Human Dimensions of Conservation (RMES 500F): Social and Biological Justice in the Design and Management of Protected Areas

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Time & Place: Thursdays 1–4 pm; AERL 420

http://www.ires.ubc.ca/academic/courses/rmes500fcourseoutline.html

(Headings are clickable hyperlinks)

Purpose

In a world dominated by people and their needs, threats to biodiversity are great and escalating, so there is a need to protect biodiversity from the most intensive uses. But those who consume most of the planet's resources are often not the ones who suffer most when protected areas are created. RMES 500F will prepare students to address these concerns with responsibility and justice by better designing and managing protected areas.

Learning Objectives and Outcomes

In this course, students will do the following:

1. Gain an appreciation of the history of protected areas, including their links to Colonialism and their impacts on people, and yet their growing role in protecting biodiversity;
2. Learn the tools to critique, assess, and mitigate the costs and benefits of conservation actions (e.g., valuation of ecosystem services; and social, biological and cultural impact assessment);
3. Become familiar with key case studies where such analyses have been performed;
4. Analyze their own case study in partnership with other students; and
5. Think and communicate critically and creatively about ways to navigate the difficult tradeoffs between humanity and conservation.

Upon completion of the course, students will be poised to make conservation more biologically effective and socially just.

Course Description

Conservation should benefit ecosystems, non-human organisms, and current and future human populations. Historically, conservation has occurred primarily through protected areas, whose creation has frequently entailed considerable displacement of indigenous, traditional, and land-based people, and whose maintenance continues to restrict the livelihoods of the same people. The pursuit of benefits to non-human organisms can be defended ethically, but it has become clear that conservation without consideration of human welfare is likely to be fleeting. Accordingly, recent decades have brought considerable enthusiasm surrounding concepts like community-based conservation and ecosystem services; and, increasingly, conservationists attempt to justify conservation by its social and economic benefits. This course will enable students to better design and manage protected areas in light of the spatial and temporal distributions of their costs and benefits for both human and nonhuman populations.

Through participatory lectures, role-plays, discussions, debates, and workshops, students will do the following:

- Learn the history of ideas on wilderness and protected areas;
- Characterize the ecological dynamics underpinning the maintenance of biodiversity and those underpinning the provision of key services, and how protected areas strive to maintain these various dynamics;
- Evaluate the success of protected areas in maintaining the ecological dynamics of concern, and in monitoring and evaluating their own success;
- Employ ethical argument for or against protected area designs and management goals and activities

- Characterize the social impacts of, and behavioural response to, protected area creation and maintenance, especially as concerns local people;
- Analyze and critique the local-to-the-global political and financial institutions in which parks are situated and the implications of these for protected area success
- Articulate the role of protected areas in the context of other laws, regulations, and programs for conserving biodiversity;
- Apply these skills and experiences individually and in teams to demonstrate the above learning objectives and to better critique and plan for protected areas in such a manner that addresses the difficult human and biological tradeoffs, outcomes through written assignments, presentations, and a final paper.

Because lasting positive societal change regarding biodiversity conservation will only occur through coordinated efforts across private, public, and academic sectors, it is crucial that students who will take these various perspectives learn and work together. Through RMES 500F, students will gain a level of common knowledge that will enable constructive action to arise from such differences.

Course Policies

As per university requirements:

Attendance

Following university regulation, regular attendance is expected of students. Students who neglect their academic work and assignments may be excluded from the final examinations (note: there are no exams in this course). Students who are unavoidably absent because of illness or disability should report to their instructors on return to classes.

The University accommodates students with disabilities who have registered with the Disability Resource Centre. The University accommodates students whose religious obligations conflict with attendance, submitting assignments, or completing scheduled assignments. Please let Terre or Kai know in advance, preferably in the first week of class, if you will require any accommodation on these grounds. Students who plan to be absent for varsity athletics, family obligations, or other similar commitments, cannot assume they will be accommodated, and should discuss their commitments with the instructor before the drop date.

Late assignments

This course is not intended to run or ruin your life. So when exceptional circumstances will prevent you from completing an assignment on time, you may request an extension and it will be granted where possible and appropriate. In the absence of a granted extension, a 5% reduction of grade will be assigned for each day an assignment is late beyond the required due date.

Academic Dishonesty

Please review the UBC Calendar "Academic regulations" for the university policy on cheating, plagiarism, and other forms of academic dishonesty.

Students should retain a copy of all submitted assignments (in case of loss) and should also retain all their marked assignments in case they wish to apply for a Review of Assigned Standing. Students have the right to view their

marked examinations with their instructor, providing they apply to do so within a month of receiving their final grades. This review is for pedagogic purposes. The examination remains the property of the university.

Schedule

- Nine weeks of classes featuring lectures, role-plays, discussions, and debates.
- Two weeks of workshops on policy/program/institution analysis among teams with instructors' guidance.
- Two weeks of presentations of team analyses.

The teaching forms involved each week will vary including but not limited to lecture, group problem solving, discussion-based identification of core ideas, scenario-based learning and role playing. See also **Readings** regarding the volume and expectations), and reading directions.

1. Jan 11 2007. Introduction [TS & KC]

- Course expectations, structure and content
- Class discussion on problems with conservation (baseline thinking)
- Nature as material, symbolic, and political space [TS]
- Chapin (Chapin 2004) [TS]
- Rebuttal & Critique and/or development of Chapin's ideas [KC]
- Collective summary of problems with and challenges to conservation to be examined this semester

2. Jan 18 2007. Purpose and Logic of Conservation [KC]

- concept of biodiversity
- keystone, indicator, and umbrella species
- species area curves and the SLOSS debate, early reserve design
- scale of human impacts, spatial distribution of impacts
- major causes of extinction, differential vulnerability of organisms
- role of ecosystem processes and functions in conservation

Discussion Questions: To what extent can we defensively argue that large-scale fortress conservation is necessary to conserve biodiversity, that it will always necessarily involve curtailing activities and rights of some people? Employing these key concepts from ecology, how can conservation managers ensure that protected areas fulfil the desired role of maintaining biodiversity? What management actions inside and outside reserves seem necessary? What actions currently taken seem appropriate for the task, and where are networks of protected areas most lacking?

Concept of biodiversity:

Concept: (Ehrlich and Wilson 1991; Wilson 1992; Wilson 1997) optional (3 pp).

Keystone, indicator, and umbrella species:

Background and summary of recent research: (Raffaelli 2004) **required** (2 pp).
Origin of the keystone species concept: (Paine 1969) reference.
Demonstration of how to implement keystone species concept: (Ebenman and Jonsson 2005) optional.

Cultural keystone species concept: (Garibaldi and Turner 2004) optional*.
Opportunities for indicators of ecosystem integrity: (De Leo and Levin 1997) optional.
Attempted test of otters as an umbrella species: (Bifolchi and Lode 2005) optional.

Species area curves and the SLOSS debate, early reserve design:

Species area curves: (Rosenzweig 1995) reference; (Rosenzweig 2003) optional*.
SLOSS and early reserve design: (Simberloff and Abele 1982) **required** (10 pp); (Diamond 1976; Simberloff and Abele 1976; Terborgh 1976) reference.

Scale of human impacts, spatial distribution of impacts:

Human domination of Earth's ecosystems: (Vitousek, Mooney et al. 1997) **required** (6 pp).
Land-use and land-cover change and its consequences: (Foley, DeFries et al. 2005) **required** (5 pp).
A new focus for ecology, given human 'crowding': (Palmer, Bernhardt et al. 2004) optional.

Major causes of extinction, differential vulnerability of organisms and processes:

Causes of extinction: (Kappel 2005; Li and Wilcove 2005) **required** (8 pp; 7 pp); (Terborgh and Winter 1980; Wilcove, Rothstein et al. 1998; Araújo, Whittaker et al. 2005) optional.
Differential vulnerability: (Purvis, Gittleman et al. 2000; de Castro and Fernandez 2004; Cardillo, Mace et al. 2005) reference.

Ecosystem Processes and Functions:

Biodiversity and ecosystem functions: (Srivastava and Vellend 2005) optional*.
Connectivity: (Beier and Noss 1998; Levey, Bolker et al. 2005; Damschen, Haddad et al. 2006) optional.

3. Jan 25 2007. History of Conservation as Practice and Idea [TS, KC]

- The Wilderness Concept: Cronon 1996 **required**; Clapp (2004) optional*
- Green Imperialism: Nelson 2003 optional; Neuman 2004 **required;** Neumann 1998 (intro **required** and chapter 4 optional* [TS]
- Historical vs. contemporary objectives for protected areas, from parks to protected areas: (Scott, Davis et al. 2001) optional; and from protected areas to something else? (Terborgh 2004) **required** (2 pp) [KC]; West, 2006; Chapter 2. **required**
- Spatial distribution of conservation activities/Biodiversity and Cultural Diversity (Maffi 2001 **required**; Redford & Brosius 2006 optional)
- Indigeneity and Colonialsim (Raibmon 2004; chapter 1; optional*)

Discussion Questions: To what extent should conservation efforts be understood as a new form of colonialism or is this a gross overstatement that should be qualified? [If so, how qualified?] To what extent does the notion of wilderness as an idea remain (however compromised) fundamentally important to humankind's ability to imagine a better future or to employ symbolically compelling arguments in the defence of nature? [TS]

4. Feb 2 2007. Problems of Implementation [TS]

- Consequences for Indigenous and Traditional People (Dowie, 2005 **required**); Wilshusen et al 2003 in Brechin et al 2003 **required**); West, 2006 (chapter 6, **required**); Raibmon, 2004 (chapter 7) optional*
- Role of NGOs (Chapin 2004 **required**; Sundberg 1998) West 2006; chapter 4 optional*)
- Dirty conservation Neumann (2001 optional); Harper (2002) Introduction (optional*)

- Encroachment versus entitlement: distribution of access rights; assumptions on which these processes are based ("good users" and "bad users"); Ribot & Peluso (2003) **required**; (Terborgh 1999)
- Ecologically Noble Savage versus Indigenous Social Movements (Conklin & Graham 1995 **required**; Brosius 1999 **required**; Redford 1990 optional);

Discussion Questions: Do you think the majority of problems with protected areas can be classified as problems of the definition of access and its distribution across social groups or is it simply the case that everywhere there is a shrinking land base for growing population and so problems of conflict over use? Is it possible to define and distribute access rights in an equitable manner in reference to protected areas? The 'ecologically noble savage' is a [romantic] stereotype used in both derogatory and strategically useful ways. Does this stereotype nonetheless do more harm than good?

5. Feb 8 2007. The Law and Policy Context for Conservation [KC, TS]

- International agreements, and their impacts on national and local activities (e.g., CITES, CBD, . . .)
- Other tools of conservation (certification, endangered species law, farm subsidies, payment for environmental services programs)
- Discuss the efficacy of each tool, the contexts in which they work and the problems they raise

Discussion Questions: Identify examples of successful biodiversity conservation that can be reasonably attributed to market-based incentives. Is it true that in your example, no other incentive system would have fared better (e.g., those driven by law or policy)? Try to explain the causal link between successful outcome and market incentive from the point of view of human behaviour (i.e., what is it about human behaviour that made for success in the context of your example)? What is the relationship between endangered-species legislation and market-based incentives? Do they compliment each other or are they fundamentally at odds with one another?

International agreements, and their impacts on national and local activities (e.g., CITES, CBD, . . .)

CBD: (Balmford, Bennun et al. 2005) optional*.
CITES, and interaction with other agreements: (Wijnstekers 2003) chapters 1, 2 **required** (4 pp 15-18 in 7th ed.); chapter 22 optional (10 pp 347-356).

Other tools of conservation (certification, endangered species law, farm subsidies, payment for environmental services programs)

Certification: (Hardner and Rice 2002) optional*; (Brownstein, Lee et al. 2003; Leslie 2004) optional.
Law: (Wilcove and Lee 2004) **required** (7 pp); (Boyd 2003) chapter 5 **required** (48 pp); (Polasky, Doremus et al. 1997) optional*; (Bonnie 1999; Peterson, Allison et al. 2004) optional.
Agri-environment: (Kleijn and Sutherland 2003) optional (23 pp); for CRP under Farm Bill (Dunn, Stearns et al. 1993; Goodwin and Smith 2003) optional.
Payments for conservation (Ferraro and Kiss 2002) **required** (2 pp); (Stoneham, Chaudhri et al. 2003) optional; and payments for environmental services (Eigenraam 2005; Hawn 2005; Kousky 2005) **required**; (Rosa, Kandel et al. 2003; Lovera 2005) optional.

6. Feb 22 2007. Targeting Conservation: What Nature of Biodiversity, Ecosystem Services? [KC]

- The processes by which conservation sites and actions have been and are now being identified (including hotspot analysis, eco-regional assessment, others)
- Other considerations for conservation planning, including socio-political issues and deeper ecological needs

- Targeting human welfare through the conservation of ecosystem services

Discussion Questions: Do you think some forms of conversation planning and management (be they different spatial configurations or different use configurations) are likely to be more successful at conserving biodiversity long term than are others? If yes, identify the attributes you think most likely to be conducive to success. Does it seem that current planning frameworks are appropriate for their goals? To the extent that the 'other considerations' are worth integrating into conservation planning and management, what promise do you see for their future integration? To what extent and in what ways is an ecosystem service approach likely to benefit biodiversity? Why or by what logic (including but not limited to the ability of ecosystem services to internalize the externalities of economic activities)?

Systematic conservation planning (currently employed methods)

The concept: (Margules and Pressey 2000) **required** (11 pp).
The *hotspots* approach of Conservation International: (Myers, Mittermeier et al. 2000) optional* (6 pp).
Ecoregion approaches of WWF and The Nature Conservancy: (Olson, Dinerstein et al. 2001) optional; (Weeks 1997) reference.

Other considerations for siting and designing reserves

Coldspots and the need for priorities to reflect ecological theory, ecosystem services, and socio-political circumstances: (Kareiva and Marvier 2003) optional*.
Rewilding and the need to consider bold restoration for conservation purposes: (Donlan 2005) optional*.
A clarion call for change: (Odling-Smee 2005) **required** (3 pp).

Ecosystem services as a possible conservation target

From protected areas to gardens?: (Janzen 1998) **required** (2 pp); (Janzen 2000; Janzen 2001; Janzen 2001) optional.
Concept, what ecosystem services are and are not: (Daily, Alexander et al. 1997) **required** (18 pp); (Daily 1997) reference.
How to identity ecosystem services and understand their ecological production: (Kremen and Ostfeld 2005) **required** (9 pp); (de Groot, Wilson et al. 2002; Kremen 2005) optional.
Conservation planning for ecosystem services (Chan, Shaw et al. 2006) **required** (15 pp).

7. Mar 1 2007. Valuation and Ethics in Conservation [KC, TS]

- Conceptually understand and critique methods of valuation with concrete examples
- Why the pressure the assign $ value, what the end goal in so doing is, and what problems does it raise?
- Economics as an ethical theory (esp. utilitarianism)?
- Value versus valuation: Is there a difference? Why does it matter?
- Logic (method?) of ethical reasoning
- Key contributions and problems in environmental ethics
- Using ethical principles to guide conservation – how to balance duties to nonhuman organisms (taxonomic levels, etc.) and humans (including future generations)?
- How to use ethics to critique planning and implementation—why is there no "applied environmental ethic" and how can we move toward one?

Discussion Questions: Given the objections raised regarding valuation of ecosystem services when and for what purposes should such valuation be performed and used? What are the primary risks of an ecosystem service

approach as concerns either biodiversity conservation or human justice? To what extent and under what circumstances should the needs of existing human beings should take priority over the needs of non-human organisms? How might we think about the local versus global [human] good? Is an ethics-based (including value-based) approach to conservation ultimately preferable given the human propensity to exhaust natural resources? If so, which ethical arguments are most promising, both in terms of the subjects of concern (other existing people, future people, non-human organisms) and kinds of arguments (based on preferences, rights, virtues, etc.)?

Valuation context, logic, methods, and analyses:

Benefit-cost analysis: (Arrow, Cropper et al. 1996) **required** (2 pp).
Valuation, theory and frameworks: (Heal 2000) **required** (7 pp); (Daily, Soderqvist et al. 2000) **required** (2 pp); (Costanza and Folke 1997; Goulder and Kennedy 1997; Heal 2003) reference.
Valuation, empirical analyses: (Naidoo and Ricketts 2006) optional* (12 pp); (Costanza, d'Arge et al. 1997) optional (8 pp); (Ricketts, Daily et al. 2004) optional (4 pp).

Critique methods of valuation; Economics as an ethical theory (esp. utilitarianism)? Value versus valuation?

(Gatto and De Leo 2000; Ludwig 2000) **required** (9 pp, 5 pp); (Sagoff 1998) optional*.
(Satterfield & Kalof, 2005) **required** (13 pp).

Ecosystem services implications for protected areas and conservation:

Non-timber forest products (NTFPs) and losses from restricted access: (Delang 2006) optional.
Conflicting underlying values; and importance of disaggregating costs and benefits spatially, temporally, and socially: (Chan, Pringle et al. in press) **required** (10 pp).

Logic (method?) of ethical reasoning

(Singer 1993) Ch 1 **required** (15 pp).
(Hare 1997; Hare 1997) reference.

How should proximity impact our moral responsibilities? Can we justify partiality?

(Singer 1999) **required**.

Key contributions and problems in environmental ethics

(Singer 1993) chapter 10, **required** (25 pp).
(Callicott 1999) **required** (13 pp).
(Sober 1986; Callicott 1992; Regan 1992) optional; (Rolston 1994) chapter 1, chapter 4 optional.
(Naess 1989; Norton 1995) reference.

Integrating concern for people and environmental ethics

(Chan and Satterfield 2007 in press) optional*.

8. Mar 8 2007. Community-Based Conservation (CBC) Planning [TS, KC]

- Logic of linking conservation and development
- Common property regimes and their drivers
- Co-Management in Parks Management
- Community involvement in protected-area planning
- Critiques and revisions

Discussion Questions: Is successful CBC planning only likely to succeed where there already exists some local history of sustainable land management? Or, is it reasonable to assume that the successful attributes of common property regimes can be implemented in contexts where they did not heretofore emerge from the long-term experience of local stakeholders?

Logic of linking conservation and development:

West (2006; chapter 7 **required** 23 pp)
(Salafsky and Wollenberg 2000) optional*.
(Janzen 1998; Janzen 2001) optional.

Community involvement in protected-area planning:

(Janzen 2000) **required** (11 pp).
(Inamdar, de Jode et al. 1999) optional.

Lessons, critiques and revisions:

(Adams, Aveling et al. 2004) **required** (4 pp).
(Berkes 2004; Jones and Murphree 2004; Jones and Horwich 2005) optional.

Common property findings:

(Hardin 1968) optional*.
(Berkes and Folke 1998; Brechin, Wilshusen et al. 2003) optional.
(Agrawal 2003) **required** (22 pp).
(Dietz, Ostrom et al. 2003) **required** (6 pp).
(Leitmann 1998) **required** (17 pp).

Case study:

(De Lacy and Lawson 1997) optional (34 pp).
(Kremen, Razafimahatratra et al. 1999) optional* (14 pp).

9. Mar 15 2007. Evaluation and Monitoring [TS, KC]

- Background: the purpose and design of indicators
- Recent and current efforts
- Social Indicators – their logic and use
- Site specific versus universal criteria
- Guest speaker: Joleen Timko

Discussion Questions: Is it possible or reasonable to work toward monitoring and evaluating both parks and conservation organizations for efficacy (both biological and social) and is this the best means for holding park managers accountable? Is it possible to think in terms of a universal set of criteria yet endogenous indicators or is another approach more viable?

Background: the purpose and design of indicators:

(Failing and Gregory 2003) **required** (12 pp).

Recent and current efforts:

(Tear, Kareiva et al. 2005) **required** (15 pp).
(Kremen, Merenlender et al. 1994) optional* (12 pp).
(Kremen, Raymond et al. 1998) optional*.
(Stem, Margoluis et al. 2005) **required** (15 pp).
(Hockings 2003) **required** (10 pp).
(Barrow and Fabricius 2002) **required** (13 pp).
(Salafsky and Margoluis 1999) optional*; (Salafsky, Margoluis et al. 2002) optional.
(Conservation Measures Partnership 2005) optional web resource.

Assignments

Overview (% of total marks)

- Two short written assignments: ≥1 op-ed essay and ≤1 policy brief (10 + 10).
- One review of a fellow student's assignment (5).
- One final analysis project, including a proposal (5), presentation (15), and final paper (35).
- Class participation and discussion responsibilities (20).

Schedule

- Feb 8 2007: short paper 1 (the conservation conflict)
- Feb 15 2007: fellow review
- Mar 1 2007: case study proposal
- Mar 8 2007: short paper 2 (status of conservation policy)
- Apr 5, 12 2007: final project presentations
- Apr 16 2007: final project papers

Details

All assignments should be submitted by email (kaichan@ires.ubc.ca and satterfd@interchange.ubc.ca) by **noon** on the date noted as MS Word-compatible attachments (rich text format, rtf, is fine; to enable commenting and suggested changes) except the report, which should also be submitted as double-sided copies (if possible; or use 1-sided reused paper) to the mailboxes of Kai and Terre in AERL. Please label assignments in the following manner: "(first name) (last name) (assignment title)", e.g., "Kai Chan op-ed 1.doc". Reviews should be labelled by tacking on the reviewer's initials: "(author first name) (author last name) (assignment title) (initials of reviewer)", e.g., "Kai Chan op-ed 1 LK.doc".

Please keep within word limits; excessive violations will be penalized. You may consult with others in doing your assignments, just make sure that you acknowledge them and specify who did which parts.

Short papers 1 & 2

One of the themes of this course is the crucial need to transfer technical knowledge from experts to stakeholders and decision makers. Such communication can differ starkly from the typical academic paper, which partly explains the dearth of effective communication on resource management and environmental issues to date. Accordingly, one crucial skill to be gained in this course is writing for lay people (e.g., in opposite-editorials, "op-eds") and decision makers (e.g., in policy briefs). The key components here are (1) seizing and holding the attention of your audience,

and (2) conveying complex concepts effectively in simple terms. Thus, 5 marks are for structure, flow, and style, and 5 are for content.

Illustrate your points through some issue of current interest and some particular ecosystem service(s). For op-eds, please plan to submit these after comments and revision. References are not necessary for op-eds; if present, they should be streamlined into the text. Policy briefs should have references where appropriate (in one standard style of your choice).

1, A biological/social rift in conservation?: In 800-1000 words, explain the extent to which and why it is that conservation biologists and social scientists are at odds as to the trajectory of how conservation has and might yet occur. What are the likely solutions to this conflict? The policy brief should be written for the federal minister's whose mandate it is to oversee CIDA (Canadian International Development Agency) or for the editor at the Globe and Mail.

2, Law and policy for biodiversity in Canada: In 800-1000 words, give your opinion on the status of Canada's protected areas, Species at Risk Act, or marine biodiversity, and the relevance for Canadians. Propose solutions and explain why they would help, where other efforts have fallen short. The policy brief should be written for the Minister of the Environment, or of Fisheries and Oceans Canada, or for the editor at the Globe and Mail.

Fellow review

Another theme of conservation practice is the crucial need for collaboration with others, especially those from diverse backgrounds. In order to grapple with this multidisciplinary problem, we must work together and improve each others' work. Providing collegial input on papers can also be a tremendous short-cut to improving our own writing. Remember that input is worth nothing—and can be counterproductive—if it cannot be received as constructive. Also, we learn not only from suggestions about what might work better but also affirmation of what works well. Accordingly, make sure to commend as well as suggest.

Pick a partner, and send that person your paper on the due date above. Comment (up to 500 words) on their paper and send it back to them and to us by the following week. These comments can be distributed across in-text embedded comments (e.g., in Word) and a short blurb with general remarks, whatever seems most appropriate. We will evaluate for both style ("packaging", not quality of prose; 2 marks) and content (3 marks).

Final projects

The goal of this assignment is to apply your thinking as it has developed over the course of the seminar to an analysis of a particular protected area be that a park, biosphere reserve, wilderness area, etc. In essence, you will be a protected-area consultant. We want this project to be useful to you, and to the protected area in question, so please choose a site of special interest or significance to you. Also, we hope that in cases where this is possible, you will go as far as to establish contact with these decision makers, as soon as you settle on an area (indeed, you may wish to choose your focus area in part based on your conversations with decision makers). Conversations with decision-makers where possible will help guide the scope, focus, and structure of your analysis. When not possible, you will need a proxy for contact with a decision maker—e.g., contact with someone who doesn't have decision authority but knows the site well and this can be supplemented in turn with 'grey literature' (planning documents, reports and meeting minutes, etc.). If you have trouble identifying an appropriate decision maker or proxy, please let us know as soon as possible.

Your case study analysis should be focused on a characterization of the site as well as an assessment of its success or failure as a site both biologically and socially, and should close with recommendations for its continuance, management, expansion/contraction, etc. While we will not ask you to follow a specific format, your case should include content along the following lines:

- Include a succinct presentation of primary details of the site including historical context, biological priorities (uniqueness, significance, role in larger-scale processes, etc.), major users, interests, threats and pressures–local and non-local, governance structure of park and of relevant region or nation state. Also

highlight and explain any major points of scientific or social controversy, and relevant law or policy prescriptions (e.g., CITES, national endangered species legislation, etc.). Finally, include a brief assessment of the area's contribution to local or national income, wages, or livelihoods (and, where applicable, to human concerns outside the nation).

- Provide a clear framework or theory as to why any evident problems or improvements have changed or escalated over time **or** why a particular problem evolved as it did. Your explanation should clearly rely upon class material but may also draw upon other ideas to elaborate or contest core findings or assumptions in the seminar literature.
- Convince the reader and your class colleagues (re: the presentation) that the explanatory framework you used to analyze your case is appropriate (i.e., that your criteria for evaluating the current status and/or future prospects are sound and the 'best' way to understand the case).
- Provide some compelling arguments as to what changes in area management and/or governance or monitoring practices should occur, and defend these as sensible from both a biological and social perspective.

Grading Criteria (presentation /15, paper /35):

- *Data (representation of)* (/4, /9):
  - status—biological and social
  - evaluation—biological and social
  - interaction with decision makers*
- *Context (representation of)* (/4, /9):
  - historical origins and difficult legacies
  - major users, threats, pressures
  - overarching institutional framework/context/structures
- *Analysis* (/3, /11):
  - use of course material
  - evidence-based evaluation of success or failure (relative to quality of data available)
  - recommendations
- *Stylistic* (/4, /6):
  - quality and use of visuals
  - apportionment of time
  - comprehensibility
  - oral delivery

This project has three components. Final papers should be fully referenced and standard term length, that is, 18-25 pages double spaced (max 7000 words). Presentations should be treated as a 'dry-run' for your paper and should be structured such that you are able to maximize feedback from seminar participants. *You may choose to deviate from the assignment criteria somewhat if and when a particular kind of analysis strikes you and if and when you have cleared that option with either Kai or Terre.*

Proposal: In ≤1000 words, explain and justify your chosen area and policy, and lay out the structure and content of the paper. Describe the methods that you will use, and refer to some of the literature that you will consult. Please also describe your plan for ensuring that it will be considered appropriately by the decision makers in question (ideally you would already have established contact).

Presentation: In ≤30 minutes, present your initial findings in the areas outlined above. Presentations are intended as 'dry-runs' to get valuable feedback from the instructor and peers. Please share presentation time equitably. Marks will be deducted for going over time.

Paper: In ≤7000 words (including figures, tables, and all text except references and supplementary appendices), present your findings. Papers should be fully referenced according to the style of your choice. Exceptions to the word limit will be considered if requested by Apr 5 2007 based on discussions with your decision-maker contacts.

This is intended to be a **team** effort. As in every case with protected area management, the relevant expertise is distributed among different people, and you should learn from these others. We prefer teams of 2 but will consider proposals with different numbers and will adjust grading expectations accordingly. Teams will receive the same grades on all components except for the delivery component of the presentation, as it is assumed that you will make use of your reviewing skills to improve your partner's contributions. Exceptions to the policy of equal grades will be considered only if requested *by all parties together at the due date*.

Class participation

We believe that you will learn best through interactive lessons, and we've structured the course accordingly. But this also means that you won't learn much unless *you* are interactive, so to acknowledge that, 10% of your final grades are for participation. Timely attendance is mandatory; please let us know in advance if you will not be able to make it on time to class.

One of your responsibilities will be to summarize the occasional optional* reading. Here we're looking for a 5-min summary of the key points of the article (including the type and strength of the evidence/argument in support of each), plus the points most pertinent from our perspective in this course; add critique as you see fit.

Readings

We recommend buying the book below, which is a fantastic resource for various parts of this course.

West, P. (2006). Conservation is Our Government Now: The Politics of Ecology in Papua New Guinea. Durham, NC, Duke University Press.

Others

One of the most important skills to learn in graduate courses is how to find and organize references. Virtually all of the references below can be found electronically through UBC Library sources (I use ISI Web of Science to download citations to EndNote and also to find the pdfs online). I highly encourage you to institute such a system now (if you haven't already). But to make your life easier, I've provided urls to all of the readings below (some are on the course resources webpage, http://www.rmes.ubc.ca/nav.php?page=resources).

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