/SCB/Publications/ConsBio/Instructions/ (you do not need to write a summary in Spanish.)
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You will need to get a minimum of 75% of the points (the equivalent of a C) to get a grade of satisfactory.

Leading a successful discussion

Before:
1) **Be informed.** To be an effective discussion leader, you will need to be informed on your topic and read at least five additional references that deal with aspects of the topic covered. You should prepare for leading your discussion section as if you were doing a research paper.

2) **Provide a bibliography and at least five discussion questions.** The bibliography should follow the format of the journal Conservation Biology. E-mail me this information at least one day before your discussion day and I will distribute it to the class.

During:
1) **Summarize the paper(s).** Give a brief overview of the general context of the work and the main ideas/arguments in the paper(s), include additional references that support your ideas. Make key points that lead to the main questions that you intend to pose. It is fine if you want to use figures, overheads or Powerpoint to illustrate your summary. If you use Powerpoint let me know in advance so I can arrange for a projector.

2) **Pose the questions for discussion.** Insightful questions will motivate classroom discussion. Keep the discussion on track. It is fine if the discussion wanders into some uncharted areas, but don’t let things swerve too far out.

3) **Facilitating group discussion.** Read the hand-out provided. In general:
   - Establish and enforce ground rules.
   - Don’t direct your questions to me. I will try to talk only to redirect the discussion or clarify a point.
   - Allow time for people to answer the question(s).
   - Be aware of your own biases and use your critical thinking to evaluate the strength of an argument based on scientific evidence.
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### CLASS SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture</th>
<th>Reading*</th>
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| Jan 1 | R 8  | INTRODUCTION.  
The marine environment and marine conservation biology.  
**Sign-up list for leading a discussion available.** | |
| 2    | R 15 | MARINE BIODIVERSITY.  
Biodiversity hotspots.  
**Due date for election of discussion to lead.** | Roberts et al. 2002  
Myers et al. 2000 |
| 3    | R 22 | HABITAT ALTERATION.  
POLLUTION.  
**Due date for election of topic for term paper.** | Bertness et al. 2002  
Krümell et al. 2003 |
| 4    | R29  | GLOBAL CLIMATE CHANGE.  
Effects on communities.  
Natural fluctuations. | Attrill and Power 2002  
Chavez et al. 2003 |
| Feb 5 | R 5  | FISHERIES.  
Effects on populations.  
Effects on ecosystems. | Myers and Worm 2003  
Jackson et al. 2001 |
| 6    | R 12 | AQUACULTURE.  
Effects on global fish populations.  
Effects on specific fish populations. | Naylor et al. 2000  
McGinnity et al. 2003 |
| 7    | R 19 | INTRODUCED SPECIES.  
Effects on populations.  
Effects on communities. | Levin and Williams 2002  
Levin et al. 2002 |
| 8    | R 26 | MARINE RESERVES.  
Benefits inside reserves.  
Benefits beyond reserve boundaries. | Halpern and Warner 2002  
Gell and Roberts 2003 |
| Mar 9 | R 4  | Restored carnivores and reserve performance.  
Reserve design.  
**Term paper due (5 pm PST).** | Fanshawe et al. 2003  
Sala et al. 2002 |
| 10   | R 11 | FUTURE DIRECTIONS.  
The future for fisheries.  
Ecological footprint. | Pauly et al. 2003  
Wackernagel et al. 2002 |
Discussion Papers

Supplemental references:
The following references will help you prepare your discussion and your term paper. These are only suggested references, hopefully some will provide helpful to your topic. I also expect you to use literature not included in this list.

Supplemental references (cont.):