

## NRSM 571: International Conservation & Development

Spring 2016

Time: T & Th 8:10 – 9:30 AM

3 credits, grade

Location: Native American Studies 202

### Instructor:

Stephen Siebert

Office hours: T & Th 11:30 - 1 PM

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### Course description:

A critical examination of conservation and development approaches and experiences with a focus on the tropics. We will explore contemporary conservation and development in the context of rapidly changing ecological, socioeconomic and political conditions with particular focus on: 1) the role and importance of historic natural and anthropogenic disturbances in creating and maintaining forest composition, structure and processes, 2) social and ecological implications associated with changes in or cessation of historic land uses, and 3) how understanding historic disturbances and their management may inform contemporary conservation and development efforts. This is a graduate-level course intended for students preparing for field assignments. Weekly topics will be explored through lectures on Tuesdays followed by discussions on Thursdays.

### Course requirements:

Attendance, informed participation, an in-class presentation with assigned readings and discussion, an annotated bibliography and a term paper (approximately 20 pp.) on a topic of particular interest.

### Grading (+/- grading will be used):

Seminar presentation & discussion (topic and abstract due February 25)	40 %
Annotated bibliography (due May 3)	10
Term paper (due May 3)	30
Attendance & participation	<u>20</u>
Total	100 %

Note: The due dates for the annotated bibliography and term paper can be extended in which case I will assign an "N" that is removed upon completion of work (up to 1 year).

### Readings:

Assigned readings should be completed before the week's lecture and discussion. In addition to the topics and readings noted in the syllabus, each of you will select and assign readings in conjunction with your seminar presentation.

### Required Text:

Davis, W. 2007. Light at the Edge of the World. Douglass & McIntyre, Vancouver.

## Syllabus

### Week 1: Jan 26 & 28 Introduction: The Co-evolved Ethno-Biosphere

#### Required readings:

- Balée, W. 2013. Cultural Forests of the Amazon: A Historical Ecology of People and their Landscapes. Univ. of Alabama Press, Tuscaloosa, AL. pp. 174-184.
- Davis, W. 2007. Light at the Edge of the World. Douglass & McIntyre, Vancouver. pp. 1-14 & 183-202.
- Willis, K.; L. Gillson, T. Brncic. 2004. How “virgin” is virgin rainforest. *Science* 304:402-403.

### Week 2: Feb 2 & 4 Tropical Biophysical Characteristics: Climate, Soils & Forests

#### Required Readings:

- Bruijnzeel, L.A. 2004. Hydrological functions of tropical forests: not seeing the soil for the trees? *Agriculture, Ecosystems and Environment* 104:185-228 (abstract & conclusion, skim remainder).
- Sanchez, P. 1976. Properties & Management of Soils in the Tropics. Wiley & Sons, NY (excerpts).
- Whitmore, T. 1998. An Introduction to Tropical Rain Forests. Oxford Univ. Press, NY. pp. 109-168.

### Week 3: Feb 9 & 11 Bioersivity & Ecological Disturbance

#### Required readings:

- Chazdon, R. 2014. Second Growth. Univ. of Chicago Press, Chicago. pp. 55-72.
- Codding, B. et al. 2014. Conservation or co-evolution? Intermediate levels of aboriginal burning and hunting have positive effects on kangaroo populations in Western Australia. *Human Ecology* 42:659-669.
- Mori, A. 2011. Ecosystem management based on natural disturbances: hierarchical context and non-equilibrium paradigm. *J. of Applied Ecology* 48:280-292.
- Siebert, S. and J. Belsky. 2014. Historic livelihoods and land uses as ecological disturbances and their role in enhancing biodiversity: An example from Bhutan. *Biological Conservation* 177:82-89.
- Xu, J., L. Lebel, J. Sturgeon. 2009. Functional links between biodiversity, livelihoods, and culture in a Hani swidden landscape in southwest China. *Ecology and Society* 14(2):20.

### Week 4: Feb 16 & 18 Historic Land Use Legacies & Implications for the Future

#### Required readings:

- Bush, M. et al. 2015. Anthropogenic influence on Amazonian forests in pre-history: An ecological perspective. *J. of Biogeography* 42:2277-2288.
- Chazdon, R. 2014. Second Growth. Univ. of Chicago Press, Chicago. pp. 12-54.
- Denevan, W. 2004. Semi-intensive pre-European cultivation and the origins of anthropogenic dark earth in Amazonia. In: Glaser, B and W. Woods (eds). Amazonian Dark Earths: Explorations in Space and Time. Springer, NY. pp. 135-143.
- Kerkhoff, E. and E. Sharma (eds). 2006. Debating Shifting Cultivation in the Eastern Himalayas. ICIMOD, Kathmandu, Nepal. pp. 3-12.
- Siebert, S. and J. Belsky. 2016. Building on historic swidden disturbances for biodiversity conservation and rural development. In: M. Cairns (ed.). Shifting Cultivation and Environmental Change: Vol II. Earthscan, London. (in press).

## **Week 5: Feb 23 & 25 Land Use Changes & Driving Forces**

### Required readings:

- Dove, M. 1993. A revisionist view of tropical deforestation and development. *Environmental Conservation* 20:17-24.
- FAO. 2015. Global Forest Assessment. FAO, Rome. pp. 3-5, 10 & 11.
- Fearnside, P. 2008. The roles and movements of actors in the deforestation of Brazilian Amazonia. *Ecology and Society* 13(1):23 (abstract & conclusion, skim remainder)
- Geist, H. and E. Lambin. 2002. Proximate causes and underlying driving forces of tropical deforestation. *BioScience* 52:143-150.
- Sturgeon, J. 2007. Border Landscapes: The Politics of Akha Land Use in China and Thailand. Univ. of Washington Press, Seattle. pp. 201-208.
- Tucker, R. 2000. Insatiable Appetite. Univ. of California Press, Berkeley. (pp. 1-11 & 380-388).

## **Week 6: March 1 & 3 Political Ecology in Conservation & Development**

### **Dr. Jill Belsky, Society & Conservation**

### Required readings:

- Benjaminsen, T.A. 2015. Political Ecologies of Environmental Degradation and Marginalization. In: Perreault, T., Bridge, G., and McCarthy, J. The Routledge Handbook of Political Ecology. N.Y., Routledge. Chap 27 (354-365).
- Robbins, P. 2012. Political Ecology: A Critical Introduction. Oxford: Blackwell Publishing. Chaps.1&3.**
- Wisner, B. 2015. Speaking truth to power: a personal account of activist political ecology. In: Perreault, T., Bridge, G., and McCarthy, J. The Routledge Handbook of Political Ecology. N.Y., Routledge. Chap 3 (53-63).

## **Week 7: March 8 & 10 Conservation & Protected Area Challenges & Debates**

### Required readings:

- Adams, W. and J. Hutton. 2007. People, parks and poverty: Political ecology and biodiversity conservation. *Conservation and Society* 5:147-183.
- Mace, G. 2014. Whose Conservation? *Science* 345:1558-60.
- Soule, M. 2013. The "New Conservation". *Conservation Biology* 27:895-97.
- Trails, H. and J. Lubchenco. 2014. A call for inclusive conservation. *Nature* 515:27-28.
- Tscharntke, T., et al. 2012. Global food security, biodiversity conservation and the future of agricultural intensification. *Biological Conservation* 151:53-59.

## **Week 8: March 15 & 17 TEKP & Communities in Conservation & Development**

### Required readings:

- Brookfield, H. 2007. Indigenous fallow management in perspective. In: Cairns, M. (ed). Voices From the Forest. Resources for the Future, Washington, D.C. pp. 8-15.
- Brown, J. and A. Kothari. 2011. Traditional agricultural landscapes and community conserved areas: an overview. *Management of Environmental Quality* 22:139-153.
- Critchley, W., C. Reij, T. Willcocks. 1994. Indigenous soil and water conservation: A review of the state of knowledge and prospects for building on traditions. *Land Degradation and Rehabilitation* 5:293-314.

- Ostrom, E. 2009. A general framework for analyzing sustainability of social-ecological systems. *Science* 325:419-422.
- Persha, J., A. Agrawal, A. Chhatre. 2011. Social and ecological synergy: local rulemaking, forest livelihoods and biodiversity conservation. *Science* 331:1606-1608.
- Porter-Bolland, L., et al. 2011. Community managed forest and forest protected areas: an assessment of their conservation effectiveness across the tropics. *Forest Ecology and Management* 268:6-17.
- Stocking, M. 1995. Soil erosion in developing countries: where geomorphology fears to tread! *Catena* 25:253-267.

### **Student-led Seminars, Assigned Readings & Discussions**

**Week 9: March 22 & 24                      Student-led Seminars, Assigned Readings & Discussions**

**Week 10: March 29 & 31                      Student-led Seminars, Assigned Readings & Discussions**

**Spring Break**

**Week 11: April 12 & 14                      Student-led Seminars, Assigned Readings & Discussions**

**Week 12: April 19 & 21                      Student-led Seminars, Assigned Readings & Discussions**

**Week 13: April 26 & 28                      Student-led Seminars, Assigned Readings & Discussions**

**Week 14: May 3 & 5                          Concluding Discussion**

#### Required readings:

Davis, W. 2007. Light at the Edge of the World. Douglass & McIntyre, Vancouver. pp. 15-182.

Wallace, A.R. 1869. The Malay Archipelago. Oxford Univ. Press, Oxford (reprint). pp. 596-598.

### Useful Web Sources:

- [Bioversity International](#)
- [Center for International Forestry Research](#)
- [Food and Agriculture Organization of the UN](#)
- [International Centre for Integrated Mountain Development](#)
- ITTO (International Tropical Timber Organization)
- [World Agroforestry Center](#)
- [Forests News: Fire & Haze - El Nino fires in Indonesia](#)

### Additional Readings (people, place, issue or plant-specific texts):

- Balée, W. 2013. Cultural Forests of the Amazon: A Historical Ecology of People and their Landscapes. Univ. of Alabama Press, Tuscaloosa, AL. (compilation of papers re. indigenous use and management of Amazonia).
- Brondizio, E. 2008. The Amazonia Caboclo and the Açai Palm: Forest Farmers in the Global Market. Advances in Economic Botany, Vol 16. NY Botanical Garden Press, NY (history of human-environment & global-local market interactions on Marajó Island at the mouth of the Amazon).
- Cairns, M. (ed). 2015. Shifting Cultivation and Environmental Change: Indigenous People, Agriculture and Forest Conservation. Routledge, London (over 50 papers re. the history, change & future of swidden).
- Cairns, M. (ed). 2007. Voices from the Forest: Integrating Indigenous Knowledge in Sustainable Upland Farming. Resources for the Future, Washington, D.C. (the value of indigenous knowledge in contemporary development and conservation).
- Chazdon, R. 2014. Second Growth. Univ. of Chicago Press, Chicago. (an excellent summary and synthesis of opportunities to facilitate and manage secondary forest succession in the tropics).
- Easterly, W. 2006. The White Man's Burden: Why the West's Efforts To Aid the Rest Have Done So Much Ill and So Little Good. Penguin Press, N.Y. (essential reading for all do-gooders by a former World Bank economist).
- Li, T. 2007. The Will to Improve: Governmentality, Development and the Practice of Politics. Duke Univ. Press, Durham, NC. (conservation conflicts in Lore Lindu N.P., Indonesia – local to global).
- Mann, C. 2005. 1491: New Revelations of the Americas Before Columbus. Alfred Knopf, NY. (engaging documentation of pre-contact New World social and ecological conditions).
- Mann, C. 2011. 1493: Uncovering the New World Columbus Created. Alfred Knopf, NY. (engrossing account of social, economic, political and ecological effects resulting from global mixing of people, plants and animals).
- Siebert, S. 2012. The Nature and Culture of Rattan: Reflections on Vanishing Life in the Forests of Southeast Asia. Univ. of Hawaii Press, Honolulu. (the ecology, use & management the world's most important non-timber forest product).
- Sturgeon, J. 2007. Border Landscapes: The Politics of Akha Land Use in China and Thailand. Univ. of Washington Press, Seattle (differences in indigenous land use due to government policies).
- Viva, B. et al. 2015. Forests and Food: Addressing Hunger and Nutrition Across Sustainable Landscapes. Open Book Publ., Cambridge, UK. Online: [Forests and Food: Addressing Hunger and Nutrition Across Sustainable Landscapes](#) (current FAO institutional perspectives).