

Principles of Wildlife Management (RNR 2031)
Spring, 2014

Instructor: Dr. J.A. Nyman, 578-4220, jnyman@lsu.edu; Room 327; School of Renewable Natural Resources.

Lectures: 8:30 am to 9:20 am; Mon., Wed., & Fri.; Room 142; Renewable Natural Resources. Clickers are required.

Instructor Office hours: I have office hours from 8:00 am to 9:00 am on Tuesday and Thursday. I generally am available throughout the day on Tuesdays but students may want call to confirm that I am in the office before walking across campus.

Prerequisite: Students must complete RNR 2101 (Ecology of Renewable Natural Resources) before enrolling in RNR 2031. That requirement is relaxed to a recommendation this semester.

Course Objective: The objective is for students to learn how habitat, wildlife, and humans interact to cause wildlife populations to decline, stabilize, or rise. A secondary objective is to introduce students to the natural history of regionally important wildlife and their habitats.

Learning Goals (the four goals below also are the focus of the four exams):

Understand how people have affected wildlife populations and understand how scientists have discovered those things.

Understand why people killing wildlife (such as hunting, accidents, pollution, pest control, etc.) sometimes eliminates wildlife populations but other times the killing and the population continue indefinitely. This understanding requires that students recognize connections among wildlife population density, wildlife mortality rates, wildlife natality rates, and the degree to which different mortality factors are additive or compensatory to one another.

Understand how wildlife populations can be managed using disturbance and succession to control habitat quality for wildlife. Understand how habitat changes associated with disturbance and succession differ from habitat changes associated with habitat conversion, eutrophication, and climate change.

Learn how to assess the ecological feasibility and political feasibility of various wildlife management options.

Exams: There will be four exams; each is focused on one of the learning goals above. Approximately 70% will be from material covered in lectures; 30% from reading assignments (including material not covered in class). Exams may include multiple choice, fill-in-the-blank, matching, and short answer. The final exam will be comprehensive but will focus on material since the preceding exam.

In-class and On-line Assessments: You will prepare an annotated bibliography for all reading assignments; some entries will be graded (see the attached memo for details). There also will be pop quizzes in-class and on-line quizzes out of class. Performing poorly on these

can mean the difference between a higher and a lower final grade because these assessments account for 15% of the final grade. To perform well on pop quizzes, students should read assignments before coming to class and review notes from recent lectures. On-line quizzes will address reading materials that will be covered in the subsequent class and are “open-book.”

Expect to spend 2-3 hours outside of class reading and writing about the concepts and examples for every hour in class taking notes and discussing the concepts and examples.

Academic Honesty: The University Academic Integrity Policy states clearly that any form of plagiarism or cheating on exams or papers or complicity in such acts is punishable by the maximum penalty of expulsion from the university. The complete policy is published in the University Student Handbook. All students are expected to familiarize themselves with this policy and to understand its terms.

Calculator: Students will need a calculator to calculate natural log and antilog in class, on quizzes, and on exams.

Final Grade: The Final Grade is based on a total possible score of 100 points as follows:

Exam 1:	20 points
Exam 2:	20 points
Exam 3:	20 points
Final Exam:	25 points
In-class and On-line Assessments:	15 points

Grades of “A,” “B,” and “C” are assigned for satisfactory work. A grade of “A” indicates distinguished mastery of the course material; a grade of “B” good mastery; a grade of “C” acceptable mastery. A grade of “D” indicates minimally acceptable achievement for university credit but does not allow that credit to be applied toward the B.S.in Forestry or B.S. with a major in Natural Resource Ecology and Management. A grade of “F” is failing. A 10-point scale is used (A = 100-90, B = 89-80, etc.).

Readings: Students are expected to read assigned material indicated in the schedule BEFORE coming to class. Many reading assignments are chapters from the text books but many reading assignments are from other sources. Most of those are available on the course website.

Texts:

- Braun, C.E., 2005. Techniques for Wildlife Investigations and Management. The Wildlife Society, Bethesda, Maryland. (*DON'T SELL THIS TEXT AT THE END OF THE SEMESTER IF YOUR AREA OF CONCENTRATION REQUIRES YOU TO TAKE RNR 4011 BECAUSE YOU'LL NEED THIS TEXT FOR THAT CLASS*)
- Molles, M. C., Jr. Ecology: Concepts and Applications, all editions are acceptable. McGraw-Hill, New York. (*YOU SHOULD ALREADY HAVE THIS TEXT BECAUSE IT WAS REQUIRED FOR RNR 2101*)

- Journal Articles:* Many of the assigned reading materials are available at the class website.
- Berger, J., P.B. Stacey, L. Bellis, and M.P. Johnson. 2001. A mammalian predator-prey imbalance: grizzly bear and wolf extinction affect avian neotropical migrants. *Ecological Applications* 11:947-960.
- Bolen, E.G., and W.L. Robinson. 2003. *Wildlife ecology and management*. Prentice Hall. New Jersey. 5th edition.
- Booth, C., S. Bouwhuis, C.M. Lessells, and M.E Visser. 2006. Climate change and population declines in a long-distance migratory bird. *Nature* 441:81-83.
- Boyer, M. E., J. O. Harris, and R. E. Turner. 1997. Constructed crevasses and land gain in the Mississippi River delta. *Restoration Ecology*. 5:85-92
- Brashares, J.S., P. Arcese, M.K. Sam, P.B. Coppolillo, A.R.E. Sinclair, and A. Balmford. 2004. Bushmeat hunting, wildlife declines, and fish supply in West Africa. *Science* 306:1180-1183.
- Caffey, R. H. and M. Schexnayder. 2003. *Coastal Louisiana and South Florida: A Comparative Wetland Inventory, Interpretive Topic Series on Coastal Wetland Restoration in Louisiana, Coastal Wetland Planning, Protection, and Restoration Act*. National Sea Grant Library.
- Coleman, J.M. 1988. Dynamic changes and the processes in the Mississippi river delta. *Geological Society of America Bulletin* 100:999-1015.
- Couvillion, B. R., Barras, J. A., Steyer, G. D., Sleavin, William, Fischer, Michelle, Beck, Holly, Trahan, Nadine, Griffin, Brad, and Heckman, David, . 2011. Land area change in coastal Louisiana from 1932 to 2010: U.S. Geological Survey Scientific Investigations Map 3164, scale 1:265,000, 12 p. pamphlet. Accessed 18 October from <http://pubs.usgs.gov/sim/3164/>
- DOW. 2012. No reprieve in the Rockies. *Defenders Magazine*, Summer 2012. <http://www.defenders.org/magazine/summer-2012/no-reprieve-rockies>
- Evans, S.B., L.D. Mech, P.J. White, and G.A. Sargeant. 2007. Survival of adult female elk in Yellowstone following wolf restoration. *Journal of Wildlife Management* 70:1372-1378.
- Estes, J.A., M.T. Tinker, T.M. Williams, and D.F. Doak. 1998. Killer whale predation on sea otters linking oceanic and nearshore ecosystems. *Science* 282:473-476.
- Etling, K. 2007. The brief convoluted history of Santa Rosa Island. *American Hunter*. National Rifle Association, Fairfax, Virginia. February, 2007, page 20.
- Gabriel, M.W., L.W. Woods, R. Poppenga, R.A. Sweitzer, C. Thompson, S.M. Matthews, J.M. Higley, S.M. Keller, K. Purcell, R.H. Barrett, G.M. Wengert, B.N. Sacks, and D.L. Clifford. 2012. Anticoagulant rodenticides on our public and community lands: spatial distribution of exposure and poisoning of a rare forest carnivore. *PLoS ONE* 7(7): e40163. DOI:10.1371/journal.pone.0040163
- Gabrey, S.W., A.d. Afton, B.C. Wilson. 1999. Effects of winter burning and structural marsh management on vegetation and winter bird abundance in the Gulf Coastl Chenier Plain, USA. *Wetlands* 19:594-606.
- Gruber, N., and J.N. Galloway. 2008. An earth-system perspective of the global nitrogen cycle. *Nature* 451:293-296.
- Hames, R. 2007. The ecologically noble savage debate. *Annual Review of Anthropology* 36:177-190.

- Hardin, G. 1968. The tragedy of the commons. *Science* 162:1243-1248.
- Jacobson, C.A., J.F. Organ, D.J. Decker, g.R. Batcheller, and L. Carpenter. 2010. A conservation institution for the 21st Century: implications for state wildlife agencies. *Journal of Wildlife Management* 74:203-209.
- Joanen, T., L. McNease, G. Perry, D. Richard, and D. Taylor. 1984. Louisiana's alligator management program. *Proceedings of the Southeastern Association of Fish and Wildlife Agencies*. 38:201-211.
- Keim, R.F., J.L. Chambers, M.S. Hughes, J.A. Nyman, C.A. Miller, J.B. Amos, W.H. Conner, J.W. Day Jr., S.P. Faulkner, E.S. Gardiner, S.L. King, K.W. McLeod, and G.P. Shaffer. 2006. Ecological consequences of changing hydrological conditions in wetland forests of coastal Louisiana. P. 383-395 in: *Coastal Environment and Water Quality*, Y.J. Xu and V.P. Singh, eds. Challenges in Coastal Hydrology and Water Quality, Water Resource Publications, Highlands Ranch, Colo. 534 p.
- Laurance W.F., T.E. Lovejoy, H.L. Vasconcelos, E.M. Bruna, R.K. Didham, P.C. Stouffer, C. Gascon, R.O. Bierregaard, S.G. Laurance, and E. Sampaio. 2002. Ecosystem decay of Amazonian forest fragments: a 22-year investigation. *Conservation Biology* 16:605-618.
- Long, J.N., T.J. Dean, and S.D. Roberts. 2004. Linkages between silviculture and ecology: examination of several important conceptual models. *Forest Ecology and Management* 200:249-261.
- McNeil, P., L.V. Hills, B. Kooyman, and S.M. Tolman. 2005. Mammoth tracks indicate a declining Late Pleistocene population in southwestern Alberta, Canada. *Quaternary Science Reviews* 24:1253-1259.
- McShea, W.J., W.M. Healy, P. Devers, T. Fearer, F.H. Koch, D. Stauffer, and J. Waldon. 2006. Forestry matters: decline of oaks will impact wildlife in hardwood forests. *Journal of Wildlife Management* 71:1717-1728.
- McWeathy, D.B., C. Whitlock, J.M. Wilmshurst, M.S. McGlone, M. Fromont, X. Li, A. Dieffebacher-Krall, W.O. Hobbs, S.C. Fritz, and E.R. Cook. 2010. Rapid landscape transformation in South Island, New Zealand, following initial Polynesian settlement. *Proceedings of the National Academy of Sciences* 107:21343-21348.
- Milius, S. 2005. Bushmeat on the menu. *Science News Online*. Feb. 26 2005.
- O'Connell, and J.A. Nyman. 2010. Marsh terraces in coastal Louisiana increase marsh edge and densities of waterbirds. *Wetlands*. 30:125-135. DOI: 10.1007/s13157-009-0009-y
- Oldys, H. 1910. The game markets of to-day. *The yearbook of the Department of Agriculture*. U.S. Department of Agriculture, Washington, D.C. pages 243-254.
- Pieron, M.R., and F.C. Rohwer. 2010. Effects of large-scale predator reduction on nest success of upland nesting ducks. *Journal of Wildlife Management* 74:124-132.
- Pulliam, H.R. 1998a. The political education of a biologist Part I. *Wildlife Society Bulletin* 26:199-202.
- Pulliam, H.R. 1998b. The political education of a biologist Part II. *Wildlife Society Bulletin* 26:499-503.
- Rahmstorf, S. A. Cazenave, J.A. Church, J.E. Hansen, R.F. Keeling, D.E. Parker, R.C.J. Somerville. 2007. Recent climate observations compared to projections. *Science* 316:709.
- Ripple, W.H, and R.L. Beschta. 2012. Trophic cascades in Yellowstone: the first 15 years after wolf reintroduction. *Biological Conservation* 145:205-213.

- Roemer, G.W., C.J. Donlan, and F. Courchamp. 2002. Golden eagles, feral pigs, and insular carnivores: how exotic species turn native predators into prey. *Proceedings of the National Academy of Sciences* 99:791-796
- Rojstaczer, S., S.M. Sterling, and N.J. Moore. 2001. Human appropriation of photosynthesis products. *Science* 294:2549-2552.
- Schroeder, R.L. 1985. Habitat suitability index models: Eastern wild turkey. U.S. Fish and Wildlife Services. *Biological Report* 82(10.106). 33 pp.
- Seimann, E., J.A. Carrilo, C.A. Gabler, R. Zipp, and W.E. Rogers. 2009. Experimental test of the impacts of feral hogs on forest dynamics and processes in the southeastern US. *Forest Ecology and Management* 258:546-553.
- Spurr, S.H. 1952. Origin of the concept of forest succession. *Ecology* 33:426-427.
- Steadman, D.W. 1995. Prehistoric extinctions of pacific island birds - biodiversity meets zooarchaeology. *Science* 267:1123-1131.
- Steadman, D.W., P.S. Martin, R.D.E. MacPhee, A.J.T. Jull, H.G. McDonald, C.A. Woods, M. Iturralde-Vinent, and G.W.L. Hodgins. 2005. Asynchronous extinction of later quaternary sloths on continents and islands. *Proceedings of the National Academy of Sciences* 102:11763-11768.
- Stiner, M.C. 2001. Thirty years on the “Broad Spectrum Revolution” and Paleolithic demography. *Proceedings of the National Academy of Sciences* 98:13:6993-6996.
- Swihart, R.K., H.P. Weeks, Jr., A.L. Easter-Pilcher, and A.J. DeNicola. 1998. Nutritional condition and fertility of white-tailed deer (*Odocoileus virginianus*) from areas with contrasting histories of hunting. *Canadian Journal of Zoology* 76:1932-1941.
- Tangly, L. 1997. The case of the missing migrants. *Science*. 274:1299-1300.
- Warren, R.S. P.E. Fell, R. Rozsa, A.H. Brawley, A.C. Orsted, E.T. Olson, V. Swamy, and W.A. Neiring. 2002. Salt marsh restoration in Connecticut: 20 year of science and management. *Restoration Ecology* 10:497-513.

SCHEDULE: The schedule below is TENTATIVE; it WILL change.

Monday	Wednesday	Friday
14 Jan.	15 Jan 1. Course description & grading 2. What is wildlife management?	17 Jan Prehistoric wildlife a: Hames 2007, b: Stiner 2001, c: McWeathy 2010
20 Jan No class Martin Luther King Day	22 Jan Prehistoric wildlife a: Steadman 1995, b. Steadman 2005, c: McNeil 2005	24 Jan Historic wildlife a: Oldys 1910; b. Bolen 2003/Ch2 and Ch3
27 Jan Current wildlife a: Joanen 1984; a: Brashares 2004, b: Milius 2005	29 Jan Current wildlife a: McWeathy 2010, b: Estes, 1998, c: Tangly 1997	31 Jan Current Wildlife a: Booth 2006 b: Gabriel 2012
3 Feb. Population Ecology Molles Ch 10 and 11	5 Feb EXAM 1: ALL READINGS THROUGH Gabriel 2012,	7 Feb Population Ecology a: Molles Ch14, b: Swihart 1998

10 Feb Population Ecology a: Silvy/Ch11 (Definitions, Fig 11.2, Indices, Census, Marked-Resight a: Peiron 2010, b: Evans 2007	12 Feb Population Ecology Silvy/Ch15 (349-368, 378-380)), b: Roemer 2002	14 Feb Managing Large Populations a: Silvy/Ch33 (202-211, 216-223, 223-231), b: Berger 2001
17 Feb Managing Large Populations a: Silvy/Ch33 (202-211, 216-223, 223-231), b: Swihart 1998	19 Feb Managing Small Populations a: Silvy/Ch35 (270-279, 287-292), b: Joanen 1984	21 Feb Managing Small Populations a: Silvy/Ch35 (270-279, 287-292), b: Evans 2006
24 Feb EXAM 2: Exam 1 and all material since Exam 1	26 Feb Intro to Habitat Management: Succession Spurr 1952	28 Feb Global Habitat Change a: Rojstaczer 2001, b: Gruber 2008
3 Mar No class: Mardi Gras	5 Mar No class: Mardi Gras	7 Mar Global Climate Change Rhamstorf 2007
<i>All subsequent topics probably will be moved back one week because weather-dependent fieldwork that I need to conduct will require cancelling classes the week of March 10th-14th or 17th-21st.</i>		
10 Mar Managing Forests for Wildlife Silvy/Ch 26:55-65,	12 Mar Managing Forests for Wildlife a: Silvy/Ch 26:66-73; b: Long (2004)	14 Mar Managing Forests for Wildlife a: Laurance 2002, b: Ripple 2012
17 Mar Managing Forests for Wildlife a: McShea 2006, b: Siemann 2009	19 Mar Managing Forests for Wildlife a: HSI models: Schroeder 1985; b: Keim 2006	21 Mar EXAM 3: Previous exams, and all material since Exam 2
24 Mar Introduction to Wetlands	26 Mar Managing Coastal Wetlands for Wildlife a: Silvy/Ch29	28 Mar Managing Coastal Wetlands for Wildlife Silvy/Ch29:133-143,
31 Mar Apr Managing Coastal Wetlands for Wildlife Silvy/Ch29:143-149	2 Apr Managing Coastal Wetlands for Wildlife Silvy/Ch29:149-156	4 Apr Louisiana Coastal Wetlands a: Couvillion 2011, b: Caffey 2003, c: Nyman 2013
7 Apr Louisiana Coastal Wetlands, SE Louisiana a: Coleman 1988; b: Boyer 1997	9 Apr Louisiana Coastal Wetlands, SW Louisiana a: O'Connell 2010	11 Apr Louisiana Coastal Wetlands: a: Warren 2002, b: Gabrey 1999
14 Apr no class: Spring Break	16 Apr no class: Spring Break	18 Apr no class: Spring Break

<p>21 Apr Case Studies Compare and contrast Warren 2002, Boyer 1997, and O'Connell 2010</p>	<p>23 Apr Integrating Science & Policy a: Hardin 1968, b: Jacobson 2010;</p>	<p>25 Apr Integrating Science & Policy a: compare Roemer 2002 vs. Etling 2007; b: compare Berger 2001 to DOW 2012</p>
<p>28 April Integrating Science & Policy a: Pulliam 1997, b: Pulliam 1998</p>	<p>30 Apr Integrating Science & Policy TWS Position Statements</p>	<p>2 May Course Summary</p>
<p>Thurs 8 May Final Exam (5:30 pm to 7:30 pm): previous exams & all materials since 3rd exam</p>		