Avian Ecology and Conservation
WIS 4934 (Section 1397): Fall Semester, 2016
NZH 112

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Lecture/Discussion:
Tuesday, Periods 7 (1:55-2:45)
Thursday, Periods 7-8 (1:55-3:50)

Course Goals and Objectives:
This course will focus on current issues in ecology and conservation of birds, in both temperate and tropical regions. We will consider human impacts on avian populations as well as basic ecological questions. Reading will be drawn from current literature, with class discussions of those readings forming a major part of the course. Major topic areas will include: effects of climate change (e.g., phenological shifts in migration and breeding; effects of El Niño-Southern Oscillation), migrants (e.g., population trends of Neotropical migrants; altitudinal migration), population dynamics (e.g., predation; disease; survival rates), effects of habitat alteration (e.g., fragmentation; fire; logging), and species interactions (e.g., frugivory and seed dispersal; communication). In addition, guest lectures from other UF faculty and students, personnel from Florida Wildlife Commission, and the USGS Coop Unit will provide perspectives on issues that more directly affect Florida wildlife.

Course Materials:
Readings from the primary literature will be posted on the class website.

Grading:
The grades for this course are based on the following:
Class participation (including attendance and discussion) - 200 pts
Presentation - 100 pts (outline & reference list: 15 pts; draft: 35 pts; presentation: 50 pts)
Total possible score: 300

Final grades will be assigned on the following scale:
A = ≥93%, **A-** = 92-90%, **B+** = 89-87%**, B** = 86-83%**, B-** = 82-80%, **C+** = 79-77%, **C** = 76-73%, C- = 72-70, **D+** = 69-67%, **D** = 66-63%**, D-** = 62-60%, **E** = 59% and below.

Grading Policy:
Information on the UF grading policy for assigning grade points can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Attendance and Discussions:
A large component of the course will involve participation in class (questions, comments) and in discussions. Thus, attendance is expected at all classes unless there is a really good excuse. Similarly, everyone is expected to be prepared to discuss the assigned readings. Thus, everyone should come with at least one or two questions (prepared in advance) about the paper or related topic. I may randomly pick someone to lead the discussion, so everyone should have done the readings!

Presentation:
Everyone will give a 15-20 min presentation (e.g., in power-point) on a topic in avian ecology (topics to be determined). The presentation will be followed by time for questions from other students. The choice of topic is up to you but I would be happy to suggest possibilities; the topic should be decided by 27 September - an email giving the topic will be fine. Grading will be based on: a) topic outline and list of references (**15 pts; due 18 October**); b) draft of the presentation (**35 pts; due 15 November**); and c) the presentation itself (content, delivery, and response to questions) (**50 pts**). The outline should basically provide a description of the main points that you plan to talk about; this can be a list of points, a regular outline, or an abstract. The list of references should follow the format of the list of readings at the end of this syllabus. I expect to see at least 15 references in the list; acceptable references are those from peer-reviewed journals, not websites; websites can be listed as additional sources of information. The draft should be a powerpoint presentation or a pdf version of one; it does not have to be complete with all pictures, etc., but should demonstrate the sequence of topics and points that you will make. The more complete it is, the more comments I might be able to make. The presentation should start with an introduction to the topic (give some background about why it is interesting and important), proceed to the main points (here you would discuss what is known about the topic), and conclude with consideration of what more should be done (what do we still need to learn about).

Technology Issues:
It is your responsibility to have the latest software on your computer and to troubleshoot any problems you have accessing and using the course websites. If you are having any technology related issue contact UF tech support at 352-392-4357. At no time is it acceptable to send text messages or to use internet accessible devices in the class room unless specifically authorized. If you do text or use an electronic device without permission you will be asked to leave the classroom.

Attendance and Behavior:
Attendance at all sessions is required. Please arrive on time as a courtesy to your colleagues (and please turn off your cell phones!). Students are required to be professional in all facets of this course. Disruptive or rude behavior will not be tolerated. Instructors and TAs reserve the right to remove anyone from the class if they do not conduct themselves in a professional manner. We consider texting, talking while others are speaking, surfing the web on handheld devices, mocking other students, and inappropriate comments all grounds for dismissal from class.

Accommodation for Students with Disabilities:
The Disability Resource Center in the Dean of Students Office provides students and faculty with information and support regarding accommodations for students with disabilities in the classroom. For more information, see: http://www.dso.ufl.edu/drc/ Students Requesting

classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation. If you have a disability and need special facilities or time for taking tests, please register with the Disability Resource Center (DRC). *We will gladly follow any recommendation the DRC makes if it will help you do well in class*.

Campus Helping Resources:
Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu/cwc/**
  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Wellness Coaching

- *Career Resource Center,* First Floor JWRU, 392-1601, **www.crc.ufl.edu/**

U Matter, We Care Information for Course Syllabi:
Student Senate Resolution 2015-138 recommends the following message to be included in all University of Florida course syllabi:
Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.
Submitted by the Office of the Provost

Academic Honesty:
As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment*."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

University of Florida Complaints Policy:
The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy. A student who is unsure as to the official responsible for handling his or her particular complaint may contact the Ombuds office or the Dean of Students Office. For complaints that are not satisfactorily resolved at the department level or which seem to be broader than one department, students are encouraged to submit those complaints to one of the following locations:

Ombuds: http://www.ombuds.ufl.edu/
31 Tigert Hall, 352-392-1308
The purpose of the Ombuds office is to assist students in resolving problems and conflicts that arise in the course of interacting with the University of Florida. By considering problems in an unbiased way, the Ombuds works to achieve a fair resolution and works to protect the rights of all parties involved.

Dean of Students Office: http://www.dso.ufl.edu/
202 Peabody Hall, 352-392-1261
The Dean of Students Office works with students, faculty, and families to address a broad range of complaints either through directly assisting the student involved to resolve the issue, working with the student to contact the appropriate personnel, or referring the student to resources or offices that can directly address the issue. Follow up is provided to the student until the situation is resolved.

Additionally, the University of Florida regulations provide a procedure for filing a formal grievance in Regulation 4.012: http://regulations.ufl.edu/regulations/uf-4-student-affairs/

Software Use:
All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Online Course Evaluation Process:
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results.

TENTATIVE SCHEDULE – this will change as the semester proceeds.
Readings in **bold** are assigned; other readings are background.

Date	Topic	Readings
23 Aug	Introduction, bird families	Whelan et al. 2015
25 Aug	Current research Climate change - historical	Blake 2007
30 Aug	Climate change – current patterns	Sekercioglu et al. 2012, **El Nino articles**
1 Sept	Climate change – effects Discussion of papers	**Forero-Medina et al. 2011** **Sillett et al. 2000**
6 Sept	Migration	**Faaborg et al. 2013**
8 Sept	Migration **Discussion**	**Jahn et al. 2010, Boyle 2008** **Gilroy et al. 2016**
13 Sept	Birds of the World - I	
15 Sept	Guest lecture – Erin Ragheb (FWC)	**Pranty and Tucker 2006,** **Shriver et al. 1996** **Lindenmayer et al. 2013** **McCleery et al. 2014**
20 Sept	Pollination	
22 Sept	Guest lecture – Noah Burrell (WEC)	**Frederick & Ogden 2001**, **Frederick et al. 1996,** Frederick et al 1996
27 Sept	Guest lecture – Andrew Cox (FWC) **Topic for presentation due**	**Soule 2013, Kareiva & Marvier 2012**
29 Sept	Frugivory and seed dispersal Discussion	**Holbrook & Loiselle 2009**, **Schupp 1993** Loiselle et al. 2007
4 Oct	Birds of the World II	
6 Oct	Guest lecture - Harry Jones (WEC)	**Mimmides et al. 2015**, Mokross et al. 2014
11 Oct	Guest lecture – Karl Miller (FWC)	**Florida Scrub Jay pp. 262-265, 270-277** **Stith et al 1996**
13 Oct	Flocking behavior – tropics Mating systems	**Martinez & Gomez 2013** **Duval 2013**, Duraes et al. 2009
18 Oct	Lek breeding **Outline of topic and list of references due**	**Ryder et al. 2009,** Ryder et al. 2011
20 Oct	Lek breeding - discussion Disease	**Ryder and Sillett 2016** **LaDeau et al. 2007**,

25 Oct	Survival rates	**Wolfe et al. 2015, Johnson et al. 2006**
27 Oct	Fragmentation I	**Brawn & Robinson 1996**
1 Nov	Fragmentation II	Laurance et al. 2004, **Stratford & Robinson 2005**
3 Nov	Guest lecture: Abby Powell (USGS)	**Norris & Marra 2007, Webster et al 2002**
8 Nov	Discussion - communication	Francis et al. 2011, **Francis et al. 2012**
10 Nov	Guest lecture – Katie Sieving (WEC)	**Hetrick and Sieving 2012**
15 Nov	Fire **Draft of presentation due**	**Artman et al. 2001**, Mestre et al. 2013
17 Nov	Logging Birds of the World III	TBA
22 Nov	No class – work on presentations	
24 Nov	Holiday	
29 Nov	Presentations	
1 Dec	Presentations	
6 Dec	Presentations/Evaluations	

Reading List - also likely to be modified

Week 1 - 23 & 25 August

Whelan, C. J., C. H. Sekercioglu, and D. G. Wenny. 2015. Why birds matter: from economic ornithology to ecosystem services. Journal of Ornithology, DOI 10.1007/s10336-015-1229-y

Blake, J. G. 2007. Neotropical forest bird communities: a comparison of species richness and composition at local and regional scales. Condor 109:237-255.

Blake, J. G., and B. A. Loiselle. 2015. Enigmatic declines in bird numbers in lowland forest of eastern Ecuador may be a consequence of climate change. PeerJ 3:e1177; DOI 10.7717/peerj.1177

Week 2 – 30 Aug & 1 September

El Nino articles - see link to Economist articles

Sekercioglu, C. H., R. B. Primack, and J. Wormworth. 2012. The effects of climate change on tropical birds. Biological Conservation 148:1-18.

Forero- Medina, G., J. Terborgh, S. J. Socolar, and S. L. Pimm. 2011. Elevational ranges of birds on a tropical montane gradient lag behind warming temperatures. PLoS One 6(12): e28535. doi:10.1371/journal.pone.0028535

Sillett, T. S., R. T. Holmes, and T. W. Sherry. 2000. Impacts of a global climate cycle on population dynamics of a migratory songbird. Science 288: 2040-2042.

Week 3 - 6 & 8 September

Faaborg, J., W. J. Arendt, J. D. Toms, K. M. Dugger, W. A. Cox, and M. C. Mora. 2013. Long-term decline of a winter-resident bird community in Puerto Rico. Biodiversity and Conservation 22:63-75.

Gilroy, J. J., J. A. Gill, S. H M. Butchart, V. R. Jones, and A. M. A. Franco. 2016. Migratory diversity predicts population declines in birds. Ecology Letters 19:308-317.

Jahn, A. E., D. J. Levey, J. A. Hostetler, and A. M. Mamani. 2010. Determinants of partial bird migration in the Amazon Basin. Journal of Animal Ecology 79:983-992.

Boyle, A. 2008. Partial migration in birds: tests of three hypotheses in a tropical lekking frugivore. Journal of Animal Ecology 77:1122-1128.

Week 4 - 13 & 15 September

Pranty, B., and J. W. Tucker, Jr. 2006. Ecology and management of the Florida Grasshopper Sparrow. *Land of Fire and Water: The Florida Dry Prairie Ecosystem. Proceedings of the Florida Dry Prairie Conference*. Reed F. Noss, editor. pp. 188-200.

Shriver, W. G., P. Vickery, and S. A. Hedges. 1996. Effects of summer burns on Florida Grasshopper Sparrows. Florida Field Naturalist 24:68-73.

Lindenmayer, D. B., M. P. Piggott, and B. A. Wintle. 2013. Counting the books while the library burns: why conservation monitoring programs need a plan for action. Frontiers in Ecology and the Environment 11:549-555.

McCleery, R., J. A. Hostetler, and M. K. Oli. 2014. Better off in the wild? Evaluating a captive breeding and release program for the recovery of an endangered rodent. Biological Conservation 169:198-205.

Week 5 - 20 & 22 September

Frederick, P. C., and J. C. Ogden. 2001. Pulsed breeding of long-legged wading birds and the importance of infrequent severe drought conditions in the Florida Everglades. Wetlands 21:484-491.

Frederick, P. C., K. L. Bildstein, B. Fleury, and J. Ogden. 1996. Conservaton of large, nomadic populations of White Ibises (*Eudocimus albus*) in the United States. Conservation Biology 10:203-216.

Frederick, P. C., S. M. McGehee, and M. G. Spalding. 1996. Prevalence of *Eustrongylides* ignotus in mosquitofish (*Gambusia holbrooki*) in Florida: Historical and regional comparisons. Journal of Wildlife Diseases 32:552-555.

Week 6 - 27 & 29 Sept

Soulé, M. 2013. The "New Conservation." Conservation Biology 27:895-897.

Kareiva, P., and M. Marvier. 2012. What is conservation science? BioScience 62:962-969.

Holbrook, K. M., and B. A. Loiselle. 2009. Dispersal in a Neotropical tree, *Virola flexuosa* (Myristicaceae): Does hunting of large vertebrates limit seed removal? Ecology 90:1449-1455.

Schupp, E. W. 1993. Quantity, quality and the effectiveness of seed dispersal by animals. Vegetatio 107/108:15-29.

Loiselle, B. A., P. G. Blendinger, J. G. Blake, and T. B. Ryder. 2007. Ecological redundancy in seed dispersal systems: a comparison between manakins (Aves: Pipridae) in two tropical forests. Pp. 178-195 in A. J. Dennis, E. W. Schupp, R. Green, and D.W. Westcott, editors. Seed Dispersal: Theory and its Application in a Changing World. CABI Publishing, Wallingford, UK.

Week 7 - 4 & 6 October

Mimmides, C., J. Chen, U. M. Goodale, S. W. Kotagama, S. Sidhu, and E. Goodale. 2015. Does mixed-species flocking influence how birds respond to a gradient of land-use intensity? 20151118. http://dx.doi.org/10.1098/rspb.2015.1118

Mokross, K., T. B. Ryder, M. C. Cortes, J. D. Wolfe, and P. C. Stouffer. 2014. Decay of interspecific avian flock networks along a disturbance gradient in Amazonia. Proceeding of the Royal Society B. 281: 20132599. http://dx.doi.org/10.1098/rspb.2013.2599.

Week 8 - 11 & 13 October

Stith, B. M., J.W. Fitzpatrick, G. E. Woolfeden, and B. Pranty. 1996. Classification and conservation of metapopulations: a case study of the Florida Scrub-Jay." Pp. 187-216 in McCullough, ed. Metapopulations and wildlife conservation. Island Press, Covelo, CA.

U. S. Fish and Wildlife Service. 1999. South Florida Multi-Species Recovery Plan. Vero Beach, Florida. http://www.fws.gov/verobeach/ListedSpeciesMSRP.html (Required reading: pp. 262-265 and 270-277 in the Florida Scrub-Jay chapter)

Martinez, A. E., and J. P. Gomez. 2013. Are mixed-species bird flocks stable through two decades? The American Naturalist 181:E53-E59.

DuVal, E. H. 2013. Does cooperation increase helpers' later success as breeders? A test of the skills hypothesis in the cooperatively displaying lance-tailed manakin. Journal of Animal Ecology 82:884-893.

Durães, R., B. A. Loiselle, P. G. Parker, and J. G. Blake. 2009. Female mate choice across spatial scales: influence of lek and male attributes on mating success of blue-crowned manakins. Proceedings of the Royal Society B 276:1875-1881.

Week 9 - 18 & 20 October

Ryder, T. B., P. G. Parker, J. G. Blake, and B. A. Loiselle. 2009. It takes two to tango: reproductive skew and social correlates of male mating success in a lek breeding bird. Proceedings Royal Society B. 276:2377-2384.

Ryder, T. B., J. G. Blake, P. G. Parker, and B. A. Loiselle. 2011. The composition, stability, and kinship of reproductive coalitions in a lekking bird. Behavioral Ecology 22:292-290.

Ryder, T. B., and T. S. Sillett. 2016. Climate, demography and lek stability in an Amazonian bird. Proc. Royal Society B 283:20152314.

LaDeau, S. L., A. M. Kilpatrick, and P. P. Marra. 2007. West Nile virus emergence and large-scale declines of North American bird populations. Nature 447:710-714.

Week 10 - 25 & 27 October

Johnson, M. D., T. W. Sherry, R. T Holmes, and P. P. Marra. 2006. Assessing habitat quality for a migratory songbird wintering in natural and agricultural habitats. Conservation Biology 20:1433-1444.

Wolfe, J. D., C. J. Ralph, and P. Elizondo. 2015. Changes in the apparent survival of a tropical bird in response to the El Niño Southern Oscillation in mature and young forest in Costa Rica. Oecologia DOI 10.1007/s00442-015-3256-z

Brawn, J. D., and S. K. Robinson. 1996. Source-sink population dynamics may complicate the interpretation of long-term census data. Ecology 77:3-12.

Week 11 - 1 & 3 November

Laurance, S. G. W., P. C. Stouffer, and W. F. Laurance. 2004. Effects of road clearings on movement patterns of understory rainforest birds in central Amazonia. Conservation Biology 18:1099-1109.

Stratford, J. A., and W. D. Robinson. 2005. Gulliver travels to the fragmented tropics: geographic variation in mechanisms of avian extinction. Frontiers in Ecology and the Environment 3:85-92.

Norris, D. R., and P. P. Marra. 2007. Seasonal interactions, habitat quality, and population dynamics in migratory birds. Condor 109:535-547.

Webster, M. S., P. P. Marra, S. M. Haig, S. Bensch, and R. T. Holmes. 2002. Links between worlds: unraveling migratory connectivity. Trends in Ecology & Evolution 17:76-83.

Week 12 - 8 & 10 November

Francis, C. D., C. P. Ortega, and A. Cruz. 2011. Noise pollution filters bird communities based on vocal frequency. Plos One **6**:e27052.

Francis, C. D., N. J. Kleist, C. P. Ortega, and A. Cruz. 2012. Noise pollution alters ecological services: enhanced pollination and disrupted seed dispersal. Proceedings of the Royal Society B: Biological Sciences **279**:2727-2735.

Hetrick, S. A., and K. E. Sieving. 2012. Antipredator calls of tufted titmice and interspecific transfer of encoded threat information. Behavioral Ecology 23:83-92.

Week 13 - 15 & 17 November

Artman, V. L., E. K. Sutherland, and J. F. Downhower. 2001. Prescribed burning to restore mixed-oak communities in southern Ohio: effects on breeding-bird populations. Conservation Biology 15:1423-1434.

Mestre, L. A. M., M. A Cochrane, and J. Barlow. 2013. Long-term changes in bird communities after wildfires in the central Brazilian Amazon. Biotropica 45:480-488.