

Cunningham et al. Environmental Science: A Global Concern 11e
Further readings for Chapter 4 (Communities)

Agrawal, A. A. & Van Zandt, P. A. 2002. "The community ecology of live long and prosper". *Trends in Ecology and Evolution* 17, 62, (2002). A study of sawflies feeding on birch trees in Finland, is presented as evidence against neutrality theories of species' patterns of distribution and abundance.

Allaby, Michael. 1999. *A dictionary of Plant Sciences 2nd ed.* Oxford University Press. A comprehensive introduction to botany.

Allison, Gary W. 1999. "The Implications of Experimental Design for Biodiversity Manipulations." *The American Naturalist*, 153(1) pp. 26-45.

Altieri, M.A. 1999. The ecological role of biodiversity in agroecosystems. *Agriculture, Ecosystems and Environment* 74: 19-31. Biodiversity is not just important in wilderness preserves.

Backer, D. M., et al. 2004. "Impacts of Fire-Suppression Activities on Natural Communities." *Conservation Biology* 18 (4): 937-946. The ecological effects of fire suppression can exceed those of fire itself.

Baker, A. C., et al. 2004. "Coral reefs: Corals' adaptive response to climate change." *Nature* 430, 741. Corals containing unusual algal symbionts can withstand high temperatures.

Baskin, Y. 1999. *The Work of Nature: How the Diversity of Life Sustains Us.* Island Press. The benefits of biodiversity.

Beatty, C. D., et al. 2004. "The evolution of Müllerian mimicry in multispecies communities" *Nature* 431: 63-66. Explores the origin of predator/prey avoidance.

Begon, Michael, C. R. Townsend, and J. L. Harper. 1998. *Ecology: Individuals, Populations and Communities.* Blackwell Science. Combines basic ecology with environmental science.

Bell, G., Lechowicz, M. J. & Waterway, M. J. 2000. "Environmental heterogeneity and species diversity of forest sedges". *Journal of Ecology*, 88, 67 - 87, (2000). Canadian transplantation studies don't show any powerful degree of local adaptation. Sometimes the rarest species is the most successful in a new location

Bolnick, Daniel I. 2001. "Intraspecific competition favors niche width expansion in *Drosophila melanogaster*," *Nature* 410 (6827): 463 – 466. When interspecific competition is reduced, competition within a species becomes a potent evolutionary force leading to rapid diversification.

Borer, E. T., et al. 2007. "Predators, parasitoids, and pathogens: a cross-cutting examination of intraguild predation theory." *Ecology* 88 (11): 281-2688. Predator/prey studies need to distinguish between intraguild and interguild relationships.

Brian A. Maurer 1999. *Untangling Ecological Complexity : The Macroscopic Perspective* Univ. of Chicago Press. Advocates a broad, pluralistic approach to global problems by expanding the spatial and temporal scale of community ecology

Bright, Christopher. 1999. "Invasive Species: Pathogens of Globalization." *Foreign Policy*. Fall 1999. With increased world trade, invasive species have become a policy issue as well as an ecological threat.

Bronmark, Christer and Lars-Anders Hansson. 19989. *The Biology of Lakes and Ponds*. Oxford University Press. A good introductory text in limnology.

Buchmann, Stephen L. and Gary Paul Nabhan. 1996. *The Forgotten Pollinators*. Island Press. A lively and fascinating account of the ecological and cultural context of plant-pollinator relationships.

Buckling, A., et al. 2009. "The Beagle in a bottle." *Nature* 457: 824-829. Fast-growing microorganisms allow us to study evolution in real time in the laboratory.

Budd, G. E. & M. J. Telford. 2009 "The origin and evolution of arthropods." *Nature* 457: 812-817. Molecular systematics have prompted a radical reordering of the relationships among extant arthropod classes.

Byers, J. E. & Goldwasser, L. 2001. "Exposing the mechanism and timing of impact of nonindigenous species on native species." *Ecology* 82: 1330-1343. The impacts of invading species may go unnoticed until it's too late, this study suggests.

Capers, R. S., et al. 2007. "Aquatic plant community invasibility and scale-dependent patterns in native and invasive species richness." *Ecology* 88 (12): 3135-3143. Aquatic communities are highly susceptible to stress, disturbance, and invasive species.

Cardinale, B.J., D. S. Srivastava, J. E. Duffy, J. P. Wright, A. L. Downing, M. Sankaran, and C. Jousseau. 2006. Effects of biodiversity on the functioning of trophic groups and ecosystems. *Nature*, 443:989-992. Ecosystems with high biodiversity have greater productivity and resilience.

Chapman, K. A. and P. B. Reich. 2006. "Land use and habitat gradients determine bird community diversity and abundance in suburban, rural and reserve landscapes of Minnesota, USA." *Biological Conservation* 135: 543 – 557. Total bird richness and diversity were as high in suburban as in rural and reserve plots, but not as high as high-quality grasslands or forests.

Chave, J., Muller-Landau, H. C. & Levin, S. A. 2002. "Comparing Classical Community Models: Theoretical Consequences for Patterns of Diversity". *American Naturalist*, 159: 1 – 23. A team from France's national research agency, showed that both niche and neutral ecological models can reproduce natural patterns of species abundance.

Callicott, J. Baird, Crowder, Larry B., and Mumford, Karen 1999. "Current Normative Concepts in Conservation." *Conservation Biology* 13: (1): 22-35. A philosophical discussion of the stability/diversity debate.

Cao, Tim (ed). 1998. *Behavioral Ecology and Conservation Biology*. Oxford University Press. An interesting attempt to link behavioral ecology and conservation biology.

Chapin, F.S., et al. 2000. "Consequences of changing biodiversity." *Nature* 405 (6783): 234-242. Human alteration of the global environment has triggered the sixth major extinction event in the history of life and caused widespread changes in the global distribution of organisms.

Chapin, F.S., et al. 1997. "Biotic Control Over the Functioning of Ecosystems," *Science* 277 (5325): 500-504. Biological communities shape their environments.

Clements, F. E. 1936. "Nature and structure of the climax." *Journal of Ecology* 24: 252-284. The leading voice for stability in ecosystems.

Clevenger, A. P. and N. Waltho. 2004. "Performance indices to identify attributes of highway crossing structures facilitating movement of large mammals" *Biological Conservation* 121 (3): 453-464. Bridges, culverts and other wildlife corridors can be effective in connecting isolated communities, but human dimensions must be considered as well.

Coleman, S. W., et al. 2004. "Variable female preferences drive complex male displays." *Nature* 428 (6984):742-745. Males of many species have sexual displays composed of multiple display traits, and females are thought to use these different traits in mate choice.

Collar, N. J. and C. N. Spottiswoode, 2005. "Species limits in birds: A response to Watson." *BioScience* 55 (5): 388-389. A defense of traditional methods of identifying bird species.

Coltman, D. W. 2002. "Undesirable evolutionary consequences of trophy hunting." *Nature* ,426, 655 -657 (2002). Hunting selection decreases the size of ram's horns.

Coomes, D.A. et al. 2003. Factors preventing the recovery of New Zealand forests following control of invasive deer. *Conservation Biology* 17(2): 450-459.

Connell, J. H., and R. O. Slatyer. 1977. Mechanisms of succession in natural communities and their role in community stability and organization. *American Naturalist* 111:1119-1144. Discusses mechanisms of succession in a variety of communities.

Cottingham KL, et al. 2000. Increased ecosystem variability and reduced predictability following fertilisation: evidence from palaeolimnology. *Ecological Letters* 3: 340–48. Removing top predators increases the vulnerability of ecosystems to eutrophication and outbreaks of invasive species

Cunningham, M. A., and D. H. Johnson. 2006. “Proximate and landscape factors influence grassland bird distributions.” *Ecological Applications* 16(3):1062-1075. GIS analysis shows that grassland birds respond to habitat features at a variety of scales.

Curtis, T. P., Sloan, W. T. & Scannell, J. W. 2002. “Estimating prokaryotic diversity and its limits”. *Proceedings of the National Academy of Sciences USA*, doi:10.1073/pnas.142680199. There could be more species of bacteria in your back yard soil all the species in the ocean, say UK researchers.

Daehler, C.C., et al. 2004. “A Risk-Assessment System for Screening Out Invasive Pest Plants from Hawaii and Other Pacific Islands.” *Conservation Biology* 18 (2): 360-369. A screening system can determine which exotic species are most problematic.

Darwin, Charles 1859. *The Origin of Species by Means of Natural Selection or the Preservation of Favored Races in the Struggle for Life*. Murray A book that changed the way we see the world.

Darwin, Charles . 1845. *Journal of Researches into the Natural History and Geology of the 'Countries visited during the Voyage of H.M.S. Beagle round the World*, 2nd ed: John Murray. Darwin’s account of his journey on the Beagle.

Dauber, Jens, et al. 2003. “Landscape structure as an indicator of biodiversity: matrix effects on species richness.” *Agriculture, Ecosystems & Environment* 98 (1/3): 321-9. Variable structure creates more habitat niches.

DeMorales, C. M. et al. 2001. “Caterpillar-induced nocturnal plant volatiles repel conspecific females. *Nature* 410 (6828): 577-580. Plants respond to insect herbivory by synthesizing and releasing complex blends of volatile compounds. Insects use these chemicals as clues for avoiding competition.

Doak, D.F., Bigger, D., Harding, E.K., Marvier, M.A., O'Malley, R.E., Thomson, D. 1998. The Statistical Inevitability of Stability-Diversity Relationship in Community Ecology. *The American Naturalist*, 151(3): 264-277. According to this model, diversity does lead to stability.

Doolittle, W. F. 2000. "Uprooting the Tree of Life," *Scientific American* 282(2): 90-95. A new look at evolutionary relationships suggests many more interconnections than previously thought

Douds, D.D. and P.D. Millner. 1999. "Biodiversity of arbuscular mycorrhizal fungi in agroecosystems". *Agriculture, Ecosystems and Environment* 74:77-93. An introduction to the important symbiotic relationships between soil fungi and higher plants.

Downing, Amy L. and Mathew A. Liebold. 2002. "Ecosystem consequences of species richness and composition in pond food webs." *Nature* 416: 837-841. Indirect evidence suggests that species richness affect aquatic ecosystem attributes through indirect effects and trophic interactions among species.

Driscoll, Don A. 1998 "Genetic Structure, Metapopulation Processes and Evolution Influence the Conservation Strategies for Two Endangered Frog Species," *Biological Conservation* 83 (1): 43-54. An undertaking of the genetic structure of a population is vital to conservation efforts. This article gives a specific example of this importance.

Duggins, D. O. 1980. "Kelp beds and otters: an experimental approach." *Ecology* 61: 447-453. A classic study of a marine food web.

Ehrlich, Paul and Walker, Brian H. 1998. "Rivets and Redundancy." *Bioscience* 48(5): p. 387 May 1998

Ehrlich, P. and Ehrlich, A. 1981. *Extinction: The Causes and Consequences of the Disappearance of Species*. Random House. A good summary of reasons for extinction.

Ellsworth, J. W., And B. C. McComb. 2003. Potential Effects of Passenger Pigeon Flocks on the Structure and Composition of Presettlement Forests of Eastern North America. *Conservation Biology* 17: 1548-1558.

Elton, C.S. 1927. *Animal Ecology*. MacMillan. A classic in ecology.

Elton, C.S. 1958. *The Ecology of Invasibility by Animals and Plants*. Methuen. An ecological pioneer discusses invasive species.

Fabrizio, S. et al. 2007. "Conservation: Top predators and biodiversity." *Nature* 436 (192): doi: 10.1038/436192a. The authors argue that conservation focusing on top predators can be ecologically justified because it delivers biodiversity benefits.

Falkowski, Paul G. 2002. "The Ocean's Invisible forest." *Scientific American* 287 (2): 54-61. Marine algae play a much larger role than previously thought in balancing the earth's climate, absorbing about as much carbon each year as all terrestrial plants.

Ferrer, Miguel and Jan Jose Negro. 2004. "The Near Extinction of Two Large European Predators: Super Specialists Pay a Price." *Conservation Biology*. 344-349. The Spanish Imperial Eagle and Iberian lynx are examples of how specialists are endangered.

- Festa-Bianchet, Marco and Marco Apollonio (eds). 2003. *Animal Behavior and Wildlife Conservation*. Island Press. Shows how knowledge of animal behavior can help in conservation.
- Fortey, Richard. 1998. *A Natural History of the First Four Billion Years of Life on Earth*. A. A. Knopf. How living organisms modified conditions on earth.
- Frank, D.A. and McNaughton, S.J. 1991. "Stability Increases with Diversity in Plant Communities: Empirical Evidence from the 1988 Yellowstone Drought." *Oikos* 62: 360-362.
- Futuyma, Douglas J. 1998. *Evolutionary Biology*. Sinauer Associates. A textbook of evolution.
- Garant, Dany, et al. 2005. "Evolution driven by differential dispersal within a wild bird population." *Nature* 433: 60-65. A 36-year study of British birds shows that evolutionary differentiation can be rapid and can occur over surprisingly small spatial scales.
- Grant, Peter R. and B. Rosemary Grant. 2006. "Evolution of Character Displacement in Darwin's Finches." *Science* 313 (5784): 224-226. Finches on the Galapagos Islands are showing surprisingly rapid evolution in beak size in response to competition and climate effects.
- Gaston, Kevin J. and Tim M. Blackburn. *Pattern and Process in MacroEcology*. Blackwell Pub. Discusses the importance of landscape scale patterns and processes.
- Gibbs, J.P. 2000. *Monitoring populations*. p: 213-247 in: Boitani, L. and T.K. Fuller (Eds.) *Research techniques in animal ecology*. New York: Columbia University Press. Discusses technical issues in monitoring wildlife populations.
- Giraud, T., et al. 2002. "Evolution of supercolonies: the Argentine ants of southern Europe." *Proceedings of the National Academy of Sciences*, 99, 708-712. A single super-colony of ants, with millions of nests and billions of individuals, stretches 6,000 kilometres around Europe's Mediterranean and Atlantic coasts.
- Gould, Stephen Jay. 2002. *The Structure of Evolutionary Theory*. Harvard Univ. Press. An exhaustive survey of the history of evolutionary thought from Darwin to the present.
- Grant, Bruce S. 1999. "Fine Tuning The Peppered Moth Paradigm" *Evolution* 53 (3): 980-984. A re-examination of the classic example of natural selection and evolution.
- Haig, S. M., et al 2006. "Taxonomic Considerations in Listing Subspecies Under the U.S. Endangered Species Act" *Conservation Biology* 20 (6): 1584-1594. Proposes a new set of criteria to distinguish between species and subspecies

Hamm, C. E. et al. 2003. "Architecture and material properties of diatom shells provide effective mechanical protection." *Nature* 421, 841-843. Ornate armor enables plankton to withstand huge pressures.

Hanski, Ilkka. 1999. *Metapopulation Ecology*. Oxford University Press. An overview of theory and empirical studies in population ecology.

Hairston, N. G., Smith, F. E., and Slobodkin, L. B. 1960 "Community structure, population control, and competition." *American Naturalist* 94: 421-25. A classic in community ecology.

Hartley, S., and W. E. Kunin. 2003. "Scale Dependency of Rarity, Extinction Risk, and Conservation Priority" *Conservation Biology* 17: 1559-1570. Rarity, risk and priority are scale-dependent variables.

Holling, Crawford S. 1986. "The Resilience of Terrestrial Ecosystems: Local Surprise and Global Change." In: *Sustainable Development of the biosphere* 292-317. Clark W.C., and Munn R. E. (eds). Seemingly similar ecosystems may have different levels of resilience.

Hooper, D.U., et . al. 1997. "The Effects of Plant Composition and Diversity on Ecosystem Processes," *Science* 277 (5330): 1302-1305. Contrary to modelers predictions, biodiversity does play a role in stability.

Howard, D. J. and S. H. Berlocher. 1998. *Endless forms: Species and Speciation*. MIT Press. A compendium of modern understanding of evolution.

Hubbell, S. P. 2001. *The Unified Neutral Theory of Biodiversity and Biogeography*. Princeton Univ. Press. Disregarding adaptation and competitive advantages, neutral models consider only random chance as the source of ecosystem diversity.

Hubbell, S.P. and R. B. Foster. 1987. "The spatial contest of generation in a neotropical forest." In A.J. Gray, et al (eds) *Colonization, Succession and Stability* p 395-412. British Ecology Society 26th Symposium. Blackwell Scientific.

Huber, Harald, et al. 2002. "A new phylum of Archaea represented by a nanosized hyperthermophilic symbiont." *Nature* 417, 63-67 (2 May 2002). A newly discovered organism from the inhospitable environs of a submarine hot vent has a tiny genome size, close to that calculated as the theoretical minimum for a living entity.

Hughes, J.B., G.C. Daily, and P.R. Ehrlich. 1997. "Population Diversity: Its Extent and Extinction," *Science* 278 (5338): 689-692. An attempt to estimate the losses of distinct populations within species.

Humphries, Christopher J. 1999. *Cladistic Biogeography*. Oxford University Press. Cladistics uses distribution patterns of species to study their historic and evolutionary relationships.

Hunter, Malcolm L. 2001. *Fundamentals of Conservation Biology*. Blackwell Press. A basic textbook in conservation biology.

Huntzinger, M. 2003. "Effects of fire management practices on butterfly diversity in the forested western United States." *Biological Conservation* 113 (1): 1-12. Fire suppression has reduced habitat for some rare and endangered species.

Irigoiien, Xabier, et al. 2004. "Global biodiversity patterns of marine phytoplankton and zooplankton." *Nature* 429 (6994): 863-867. Contrary to expectations, there doesn't seem to be a relation between phytoplankton diversity and zooplankton diversity.

Jackson, Jeremy et al. 2001. "Historical overfishing and the recent collapse of coastal ecosystems." *Science* 293: 629-638. Removing top predators has catastrophic effects on entire communities.

Jackson, R.B. et al. 2002 "Ecosystem carbon loss with woody plant invasion of grasslands," *Nature* 418:623-626. Grasses store a large amount of carbon in roots. As woody plants displace grasses, soil carbon decreases.

Kasting, James F. 2004. "When methane made climate." *Scientific American* 291 (1): 78-86. Methane-generating bacteria dominated the earth for billions of years. The greenhouse effects they caused may have staved off a deep freeze and allowed other life forms to evolve.

Kennedy, Theodore A. et al. 2002. "Biodiversity as a barrier to ecological invasion." *Nature* 417: 636-638. Studies of small experimental grassland plots shows that species diversity enhances invasion resistance by increasing crowding and species richness in localized plant neighborhoods.

Klass, K.-D., et al. 2002. "*Mantophasmatodea*: a new insect order with extant members in the Afrotropics." *Science* Published online(2002). The first new order of insects to be discovered for more than 80 years was found in the mountains of Namibia.

Koko, Hanna. 2004. "Competition for breeding sites and site-dependent population regulation in a highly colonial seabird, the common guillemot *Uria aalge*" *Journal of Animal Ecology* 73 (2): 367-377. Breeding success in some colonial breeding birds is linked to availability of good nesting sites.

Kortschak, R.D. and D.J. Miller. 2003. "EST analysis of the cnidarian *Acropora millepora* reveals extensive gene loss and rapid sequence divergence in the model invertebrates." *Current Biology* 13: 2190-2195. DNA sequences known as expressed

sequence tags (ESTs), which derive from active genes in tissue, show surprising linkages between corals and humans.

Lance, D. R., et al. 2000. "Courtship Among Sterile and Wild *Ceratitis capitata* (Diptera: Tephritidae) in Field Cages in Hawaii and Guatemala." *Ann. Entomol. Soc. Am.* 93 (5): 1179-1185. Wild females are more likely to reject sterile (versus wild) males during the male's courtship display.

Laurance, Susan G. W. 2004. "Responses Of Understory Rain Forest Birds To Road Edges In Central Amazonia." *Ecological Applications*: 14 (5): 1344–1357. Amazonian understory birds respond negatively to artificial edges created by roads.

Laurance, W.F., et al.. 2004. "Changes in tree communities underline humans' pervasive influence" *Nature*, 428: 171-175 Even 'untouched' rainforest are being hit by environmental change

Lehman, Clarence L. and David Tilman. 2000. "Biodiversity, Stability, and Productivity in Competitive Communities." *The American Naturalist* 156: 534-552. An important theoretical explanation of diversity and stability.

Lichatowich, J. 1999. *Salmon Without Rivers*. Island Press. A history of the Pacific salmon crisis

Losos, J. B. and R. E. Ricklefs. 2009. "Adaptation and diversification on islands." *Nature* 457: 830-836. Island research provides valuable insights into speciation and adaptive radiation, and into the relative importance of contingency and determinism in evolutionary diversification.

MacArthur, R. 1955. "Fluctuations of Animal Populations, and a Measure of Community Stability." *Ecology* 36 (3): pp. 533-536. Suggested that diversity would convey stability.

MacArthur, R. H., and E. O. Wilson. 1963. "An equilibrium theory of insular zoogeography." *Evolution* 17:373-387. The classic study of island biogeography and one of the most influential papers in all of ecology.

MacArthur, Robert H. and E. O. Wilson. 2001. *The Theory of Island Biogeography*. Princeton Univ. Press. A reissue of their 1963 article.

McCullough, Dale R., ed. 1996. *Metapopulations and Wildlife Conservation*. Island Press. Metapopulation theory is an important development in both conservation biology and wildlife management.

McLoughlin, P.D., et al. 2007. "Lifetime reproductive success and composition of the home range in a large herbivore." *Ecology* 88 (12): 3192-3201. Evidence from a herd of French deer suggests that processes like selection of the site of a home range during

dispersal may play a more important role in determining fitness of individuals than previously thought.

McNab, B.K. 1983. "Ecological and behavioral consequences of adaptation to various food sources" in: Eisenberg, J.F. and D.G. Kleiman (Eds.) *Advances in the study of Mammalian behavior*. American Society of Mammalogists, special pub. no. 7, p. 664-697. A classic study of evolutionary adaptation and specialization.

McNaughton, S.J. 1985. "Ecology of a Grazing Ecosystem: the Serengeti." *Ecological Monographs* 55: 259-294. Some systems need grazers.

McNaughton, S. J. 1977. Diversity and stability of ecological communities: a comment on the role of empiricism in ecology. *The American Naturalist* 111: 515–25.

Mares, M. A. 1992. "Neotropical Mammals and the Myth of Amazonian Biodiversity," *Science* 255: 967-970. Argues that while trees and insects are abundant in the Amazon, for some taxa deserts or grasslands have greater biodiversity.

Matteson, S. W., et al. 1999. "Changes in the status, distribution, and management of Double-crested Cormorants in Wisconsin". In *USDA Tech. Bull. No. 1879*. Symposium on Double-crested Cormorants: Population Status and Management Issues in the Midwest. p. 27-46. December 1999. Discusses the causes and effects of a population explosion of cormorants in the Great Lakes.

Mauchamp, A. 1997. "Threats from Alien Plant Species in the Galapagos Islands," *Conservation Biology* 11(1):260-263. An example of the effects introduced species have on endemic flora and fauna.

May, R. M. 1992. "How Many Species Inhabit the Earth?" *Scientific American* 267 (4): 42-50. A thoughtful discussion of biodiversity and the problem of species identification.

May, Robert M. 1972. "Will a Large Complex System be Stable?" *Nature* 238: 413-414. 18 August, 1972. Theoretical modeling suggests that a very simple ecosystem might be the most stable.

Meffe, G. K. and C. R. Carroll. 1997. *Principles of Conservation Biology* (2nd ed.). An excellent introduction to conservation biology and population ecology.

Merbach, M. A. et al. 2002. "Mass march of termites into the deadly trap." *Nature* 415: 36-37. *Nepenthes albomarginata*, a carnivorous pitcher plant from Brunei, lures a single species of termite (*Hospitalitermes bicolor*) with white hairs that encircle the top of its bulbous, digestive fluid-filled pitcher. This is the only known example of a carnivorous plant that specializes so uniquely in its prey preference.

Meyers, Ransom A. and Boris Worm. 2003. "Rapid worldwide depletion of predatory fish communities." *Nature* 423: 280-283. Up to 90% of top marine predator species have been removed by overfishing.

Morell, Virginia. 1997. "On the Origin of (Amazonian) Species," *Discover* 18 (4): 56-64. An interesting account of a taxonomic expedition to the Amazon.

Morin, Peter J. 1999. *Community Ecology*. Blackwell. A good general text.

Naeem, Shahid 1998. "Species Redundancy and Ecosystem Reliability." *Conservation Biology* 12(1): pp. 39-45 Feb 1998. Redundancy in diversity and ecosystem function can lead to resilience.

Nee, S. and R.M. May. 1997. "Extinction and the Loss of Evolutionary History," *Science* 278 (5338): 692-694. The conditions under which species have evolved can never be recreated exactly.

Nevin, O.T. and B.K. Gilbert. 2004. "Perceived risk, displacement and refuging in brown bears: positive impacts of ecotourism?" *Biological Conservation*. 121 (4): 611-622. Large male bears leave rivers when tourists arrive, thus allowing more time for feeding by females and cubs. This may increase cub survival and increase bear populations.

Nielsen, Claus. 2001. *Animal Evolution: Interrelationships of the Living Phyla* (2nd ed). MIT Press. Analyzes the evolutionary relationships of the animal kingdom.

Noda, S., et al. 2005. "Endosymbiotic *Bacteroidales* Bacteria of the Flagellated Protist *Pseudotrichonympha grassii* in the Gut of the Termite *Coptotermes formosanus*." *Appl. Environ. Microbiol* 71(12): 8811-8817. A unique bacterium living as an intracellular endosymbiont of a protist in the gut of termites provides nitrogen that allows all the organisms to cooperatively digest wood.

Nogales, M. et al. 2004. "A Review of Feral Cat Eradication on Islands." *Conservation Biology* 18 (2): 310-319. Documents the benefits for native fauna of feral cat eradication.

Novotny, V. Y., et al 2004. "No tree an island: the plant-caterpillar food web of a secondary rain forest in New Guinea." *Ecology Letters* 7: 1099-1100. In a secondary rain forest, a few woody species dominate the vegetation, and caterpillar species that specialize in feeding on a few plant species make up most of the herbivore population.

Novotny, V., Y., et al. 2002. "Low host specificity of herbivorous insects in a tropical forest." *Nature* 416: 841-844. Studies of plant/insect interactions in New Guinea suggest that there may be far fewer species in tropical forests than previously estimated.

Olsen, E. M., et al. 2004. "Maturation trends indicative of rapid evolution preceded the collapse of northern cod." *Nature* 428(6986): 932-935. Over harvesting of North Atlantic

cod has lead to “contemporary evolution” of small fish that mature early and produce less robust offspring.

Olszewski, Thomas D. and Erwin, Douglas. 2004. “Dynamic response of Permian brachiopod communities to long-term environmental change.” *Nature* 428 (6984): 738-741. The fossil record sheds light on the effects of environmental change on ecological communities.

Orians, G.H. 1997. “Biodiversity and Terrestrial Ecosystem Processes,” *Science and Progress*. 80(Part 1):45-63. Diversity is an important ecological factor.

Packer, C. and T.M. Caro. 1997. “Foraging Costs in Social Carnivores,” *Animal Behavior* 54(5): 1317-1318. An examination of cooperation and selfishness among African lions.

Palla, G., et al. 2005. “Uncovering the overlapping community structure of complex networks in nature and society.” *Nature* 435: 814-818. The web of communities has non-trivial correlations and specific scaling properties

Palumbi S.R. 2001. *The evolution explosion: how humans cause rapid evolutionary change.*: Norton. Pests and pathogens can rapidly evolve resistance to biocides

Paracer, S. and V. Ahmadjian. 2000. *Symbiosis: An Introduction to Biological Associations*. Oxford, UK: Oxford University Press. An introduction to all aspects of symbiosis.

Pauly, Daniel and Reg Watson. 2003. “Counting the Last Fish” *Scientific American* 289 (1): 42-47. Overfishing has decimated marine fish and reduced ecosystem complexity.

Peterson, Rolf O. 1995. *The Wolves of Isle Royale: A Broken Balance*. Willow Creek Press. A classic study of predator/prey interactions.

Pimm, Stuart L. 1984. “The Complexity and Stability of Ecosystems.” *Nature* 307: 321-326. 26 January 1984. A argument in favor of complexity/stability.

Prugganan, M. D. & D. Q. Fuller. 2009. “The nature of selection during plant domestication.” *Nature* 457: 843-848. Studies of crop domestication expands our understanding of plant evolution.

Quammen, David. 2007. “The Name Giver.” *National Geographic* 211 (6): 72-87. An illustrated biography of Carl Linnaeus.

Quammen, David. 2006. *The Reluctant Mr. Darwin: An Intimate Portrait of Charles Darwin and the Making of His Theory of Evolution* Atlas Books. A portrait of Darwin during the 20 years between the voyage of the Beagle and publication of *On the Origin of Species*.

Quammen, David. 2000. *The Boilerplate Rhino : Nature in the Eye of the Beholder*. Scribner. A great writer collects 26 of his columns from *Outside* magazine.

Quammen, David. 1998. "Planet of Weeds." *Harper's* October, 1998. With the loss of native species and invasions of exotics, we may soon live in a world of weeds.

Quammen, David. 1996. *The Song Of The Dodo: Island Biogeography In An Age Of Extinctions*. Scribners. An elegantly written memoir of tracing the journeys of Alfred Russell Wallace in Southeast Asia while reflecting on evolution.

Quan, R. C. et al. 2002. "Effects of human activities on migratory waterbirds at Lashihai Lake, China". *Biological Conservation*. 108 (3): 273-279. There's not much room for nature in the world's most populous country.

Rezende. E. L, et al. 2007. "Non-random coextinctions in phylogenetically structured mutualistic networks." *Nature* 448: 925-928. Statistical analyses of the networks formed by plant-animal mutualisms can now take account of the relatedness of the players on either side.

Ricklefs, R. E. 1997. *The Economy of Nature* (4th ed.). W.H. Freeman and Co. A highly recommended textbook in basic ecology.

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