



Department of Anthropology
Anthropology 2264F-001
Issues in Primate Conservation
Course Outline
Fall 2015

Class Time: Wed 9:30 AM -- 12:20 PM

Location: SSC 2257

Instructor: Dr. Ian Colquhoun

Office: SSC 3428

Office Hours: Wed. 1:00-3:00 PM

(or by appointment)

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Course Description:

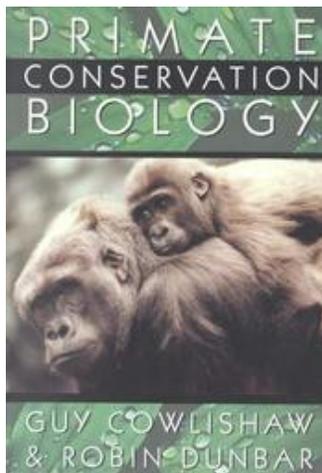
As we move into the second decade of the 21st century, we find that not only do we know more about nonhuman primate behaviour and ecology than at any point in history, but also that conservation concerns surround more and more primate taxa than ever before (with no sign of this latter trend abating). Indeed, primatology has been called an “endangered science”. Since 2000, Conservation International, together with the International Primatological Society and the IUCN/SSC Primate Specialist Group, have collaborated in issuing a biennial list of the *World's 25 Most Endangered Primates* (2000-02, 2002-04, 2004-06, 2006-08, 2008-10, 2010-12, and 2012-14). The "Top 25" is not an "official" listing (like the IUCN/SSC Red Data List – what generally gets referred to in the media as the “Endangered Species List”), but has instead served as a media tool to raise public awareness about where conservation action is most needed. In this course, the Top 25 Most Endangered Primates will serve as a backdrop to our consideration of the spectrum of conservation issues confronting primatologists today. Topics to be examined will include: the conservation assessment process (how do we determine that a species/sub-species is endangered?); major variables for understanding the conservation biology of nonhuman primate populations (what is going on?); strategies and tactics in primate conservation (what will work where?); biogeographic patterns in, and perspectives on, factors contributing to the decline of nonhuman primate populations (what is going on in Madagascar, Africa, Asia, and the Neotropics?); and, how ethnoprimateology -- the study of the interactions between humans and nonhuman primate populations -- can be a useful tool in primate conservation.

Course Pre-requisite: Any Arts and Humanities or Social Science 0.5 or 1.0 Essay course, or permission of the instructor.

Learning Outcomes: Upon successful completion of this course, students will be able to:

- navigate the conservation literature relating to nonhuman primate species, appreciate the incredible biodiversity represented by the members of the Order Primates, and understand the range of conservation threats to that biodiversity;
- exhibit familiarity with the ecological processes involved in habitat disturbance and fragmentation, and population responses to those pressures;
- be aware of the ongoing efforts to monitor the conservation statuses of primate populations and species, be able to communicate conservation strategies and tactics, and appreciate the increasing importance of involving local communities in conservation efforts;
- recognize how different primate species in different “primate habitat” countries face different conservation pressures (and may respond to those pressures differently).

Required Text: The required text is:



Cowlishaw, G. and Dunbar, R.I.M.,

2000 *Primate Conservation Biology*. Chicago: Chicago University Press;
(Note: this text has also been placed on 2-Hour Reserve at the Allyn & Betty Taylor Library).

Course Requirements: Student evaluation in this course includes:

- a mid-term examination (**25%** of final grade),
- a **Conservation Action Plan** (CAP) for a threatened or endangered primate species of your choice* (30% of final grade; see details below)
- one short **written assignment**** (worth **10%** of final grade; **see details below),
- a final exam (**35%** of final grade)

* Conservation Action Plan (CAP): The Top 25 Endangered Primates 2008-2010 (www.primatesg.org/T25full07.htm) is a good place to start for this assignment, but do not feel you are limited to this list of critically endangered primates. In several cases (e.g., the Siau Island tarsier), virtually no information on this species is to be found in the peer-reviewed primatological literature, which would clearly not make this species a good candidate for a literature-based CAP. By the same

token, there are **many** primate species that are of conservation concern but that are **not** currently on the “Top 25” list – there is a rich primatological literature that presents key ecological and conservation biology information on numerous primate species of conservation concern. Western subscribes to the four main primatological journals, all of which are available electronically (www.lib.uwo.ca):

American Journal of Primatology,
Folia Primatologica (although, there is a 1 year lag in full-text access to articles),
International Journal of Primatology,
Primates.

Additionally, primatological material is regularly published in numerous other academic journals (e.g.: *Conservation Biology*, *Biological Conservation*, *American Journal of Physical Anthropology*, *Oryx*, *Evolutionary Anthropology*, *Behavioral Ecology and Sociobiology*, *Behaviour*, to name just a few!). In other words, if you choose a species for which there are field data, there should be no excuse for not being able access relevant material – Western is, primatologically-speaking, very well-supported!

There are also some online sources that you will likely find very useful in identifying a primate species that will be the focus of your CAP. Above, reference has already been made to the website of the IUCN/SSC Primate Specialist Group (i.e., www.primate-sg.org) – this site has a wealth of information in addition to the Top 25 Endangered Primates list.

The **IUCN Red List of Threatened Species** is a key database (www.iucnredlist.org/) – this is the data set that regularly gets referred to in the popular media as the “endangered species list”.

Another online source with an abundance of information is:
<http://alltheworldsprimates.org/Home.aspx>

Western has a subscription to this “online living database” (over 300 primatologists, including myself, have created species summaries of the biology, behaviour, ecology, and conservation of all 612 recognized primate taxa that are extant). You can access the *All the World's Primates* database from the Western Libraries web portal (<http://www.lib.uwo.ca/>) -- just do a “Title” search in the Catalogue for *All the World's Primates* to link to the database and sign-in with your Western user name and password as you would for email (note -- if using the the Library Catalogue from off-campus, be sure to use the “Off-Campus Access” sign-in).

Once you have selected a threatened or endangered primate species on which to focus, your **Conservation Action Plan (CAP)** should include:

i) an **Overview** section in which you summarize the current conservation status of your chosen species based on the most recent field data you can find. This section should identify what the major threat(s) is/are to the populations of “your” species in the field. For example, is your species of interest well represented in protected areas (e.g., national parks, forest reserves)? Does the species also occur **outside** areas that are currently designated as “officially protected”? If so, what appears to be the status of such populations in unprotected habitat? What appear to be the impacts of habitat fragmentation, deforestation, bush-meat trade, etc. (i.e., which of these is the most serious threat, or are they all threats)?

ii) a **Description** section in which you identify the focus of your proposed CAP – is it targeted at a key protected area (e.g., a particular national park or forest reserve that is a major stronghold for

your species of concern)? Or, is the CAP intended to be the basis of a regional plan? Does the CAP encompass habitat that is under the control of different nation states – if so, how do political considerations affect the CAP? Overall, what sort of considerations are necessary to make a CAP work?

iii) a section in which you make **Recommendations** for the future: What are the prospects for habitat preservation? Can on-the-ground work maintain habitat corridors between larger blocks of forest? Is ecotourism a viable undertaking for future conservation? What are the prospects that your species-of-interest will persist for the next 10 years? 100 years? 1000 years?

**** Short Written assignment:** This written assignment is to be a summary **and discussion** of an article dealing with primate conservation published since 2005 in a **peer-reviewed academic journal**. **Articles that are part of the course reading list are not available to be the subject of a written assignment** – be sure you check the course reading list when you are selecting papers to review and comment upon!

This is to be a **short** written assignment, totalling no more than 4-5 pages. Be sure **not** to simply summarize at length the content of your chosen article; you need to also **discuss the importance of the information presented in the article in regards to primate conservation efforts** (e.g., if there is new information concerning total population estimates, an extension of the known geographic distribution of a particular primate species, or new data about hunting pressure on a given species, **what** does this new information mean for future conservation efforts involving the species which is the subject of the paper on which you are reporting?). You should devote about half of the page space you use in the assignment to **discussing** the conservation implications of the material in the article.

You are free to select a paper dealing with **any** threatened or endangered primate species. That is, you could select a paper that: deals with a strepsirrhine primate species (i.e., lorises, galagos, lemurs), deals with a tarsieriform species (i.e., one of the tarsier species), deals with a monkey species (i.e., a paper dealing with **either New World or Old World** monkey conservation), or, deals with the conservation of hominoid species (i.e., apes: the chimpanzee, bonobo, gorillas, orangutans, gibbons, or siamang).

Note -- in order to effectively discuss the material in the article you choose, you will need to do some amount of additional research so that you can place your chosen article in a larger comparative context of relevant research. **However**, this assignment is **not** a research paper; reference to additional publications could be limited to just a handful of sources (which might, for example, simply come from the reference list of your chosen article). Of course, any material you cite will have to be fully sourced in a list of “References Cited” at the end of your paper (which would not count against the 4-5 page limit of the assignment – that is, you could submit an assignment that has five pages of text **plus** a page and a half-page long reference list; such a paper would not be considered “too long”).

Written Assignments – Additional Notes:

Be sure to use **APA reference citation style** – this is the reference citation style used in our text (and in most of the assigned readings). **DO NOT USE THE MLA STYLE OF REFERENCE CITATION**. **Do not cite references with the use of either footnotes or endnotes**. Failure to use the proper referencing format will **negatively affect** the mark you receive on the research paper assignment. – **you have been warned!** If you are unsure about how to proceed, be sure to

ask us for clarification!

Extensions are generally **not** granted. The deadlines for the short written assignment and the Conservation Action Plan assignment are the deadlines, **period**. The only possible exceptions would be either in the event of personal illness (a doctor's note is required as verification), or a family emergency (i.e., "compassionate grounds" for academic accommodation). If other extenuating circumstances crop up and prevent you from meeting the paper deadline, arrange to speak with your Faculty's Academic Counselling Office -- preferably **before** the deadline.

An assignment submitted after a deadline will be subject to a late penalty of **5% per class** -- e.g., The Conservation Action Plan assignment is worth 30% of your final grade and will be marked out of 30. Thus, an assignment handed in two classes late would receive a mark out of 20; in such a case, the forfeited marks could amount to a difference in the letter grade the student is ultimately awarded for this course (e.g., dropping from a B to a C). **So**, the best strategy is simply **not** to submit any assigned work after the deadline dates!

Statement on Accessibility at Western:

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you.

Western's commitment to Accessibility, visit:

<http://wss.uwo.ca/Student%20Services%20Organizational%20Units/Accessibility%20at%20Western/index.html>

Student Development Services <http://www.sdc.uwo.ca/ssd/> has staff members who specialize in assisting students with various disabilities to adjust to the university environment. These disabilities include, but are not limited to, vision, hearing and mobility impairments, learning disabilities, chronic illnesses, chronic pain, and attention deficit/hyperactivity disorders. Students who require special accommodations for disabilities should make a formal request through Student Development Services as early in the semester as possible.

Statement on Plagiarism and Scholastic Offences:

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offense.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement currently in place between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Evidence of suspected plagiarism will be reported to the Department Chair, who will give the student an opportunity to respond to the allegation. Where a determination of plagiarism has been made, the Chair shall assess appropriate penalties up to and including a zero on the assignment and failure in the course. The case will be reported to the Dean, who may assess additional penalties.

Western Medical Accommodation Policy (Medical Notes):

In May, 2008, The University of Western Ontario's Senate approved a new medical note policy, which affects all students. The following is an outline of that policy. For more detailed information and forms, please visit <https://studentservices.uwo.ca/secure/index.cfm> , and for further policy information please visit http://www.uwo.ca/univsec/handbook/appeals/accommodation_medical.pdf

Documentation from Family Physicians and Walk-In Clinics:

A Western **Student Medical Certificate (SMC)*** is required where a student is seeking academic accommodation. This documentation should be obtained at the time of the initial consultation with the physician or walk-in clinic. An **SMC*** can be downloaded under the Medical Documentation heading of the following website: <https://studentservices.uwo.ca/secure/index.cfm> . Hard copies are available from the student's home Faculty Academic Counselling Service.

Documentation from Student Health Services:

Students obtaining documentation from Student Health Services should sign a “**release of information.**” This form authorizes Student Health Services to provide information to the student's home Faculty. Release of information forms are available from, and can be arranged through, the student's home Faculty Academic Counselling Office.

Documentation from Hospital Urgent Care Centres or Emergency Departments:

Students should request that an **SMC*** be filled out. Students may bring this form with them, or request alternative Emergency Department documentation. Documentation should be secured at the time of the initial visit to the Emergency Department. Where it is not possible for a student to have an **SMC*** completed by the attending physician, the student must request documentation sufficient to demonstrate that his/her ability to meet his/her academic responsibilities was seriously affected.

*To print or see an example of the **Western Student Medical Certificate (SMC)** please visit <https://studentservices.uwo.ca/secure/index.cfm> and click on '**Student Medical Certificate.pdf**'.

SUPPORT SERVICES

Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

Additional Statements:

Statement on Use of Electronic Devices: Students are requested to switch off cell phones while in lecture. Students are not permitted access to cell phones during the mid-term and final exams. There will be no need for the use of calculators during either the mid-term or final exam. Electronic dictionaries, PDAs, smart phones, etc., are not permitted during the mid-term or final exams. Students may use laptop computers to take notes during lecture, but only if this laptop usage is not a distraction to other students in the class -- use of a laptop by a student for purposes other than those directly related to the course (e.g., watching YouTube; exchanging messages over MSN; etc.) would be grounds for disallowing further use of the laptop in class by the student.

Statement on Use of Personal Response Systems ("Clickers"): "Clickers" will not be used in this course.

The above Statements are based on material that is available at:

http://www.uwo.ca/univsec/handbook/exam/courseoutlines_undergrad.pdf

Course Outline (tentative):

Note – readings that are supplemental to the text have been chosen so that they are available electronically; they will be posted to the course OWL site, but they are also available through the UWO Libraries web portal (www.lib.uwo.ca) – just do a journal search in the Library Catalogue and follow the links. Where material is not available through the UWO Libraries web portal, urls to electronic copies of the material are provided.

Part 1 -- Starting Points:

- Sept. 16: Introduction: Primate Diversity, Primate Extinction Risk -- An Overview of the Cast of Characters
Readings: C & D., ch. 1 & 2;
Lovett and Marshall, 2006. "Why should we conserve primates?" *African Journal of Ecology* **44**(2): 113-115;
Mittermeier et al. (eds.). 2012. *Primates in Peril: The World's 25 Most Endangered Primates 2012–2014*. IUCN/SSC Primate Specialist Group (PSG), International Primatological Society (IPS), Conservation International (CI), and Bristol Conservation and Science Foundation, Bristol, UK. (available at:
http://www.primate-sg.org/storage/pdf/Primates-in-Peril_2012-2014.pdf).
- Sept. 23: Gauging the Conservation Statuses of Primate Populations – Concepts, Criteria, and Problems of Assessment
Readings:
Mace & Lande, 1991. "Assessing Extinction Threats: Toward a Reevaluation of IUCN Threatened Species Categories". *Conservation Biology* **5**(2): 148-157

- (available at: [www.life.illinois.edu/ib/451/Mace%20\(1991\).pdf](http://www.life.illinois.edu/ib/451/Mace%20(1991).pdf));
- Lacy, 1994. "What is Population (and Habitat) Viability Analysis?". *Primate Conservation* **14-15**: 27-33 (this issue of *Primate Conservation* is available at: <http://www.primatesg.org/pc.htm>);
- Harcourt, 1995, Population Viability Estimates: Theory and Practice for a Wild Gorilla Population. *Conservation Biology* **9**(1): 134-145;
- Harcourt, 2002. "Empirical Estimates of Minimum Viable Population Sizes for Primates: Tens to Tens of Thousands?". *Animal Conservation* **5**(3): 237-244;
- Harcourt & Parks, 2003. "Threatened Primates Experience High Human Densities: Adding an Index of Threat to the IUCN Red List Criteria". *Biological Conservation* **109**(1): 137-149.;
- Oates, 2006. "Is the chimpanzee, *Pan troglodytes*, an endangered species? It depends on what "endangered" means". *Primates* **47**(1): 102-112;
- Roberts, 2006. "Extinct or Possibly Extinct?". *Science* **312**: 997-998.

Part 2 -- Understanding Primate Ecology to Understand Primate Conservation:

- Sept. 30: Behavioural and Community Ecology
Readings: C & D., ch. 3 & 4;
- Oct. 7: Distribution, Abundance, Rarity and Population Biology
Readings: C & D., ch. 5 & 6
- Oct. 14: Habitat Disturbance, Extinction Processes and Hunting
Readings: C & D., ch. 7, 8 & 9.
- Oct. 21: Conservation Strategies, Conservation Tactics and Prospects
Readings: C & D., ch. 10, 11 & 12.
- Oct. 28: ***Mid-term exam (20% of final grade).**

Part 3 -- Primate Conservation - Practical Matters and Challenges:

- *Nov. 4: *** Short written assignment (article review & commentary) due.**
Biogeographic Patterns: I – Case studies from Madagascar;
Readings:
Ganzhorn et al., 2001. "The biodiversity of Madagascar: one of the world's hottest hotspots on its way out". *Oryx* **35**(4): 346-348;
Lehman et al., 2006. "Decline of *Propithecus diadema edwardsi* and *Varecia variegata* (Primates: Lemuridae) in south-east Madagascar". *Oryx* **40**(1): 108-111;
Banks et al., 2007. "Global population size of a critically endangered lemur, Perrier's sifaka". *Animal Conservation* **10**: 254-262;
King et al., 2013. "Saving the Critically Endangered greater bamboo lemur

Prolemur simus". *Wild Conservation* **1**: 17-24 (pdf available at: <http://www.aspinallfoundation.org/sites/default/files/web/TAF/Wild%20Conserv%202013%201%203%20Prolemur%20simus%20conservation%20project.pdf>).

Quemere et al., 2010. "Landscape genetics of an endangered lemur (*Propithecus tattersalli*) within its entire fragmented range". *Molecular Ecology* **19**(8); 1606-1621 (pdf available at: <http://arca.igc.gulbenkian.pt/handle/10400.7/206>).

Video: *Madagascar, Lemurs, and Spies*. (? To be determined).

- Nov. 11: Biogeographic Patterns: II – Case studies from Africa;
Readings:
- Whitfield, 2003. "Ape Populations Decimated by Hunting and Ebola Virus". *Nature* **422**: 551
- Walsh et al., 2003. "Catastrophic Ape Decline in Western Equatorial Africa". *Nature* **422**: 611-614.
- Mbora & Meikel, 2004. "The value of unprotected habitat in conserving the critically endangered Tana River red colobus (*Procolobus rufomitratis*)". *Biological Conservation* **120**: 91-99;
- McGraw, 2005. "Update on the Search for Miss Waldron's Red Colobus Monkey". *International Journal of Primatology* **26**(3): 605-619;
- Galat & Galat-Luong, 2006. "Hope for the survival of the Critically Endangered white-naped mangabey *Cercocebus atys lunatus*: a new primate species for Burkina Faso". *Oryx* **40**(3): 355-357;
- McNeilage et al., 2006. "Census of the mountain gorilla *Gorilla beringei beringei* population in Bwindi Impenetrable National Park, Uganda". *Oryx* **40**(4): 419-427;
- Sandbrook & Semple, 2006. "The rules and the reality of mountain gorilla *Gorilla beringei beringei* tracking: how close do tourists get?" *Oryx* **40**(4): 428-433;
- Vogel, 2006. "Tracking Ebola's deadly march among wild apes". *Science* **314**: 1522-1523;
- Bermejo et al., 2006. "Ebola outbreak killed 5000 gorillas". *Science* **314**: 1564;
- Hopkin, 2007. "Gorillas on the list". *Nature* **449**: 127;
- Waters et al., 2007. "Holding on in the Djebela: Barbary macaque *Macaca sylvanus* in northern Morocco". *Oryx* **41**(1): 106-108.
- Davenport et al., 2008. "The critically endangered kipunji *Rungwecebus kipunji* of southern Tanzania: first census and conservation assessment. *Oryx* **42**(3): 352-359.
- Beck and Chapman, 2008. "A population estimate of the Endangered chimpanzee *Pan troglodytes vellerosus* in a Nigerian montane forest: implications for conservation". *Oryx* **42**(3): 448-451.
- Pittman, J.M., 2012. West African Primate Conservation Action (WAPCA) -- 2012 Annual Report; pdf available at: http://www.wapca.org/2012_annual_report.pdf

- Nov. 18: Biogeographic Patterns: III – Case studies from Asia;
Readings:
- Imam et al., 2002. “A successful mass translocation of commensal rhesus monkeys *Macaca mulatta* in Vrindaban, India”. *Oryx* **36**(1): 87-93;
- Lammertink et al., 2003. “Population size, Red list status and conservation of the Natuna leaf monkey *Presbytis natunae* endemic to the island of Bunguran, Indonesia”. *Oryx* **37**(4): 472-479;
- Curran et al., 2004. "Lowland Forest Loss in Protected Areas of Indonesian Borneo". *Science* **303**: 1000-1003;
- Nijman, 2005. “Decline of the endemic Hose’s langur *Presbytis hosei* in Kayan Mentarang National Park, East Borneo”. *Oryx* **39**(2): 223-226;
- Zhou et al., 2005. “Hainan Black-crested Gibbon Is Headed For Extinction”. *International Journal of Primatology* **26**(2): 453-465;
- Li et al., 2007. “Dramatic decline of Francois’ langur *Trachypithecus francoisi* in Guangxi Province, China”. *Oryx* **41**(1): 38-43.
- Wich et al., 2008. “Distribution and conservation status of the orang-utan (*Pongo* spp.) on Borneo and Sumatra: how many remain?”. *Oryx* **42**(3): 329-339;
- Grueter et al. 2009. “Are *Hylobates lar* extirpated from China?” *International Journal of Primatology* **30**(4): 553-567.
- Singh et al. 2009. “The Lion-tailed Macaque *Macaca silenus* (Primates: Cercopithecidae): conservation history and status of a flagship species of the tropical rainforests of the Western Ghats, India. *Journal of Threatened Taxa* **1**(3): 151-157. (The *Journal of Threatened Taxa*, JoTT, is an open access publication, available at: www.threatenedtaxa.org).
- Rawson, B.M. et al., 2011. “The Conservation Status of Gibbons in Vietnam”; pp. 6-18 (Chapter 2) in: *The Conservation Status of Gibbons in Vietnam*, Fauna & Flora International/Conservation International, Hanoi, Vietnam. (pdf of the full report is available at: <http://www.conservation.org/publications/Pages/The-Conservation-Status-of-Gibbons-in-Vietnam-2011.aspx>).
- Yang et al. 2012. “Population genetic structure of Ghizou snub-nosed monkeys (*Rhinopithecus brelichi*) as inferred from mitochondrial control region sequences, and comparison with *R. roxellana* and *R. bieti*”. *American Journal of Physical Anthropology* **147**(1): 1-10.
- Horwich, R. et al., 2013. Conservation and current status of the golden langur in Assam, India with reference to Bhutan. *Primate Conservation* **27**: 1-7. pdf available at: http://www.primatesg.org/primates_conservation/ , and <http://www.communityconservation.org/publications.htm#CommunityConservation>

- *Nov. 25: ***Conservation Action Plan (CAP) assignment due;**
Biogeographic Patterns: IV – Case studies from the Neotropics;
readings:
Gonzalez-Kirchner & de la Maza, 1998. “Primates Hunting by Guaymí Amerindians in Costa Rica”. *Human Evolution* **13**(1): 15-19;

- de Melo et al., 2005. "The Near Extinction of a Population of Northern Muriquís (*Brachyteles hypoxanthus*) in Minas Gerais, Brazil". *Neotropical Primates* **13**(1): 10-14 (note—this journal article is also available through the IUCN/SSP Primate Specialist Group website: www.primatologist.org; link to the "Publications" page);
- de Thoisy et al., 2005. "Hunting in northern French Guiana and its impact on primate communities". *Oryx* **39**(2): 149-157;
- Asner et al., 2006. "Condition and Fate of Logged Forests in the Brazilian Amazon". *Proceedings of the National Academy of Sciences* **103**(34): 12947-12950;
- Strier et al., 2006. "Human Dimensions of Northern Muriqui Conservation Efforts". *Ecological and Environmental Anthropology* **2**(2): 44-53 (note – this is an open-access journal, freely available via the Internet; simply go to <http://eea.anthro.uga.edu/index.php/eea/index> and link to "Archives");
- Oliveira et al., 2011. Abundance of jackfruit (*Artocarpus heterophyllus*) affects group characteristics and use of space by golden-headed lion tamarins (*Leontopithecus chrysomelas*) in *cabruca* agroforest. *Environmental Management* **48**(2): 248-262.
- Neotropical Primate Conservation: <http://www.neoprimate.org/index.php/en/> -- see the vol. 24, July 2013 Newsletter: <http://www.neoprimate.org/Newsletters/NPC-Newsletter%2024.pdf>
- Fearnside, P.M., 2015. Deforestation Soars in the Amazon. *Nature* **521**: 423.

Part 4 -- Primate Conservation - The Future?

Dec. 6: Where Do We Go From Here?

Readings:

- Harcourt, 2000. "Conservation in Practice". *Evolutionary Anthropology* **9**(6): 258-265;
- Chapman & Peres, 2001. "Primate Conservation in the New Millennium: The Role of Scientists". *Evolutionary Anthropology* **10**(1): 16-33;
- Cardillo et al., 2006. "Latent Extinction Risk and the Future Battlegrounds of Mammal Conservation". *Proceedings of the National Academy of Sciences* **103**(11): 4157-4161;
- Diaz et al., 2006. "Biodiversity Loss Threatens Human Well-Being". *PLoS Biology* **4**(8):1300-1305 (note – PLoS, Public Library of Science, provides open-access publications via the Internet; go to www.plos.org, link to PLoS Biology from the journals list on the right side of the PLoS homepage; on the PLoS Biology homepage, under "Browse Articles" go to "Journal Archive");
- Loreau et al., 2006. "Diversity Without Representation". *Nature* **442**: 245- 246.
- Horwich and Lyon, 2007. "Community conservation: practitioners' answer to critics". *Oryx* **41**(3): 376-385.
- Russo, 2009. "Biodiversity's bright spot". *Nature* **462**: 266-269.
- Smith et al., 2009. "Let the locals lead". *Nature* **462**: 280-281.

Ferreira da Silva, M. J. et al., 2012. Using Genetics as a Tool in Primate Conservation. *Nature Education Knowledge* **3**(10):89.
(Page available at:

<http://www.nature.com/scitable/knowledge/library/using-genetics-as-a-tool-in-primate-59120330>)

Dec. 9: Review.