

Classroom Connections on Population and Wildlife

Pop. Ed. has animal habitat lesson plans for all ages

By Pam Wasserman, Vice President for Education

Understanding the causes of species loss and its impact on human well-being is central to the study of human ecology, and human ecology comprises much of population education. While there are many valuable environmental education programs around the country that explore nature and teach conservation, few strongly make the population connection.

Teaching students about threats to the world's rich biodiversity can be aided by a simple mnemonic device—HIPPO (Habitat Destruction, Invasive Species, Pollution, Population, Overharvesting). E. O. Wilson, perhaps our greatest living biologist, writes, "The prime mover of the incursive forces around the world is the second P in HIPPO—too many people consuming too much of the land and sea space and the resources they contain." (*The Future of Life*, 2002)

Over the years, the Population Education Program has developed many teaching resources to help students understand the importance of biodiversity and how our growing population threatens it. These resources are designed to be age-appropriate, addressing topics that are relevant to students' life experiences.

Beginning with our early childhood education curricula for pre-K through 2nd grade (*Sharing a Small World*), we engage young

students in "The Web of Life," a hands-on, role-playing simulation to explore how animal and plant species depend upon each other and the right environmental conditions to thrive. Sitting in a circle with an unfurled ball of yarn, students listen to a story about a woodlands ecosystem. When their "character" is called (sun, rain, tree, worm, rabbit, soil, ant, bee, people, etc.), they connect the yarn from one to the other. A tug on the yarn by one child is felt by the others in the group, illustrating interdependence in nature.

By upper elementary grades (3-5), students are ready to learn about the causes and consequences of habitat loss with activities from *Counting on People*. Pretending to be giant pandas, they search for bamboo in "Pondering Pandas," even as their habitat (desks in the room) is incrementally taken away. In "Wanted Alive," they play "species sheriffs" and must create informational "wanted" posters for their assigned animal or plant, building a case for why their species should be protected.

Middle schoolers work on their math skills while learning about the rich biodiversity of the tropical rainforest. They calculate the probability of eliminating a rare species as acres are cut down for grazing and farmland in "A World of Difference" (*Multiplying People, Dividing Resources*). In a lesson on carrying capacity, they become mountain

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lions, trying to amass enough prey to survive (“Cougar Hunt,” *People and the Planet*).

For our high school lessons, we incorporate more research and writing skills. In one of our classic activities, “Bye, Bye Birdie,” students research specific endangered species and develop criteria that ecologists, wildlife managers, and public officials might use to make decisions about which species to protect. One of our newer activities, “The Sixth Extinction,” takes students on a journey through geological history to determine how our current period of mass species loss differs from the five that preceded it, and how it can be stopped. “Like Water and Oil,” a hands-on lab, helps students understand the effects of oil spills on marine animals. All of these activities plus readings and case studies on human/wildlife interactions are found in the newest edition of our secondary resource, *Earth Matters*.

Education about these human ecology concepts need not be confined to the K-12 classroom. Zoos, aquariums and science museums the world over have sought our help in bringing the human factor to effective exhibits on animals. In fact, our ever-popular, “dot” video, *World Population*, is part of permanent exhibits on biodiversity and animal habitat at the American Museum of Natural History, the Columbus Zoo (where Jack Hanna was director for 14 years), Seattle's

Woodland Park Zoo, and the Melbourne Museum in Australia.

Through our teaching resources and training workshops, we emphasize why population education needs to be part of conservation education. Throughout the year, Population Education staff and our network of trainers work with naturalists and marine educators to help them make the population connection to the public. By minding their “P’s”, especially the second “P” in HIPPO, they can introduce critical human ecology concepts to nature lovers of all ages.

All of the teaching resources referenced in this article can be ordered through our program website:

www.populationeducation.org



Participants at the Environmental Educators of Ohio conference collect their “prey” in “Cougar Hunt,” a Population Education activity about carrying capacity. Photo: Catherine Knoop