

Notes & Sources

Introduction

¹ Niles Eldredge, *Life in Balance: Humanity and the Biodiversity Crisis*, p. 151.

Module 2 Understanding Habitat: The Temperate-Forest Biome

¹ World Resources Institute. 1997. *The Last Frontier Forests: Ecosystems and Economies on the Edge*. Washington, D.C.: World Resources Institute. Online at: <http://www.wri.org/wri/ffi/lff-eng/index.html>

² Allaby, Michael. 1999. *Ecosystem: Temperate Forests*. New York: Facts on File, Inc. p. 3.

Module 2 Appendix: Temperate-Forest Facts at a Glance

Sources consulted:

Temperate Forests by Michael Allaby. Facts on File, Inc. New York: New York, 1999.

Temperate Forest by Elizabeth Kaplan. Benchmark Books: Tarrytown, New York. 1996.

Exploring Earth's Biomes: Temperate Deciduous Forest by April Pulley Sayre. Twenty-First Century Books: Brookfield, CT. 1994.

Shades of Green: Earth's Forests <http://library.thinkquest.org/17456/menu.html>

Introduction to Biomes: Temperate Broadleaf Deciduous Forest <http://www.runet.edu/~swoodwar/CLASSES/GEOG235/biomes/tbdf/tbdf.html>

Module 3 Exploring the Temperate Forest: Biodiversity and Interdependence

¹ Loss of forest biological diversity also has important economic, social, and cultural impacts that we will explore later in this curriculum.

² World Resources Institute. 1998-1999. *Fragmenting Forests: The Loss of Large Frontier Forests*. Washington, D.C.: World Resources Institute. Online at: <http://www.wri.org/wri/wr-98-99/fragment.htm>

³ This area of China is part of the Conservation International's "Hengduan Mountains of South Central China Hotspot," one of Conservation International's 25 regions that are the highest priority for conservation based on their biological diversity and high levels of endemism. These Hotspots are priorities for conservation action and investment. For more information visit <http://www.biodiversityhotspots.org/xp/Hotspots> and click on "Mountains of Southwest China."

⁴ The Red List is produced by the IUCN Species Survival Commission (SSC), a network of about 7,000 species experts working in almost every country in the world, and data are from a number of partner organizations. The U.S. Fish and Wildlife Endangered Species Program oversees the implementation of CITES and lists threatened species in the U.S.

⁵ "The Hengduan Mountain Hotspot is located in the broad convergence zone between the Eastern Asiatic Floristic and the Indian Floristic regions between the Tibetan Plateau and the Central Chinese Plains. This unique location hosts some of the world's most diverse species." (Conservation International)

⁶ When mammals first became dominant during the Cenozoic, the continents of Europe, Asia, Africa, and North America were all linked by Bering Sea and North Atlantic land bridges (formed by glacial ice), creating a "World Continent." The mammals that evolved on this World Continent (along with the plentiful flowering plants) were therefore fairly closely related. This theory also explains the similarities between the plants in eastern Asia and the eastern United States. Scientists believe that forests once stretched continuously across North America, Europe, and northern Asia, connected by the aforementioned land bridges. When rising sea levels submerged the land bridges and colder, drier climates prevailed, some plants disappeared from western North America and western Eurasia, but remained in eastern Asia and eastern North America.

⁷ As a social studies extension activity, have students compare the forest biome map with a climatic map.

⁸ There are 686 species of birds and 300 mammal species in this Hotspot. There are also many species of endemic pheasants and rhododendrons (source: Conservation International, "Mountains of South-Central China Hotspot").

⁹ China Environment: Rare Birds: <http://www.chinaenvironment.com/english/channel/nature/bird.html>

¹⁰ Nature Information: Great Smoky Mountains National Park: <http://www.nps.gov/grsm/gsmsite/natureinfo.html>

Module 3 Appendix: Temperate-Forest Flora and Fauna

¹ Department of Education and Volunteer Services, Friends of the National Zoo (FONZ). 2001. *Giant Panda Teacher Curriculum Guide*, "Activity 2: Similar Trees, Different Continents." Washington, D.C.: Smithsonian National Zoological Park. p. 19. http://nationalzoo.si.edu/Animals/GiantPandas/PandaEducation/CurriculumGuides/CG_5-8.cfm

Module 4: Research and Conservation at the Smithsonian's National Zoo

- 1 from "Giant Panda Program at the Smithsonian's National Zoological Park Giant Panda Exhibit"
<http://nationalzoo.si.edu/Animals/GiantPandas/PandaExhibit/default.cfm>
- 2 from "Giant Panda Program at the Smithsonian's National Zoological Park Giant Panda Exhibit"
<http://nationalzoo.si.edu/Animals/GiantPandas/PandaExhibit/default.cfm>
- 3 "Observing Giant Pandas" Student Activity Sheet is a modification of FONZ's "Giant Panda Observation Sheet" from "Activity 8: Giant Panda Behavior Watch."
<http://nationalzoo.si.edu/Animals/GiantPandas/PandaEducation/CurriculumGuides/5-8/5to8GiantPandaBehaviorWatchAct8.pdf>

Module 4 Appendix: Behind the Scenes - Research and Conservation at the National Zoo

- 1 Smithsonian's National Zoo research cited: *Impact of White-tailed Deer on Forest Ecosystems*
- 2 Smithsonian's National Zoo research cited: *Genetic Management of Ex-situ Giant Panda Populations; Male Giant Panda Reproduction: Helping to Breed Through Artificial Insemination with Frozen Sperm; Endocrinology of Reproduction and Stress in the Giant Panda; Behavioral Assessment of Reproductive Competence in Captive Giant Pandas; Genome Resource Technology and Conservation*
- 3 Smithsonian's National Zoo research cited: *Bamboo Preference Study; Nutrient Composition of U.S. and Chinese Bamboo Fed to Giant Pandas; Giant Panda Foraging Study; Environmental and Social Preferences of Captive Giant Pandas*
- 4 See *Wildlife Adventures*: "ABCs of GIS" for a brief description of GIS mapping.
<http://www.natzoo.si.edu/Publications/WildlifeAdventures/Articles/ABCsOfGIS/>
- 5 Smithsonian's National Zoo research cited: *Mapping Canada's Intact Forests; Effects of Scale and Logging on Landscape Structure in a Forest Mosaic; Landscape Effects of Logging on Birds and Small Mammals in Managed Forest Mosaics of the Appalachians; Deforestation Mapping in Myanmar*

Module 5 People and the Forest: Historical, Cultural, Economic, and Ecological Perspectives

- 1 Convention on Biological Diversity: Forest Biodiversity <http://www.biodiv.org/programmes/areas/forest/default.asp>
- 2 Wells and Brandon are attributed with defining ICDPs in 1992. See Wells M, Brandon K, Hannah L. 1992. *People and Parks: Linking Protected Area Management with Local Communities*. World Bank, USAID, WWF-USA, Washington D.C. See also "Structuring Ecotourism Success: Framework for Analysis" at <http://www.ecotourism.org/textfiles/brandon.pdf>.
- 3 This draft paper was presented at the Bishkek Global Mountain Summit for review by the Mountain Forum, Section B: Sustainable Mountain Economies. It discusses Pingwu County's ICDPs, including ecotourism and other enterprise-based livelihoods such as improved agriculture, handicraft production, and non-timber forest product development.
- 4 Convention on Biological Diversity: Forest Biodiversity <http://www.biodiv.org/programmes/areas/forest/default.asp>

Module 5 Appendix: Challenges and Promising Developments in Temperate-Forest and Giant Panda Conservation

- 1 Eldredge, Niles. 1998. *Life in the Balance: Humanity and the Biodiversity Crisis*. Princeton, New Jersey: A Peter Neuraumont Book, Princeton University Press. p. 152.
- 2 \$33 trillion is equivalent to almost two times the 1997 gross national product (GNP) of all the countries in the world. Study cited in Wilson, Edward O. 2002. *The Future of Life*. "Chapter 5: How Much is the Biosphere Worth?" New York: Borzoi Book, Alfred A. Knopf. p. 105.
- 3 Giant Pandas: The Bear Facts. Online at <http://nationalzoo.si.edu/Animals/GiantPandas/PandaFacts/default.cfm>
- 4 See <http://www.wwfus.org/pandas/conservation.cfm> for additional information.
- 5 Harkness, James. 1998. Recent Trends in Forestry and Conservation of Biodiversity in China. Cambridge: *The China Quarterly*. p. 912. Harkness citing Zhao Yining and Huangpu Pingli, "Yi ke shu ye buneng zaikanle" (Don't even cut one more tree"), *Liaowang xinwen zhoukan* (*Outlook Weekly*), No. 18 (1998), p. 23.
- 6 See "Sustainable Development, Poverty, and the Environment: A Challenge to the Global Community," presented by IUCN and WWF at World Summit on Sustainable Development, for an elaboration on this argument. <http://www.iucn.org/wssd/files/documents/poverty.pdf>
- 7 Lumpkin, Susan and Seidensticker, John. 2002. *Smithsonian Book of Giant Pandas*. Washington, D.C.: Smithsonian Institution Press. p. 160.

⁸ See *Smithsonian Book of Giant Pandas*, pp. 155-186 for a discussion on the 4-Cs Formula.

⁹ See “Panda Under a Pear Tree” for a discussion on providing farmers compensation for loss and creating incentives for conservation: <http://nationalzoo.si.edu/Publications/ZooGoer/2001/1/pandapeartree.cfm>.

¹⁰ Lumpkin, Susan and Seidensticker, John. 2002. *Smithsonian Book of Giant Pandas*. Washington, D.C.: Smithsonian Institution Press. p. 178.

Module 6: What You Can Do!

¹ The average American citizen consumes about 50 times more goods and services than the average Chinese citizen. (PRB 1996)

² This and all other statistics for the reduction of carbon-dioxide emissions, unless otherwise noted, are from WWF Green Tips: Stop Global Warming: <http://www.wwf.org>.

Photo Credits

Front Cover

Scenic mountain view of China’s Tangjiahe National Nature Reserve by Jessie Cohen, Smithsonian’s National Zoo

Xun Zhao Gong Tong (Finding Common Ground) calligraphy by Jeffrey Huang

Inset photos, left to right:

Bamboo in Chinese market by John Seidensticker, Smithsonian’s National Zoo

Baby panda at Wolong Nature Reserve, China, by Jessie Cohen

Chinese children by John Seidensticker

Wildflowers on mountain at Wolong Nature Reserve by Jessie Cohen

North American black bear by Jessie Cohen

Snake by Jessie Cohen

Back Cover

Scenic mountain view of China’s Tangjiahe National Nature Reserve by Jessie Cohen

Inset photos, left to right:

Medicinal and food plants in Chinese market by Jessie Cohen

Gray squirrel by Jessie Cohen

Spider crab on an aster in Tangjiahe Nature Reserve by Jessie Cohen

Chinese woman spinning yarn by Jessie Cohen

True pheasant by Jessie Cohen

Clouded leopard by Jessie Cohen

Module 4 Appendix: What Do You Do at the Zoo?

Pages 90-95, photos of Lucy Spelman, Lisa Stevens, Brenda Morgan, David Powell, Chuck Fillah, and Susan Ades by Jessie Cohen

Module 4 Web: Smithsonian’s National Zoological Park Profile

Page 1, photo of William McShea by Wang Dajun, Peking University

Pages 2, 4, 5, photos of Rebecca Spindler, Rudy Rudran, and Suzan Murray by Jessie Cohen

Page 3, photo of Jesus Maldonado by Ryan Valdez

得天独厚

Abound in nature's gifts

– Chinese proverb