



Volume 8 Number 1

The Wild Times

The Newsletter of The Wild Ones
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In this issue...

Did you know that you have a range, just like wild animals do? This is the place where you feel “at home” and where you spend most of your time. This area is where you, your family, and your community conduct your day to day living. But other living organisms overlap their home ranges with ours.

Where do you call home? Do you feel connected to the mountains? to the ocean beaches? That region is your Bioscape.

We will be exploring the concept of “Bioscape” in this issue of The Wild Times.

What is a “Bioscape”?

*Fred W. Koontz, Ph.D.
Wildlife Trust*

People, animals, and plants share the Earth. Scientists, nature managers, and land-use planners are working together to find ways for all living things to survive. This task is difficult because the world is becoming over crowded with people, and as result, there are ever fewer natural resources to share. Land, river, and ocean habitats for animals and plants are disappearing at alarming rates. Today, natural habitats often are located near or within human-use areas, such as cities, towns, agricultural lands, and industrial sites. People, animals, and plants must live together!

Many regions today are mixtures of natural habitats and human-use areas. Scientists at Wildlife Trust use the word “Bioscape” to describe regions where they work that are mixtures of human-use areas and natural habitats. Specifically, a Bioscape is a human and natural landscape whose geographic boundary is defined by a common sphere of human influence, and it serves as a region where conservationists integrate science and ecosystem management with other human activities. Perhaps an example such as the New York Bioscape, on page 2, will help you to understand this idea.

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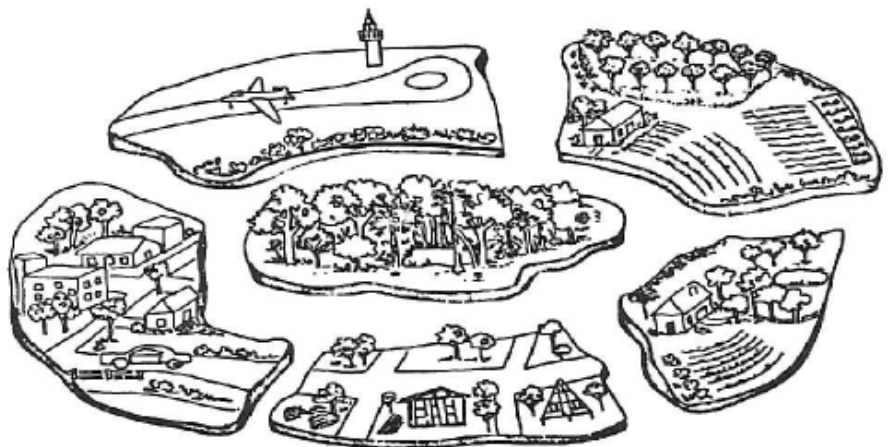
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www.thewildones.org



Do you see the forest, city, suburb, airport, and farms in the picture?

New York Bioscape

*Fred W. Koontz, Ph.D.
Wildlife Trust*

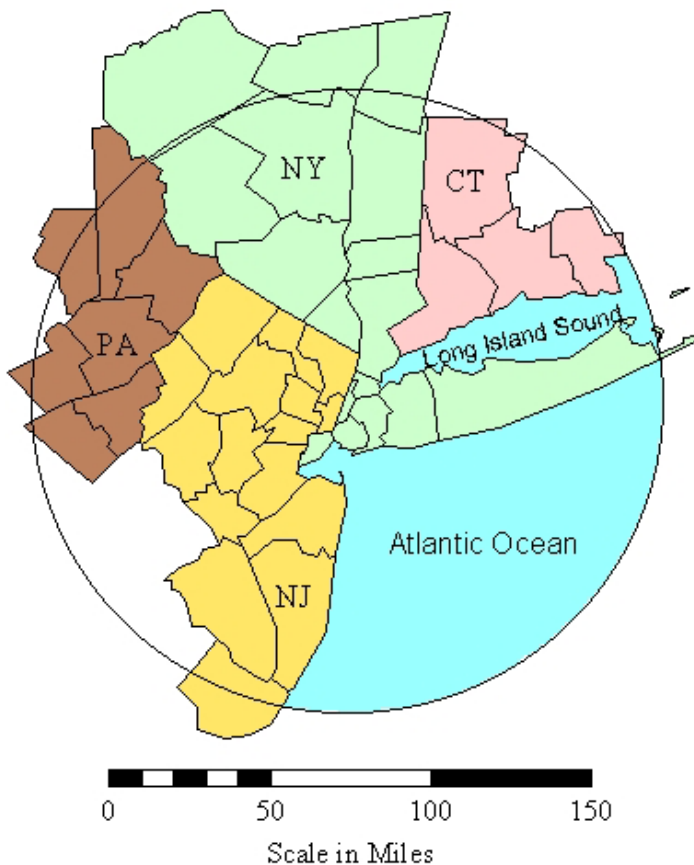
The *New York Bioscape* is described by drawing a 100-mile circle from midtown New York City. This is a very familiar area to New Yorkers, as it is the region where most residents conduct their daily activities. Scientists say it has a “common sphere of human influence.” The New York Bioscape’s 28,000 square miles is a mixed landscape of human-use areas and natural lands and waters that supports 24 million people. It is surprisingly rich in biodiversity,

and contains many different types of habitats, from marine waters to coastal plains to mountain highlands. It also is a part-time home to many important migratory species. Yet, at the same time, the human dimension is extraordinary. The area includes hundreds of communities – in fact, 8% of the United States population lives in the New York Bioscape! Wildlife Trust scientists are working together with nature managers and land-use planners to study the health of people, animals, and plants living in the New York Bioscape. After all, they all share the same area and need to live together!



"The Wildlife Trust family welcomes Alexandra Mae Wilkinson with love, and wishes her a peaceful world where she can grow in harmony with Nature"

New York Bioscape



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How do you view your world around you?

Susan Elbin, Wildlife Trust

My mother always told me not to see the glass as half empty, but to see it as half full! But if I am having a very bad day, then I will see the glass as half empty, no matter what my mother says! A person's viewpoint is, of course, biased by experience.

What do you see when you look at the object below?



Do you see a white vase or 2 black profiles, facing each other?



What do you see here?

At first glance, this image consists of black splotches, but look closer. It actually spells a word.

Similarly, there are many ways to look at the geographic distribution of biodiversity in the natural world. Some conservation

organizations talk about Hotspots, The Global 200, Ecoregions, Yukon-to-Yellowstone, and Living Landscapes, to name just a few. Each view has it's own perspective.

Hotspots are one of Conservation International's main areas of focus for biodiversity conservation. A Hotspot is a place where there is high endemism (the presence of species found nowhere else) and a high degree of threat to the future of the species. Plant endemism is a major main factor for defining Hotspots because plants support most other forms of life. The degree of threat is measured in terms of habitat loss.

www.conservation.org/xp/CIWEB/strategies/hotspots/hotspots.xml

The Global 200 is a way that World Wildlife Fund scientists look at species and habitats. WWF has identified more than 200 terrestrial, freshwater, and marine habitats for immediate protection. These are areas in which the Earth's biological wealth is distinctive and rich, where its loss will be most severely felt. WWF's Global 200 is based on protecting important regions that are larger than any one project.

www.worldwildlife.org/global200/

Critical Ecoregions is a program of the Sierra Club. Within 21 regions the Sierra Club is developing a plans to protect major land and water systems in the United States and Canada, where most of the Sierra Club members call home.

www.sierraclub.org/ecoregions/

Y2Y stands for Yellowstone-to-Yukon. This is a conservation plan from over 270 Canadian and US environmental organizations. These organizations must work together to restore and maintain the unique natural heritage of the Yellowstone to Yukon region. From Yellowstone to Yukon, the mountains and broad valleys of the North American West comprise a region of astonishing diversity, not just of wildlands and wildlife, but also of human communities and cultures. While many residents continue to make their living from the region's natural resources, increasing numbers are choosing to relocate or retire to the region because of the quality of life it offers. Still others know parts of the region as their ancestral homes and sacred sites, while yet others value the mountains' wild lands and rivers for the recreational opportunities they afford.

www.rockies.ca/y2y/overview/whatY2Y.htm

The Wildlife Conservation Society's Living Landscape Program is based on a simple truth: animals do not recognize park boundaries and stay where they are protected. Although parks are essential for conservation, the larger areas outside the protected areas need to be maintained. WCS relies on parks and protected areas, and also

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neighboring people, governments and the private sector to protect these expanses.

How do you see the world around you? Take some time to look at a local map. Mark the following places on the map:



- Where you live
- Where you go to school
- Where you play
- Where you go for hikes
- The nearest hospital
- The closest airport
- Where your parents work

You and your neighbors are connected to all these places. Plants and animals are connected to all these places, too. All the places you plotted on the map as well as the spaces in between make up what we call a “Bioscape”. Keep your map in a safe place. We will be adding to it as we further study all the pieces that make up the Bioscape.

Scientist Profile: Fred Koontz

Dr. Fred Koontz is Wildlife Trust’s Deputy Director for North American Conservation. At Wildlife Trust, Fred develops and carries out projects in the USA with collaborating scientists and educators. His current focus is building a regional conservation cooperative in the “New York Bioscape” – the area defined by drawing a 100-mile radius of New York City. The central issue of the NY Bioscape is to understand how the health of wild species, ecosystems, and humans can be ensured in the context of urban growth and environmental degradation.

Fred received his Ph.D. in Zoology/Behavioral Ecology from the University of Maryland (USA). While in graduate school, he worked at the Smithsonian Institute’s National Zoological Park, specializing in animal communication and social behavior of mammals. After receiving his Ph.D. in 1984, Fred worked for 15 years at the Wildlife Conservation Society (WCS), including ten years as Curator of Mammals at their Bronx Zoo (New York City). From 1994-1999, Dr. Koontz was WCS’s first director of its Science Resource Center. The Center’s mission is to empower conservation scientists to better implement scientific methodologies and cutting-edge technologies into their work. Fred’s areas of technical expertise include census methods, satellite tracking, and translocation of animals for reintroduction.



Dr. Koontz’s work has taken him around the world. Projects he has worked on include: following the migration of wood storks and trumpeter swans in the USA (North America); translocating black howler monkeys into the Cockscomb Basin Wildlife Sanctuary in Belize (Central America); studying Patagonia sea lions in Argentina (South America); tracking forest elephants in Cameroon (West Africa); observing gelada baboons in Ethiopia (East Africa); and consulting on captive breeding of giant pandas in China (Asia).

At Wildlife Trust, Dr. Koontz’s field work this year is on coyotes living in the New York Bioscape’s Hudson Highlands. The study’s purpose is to understand the role of coyotes (the region’s top mammalian predator) in maintaining biodiversity health, and to explore the myths and realities of human-coyote conflict. (See TWT vol.6#2 for more on Human-Wildlife conflict- Editor)

How are we connected?*Alida Madero, Wildlife Trust*

In a Bioscape, we find the area where we “roam”. We share this area with other humans as well as with different forms of wildlife. But, do you know if we depend of other Bioscapes? Fill in the blanks to find out how we are connected to other Bioscapes in the world!

1. The cup of coffee your parents drink in the morning may come from _____, or _____ (continents).
2. You may have an international breakfast of cereal from grain grown in _____, bananas from the _____, and orange juice from _____ (country or region).
3. You may be wearing clothes sewn in _____, shoes made in _____, and have toys made in _____ (country)
4. You could be linking to Internet through a computer manufactured in an _____ or _____ country (continent or region).

These are every day examples of how we are connected to the world. Other species of animals are also connected to the world in a global way. For example,

5. Majestic gray whales that can be seen in the Northern Pacific Ocean need the warm waters of the Sea of Cortez in _____ (country) to give birth.
6. The amazing Monarch butterflies from the United States and Canada depend on certain type of forests in the mountains of Michoacan, _____ (country), and they migrate there every winter.
7. Many birds from North America migrate during the winter to the forests and shores of _____ (continent), where they escape from the cold and find food.
8. At least four species of sea turtles found in the oceans of the world, depend on the same quiet beaches of _____ (continent) countries to lay their eggs.

We are all dependent upon each other: humans, wildlife, and ecosystems. When habitats are destroyed or species are lost in one part of the world, we are all affected. For that reason, conservation is a global issue. Remember, there is just one earth. There is a popular expression: “Act locally, think globally.” We all need to take that advise to heart.

Our suggested answers appear in the *Teacher Connection*.

Choose well!

Here are some small actions you can do from your own Bioscape, that help the world in a big way!

☞ Have your parents choose coffee that is grown in the shade. That way you will be promoting habitat for songbirds, bats, butterflies, and other wildlife in tropical countries.

☞ Reduce the amount of paper you use. Use email if you can. Reuse paper whenever possible. Buy recycled paper. When you use less paper, you help conserve forests around the world.

☞ Drive less, pedal more. When you carpool, or use public transportation, you help keep the air clean by polluting less. More exercise will make you healthier, too!

☞ Support conservation of open space and undeveloped land in your neighborhood. Undisturbed habitat supports a rich diversity of species.

☞ Shop green! When you buy products made from recycled materials, and when you buy used items, you help reduce the amount of raw materials and other resources used up in production.

☞ Plant gardens with native plants. Reducing the amount of lawn in your own backyard and growing native plants and trees will reduce the amount of fertilizers, pesticides, and water you need to use, because native plants are adapted to the soil, climate and pests that naturally occur there. You will be supporting local wildlife.

Pine Barrens

by Pat Delaney, TWO Advisory Committee

New Jersey, a small coastal state on the East Coast of the United States, is often thought of as being an endless stretch of highways, factories, and landfills. Though New Jersey is a highly industrialized state, it does have places that are wild and undeveloped.

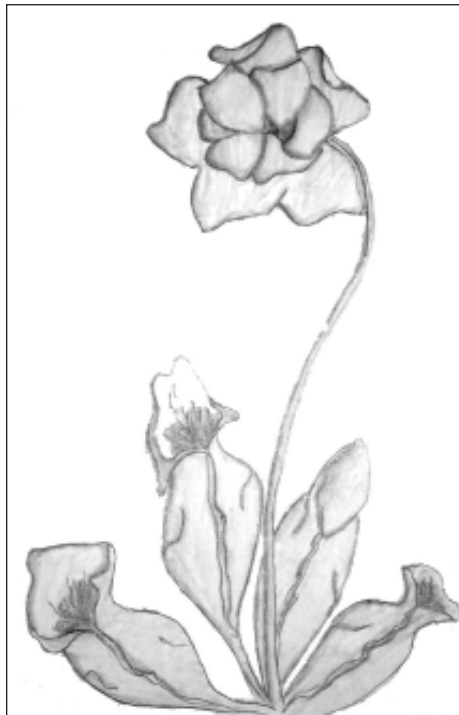
One of these areas is called the New Jersey Pine Barrens. This unique area covers approximately 1.1 million acres, which is nearly one quarter of the state's total land area. In many locations, pines are the dominant types of tree, but the landscape is by no means barren. The Pine Barrens is home to an estimated eight-hundred and fifty species of plants and three hundred and fifty species of birds, mammals, reptiles, and amphibians.

In naming the region, the early settlers of the 1600's were referring



Round Leaf Sundew (*Drosera rotundifolia*)
Davud S. Indian Mills Memorial School, N.J.

to their inability to grow traditional food crops. This was and still is because of the sandy, acidic, nutrient poor soil. Today, farming does take place by growing native plants such as blueberries and cranberries, or by adding nutrients and raising the pH of the soil.



Pitcher plant (*Sarracenia purpurea*) by David S. Indian Mills Memorial School, N.J.

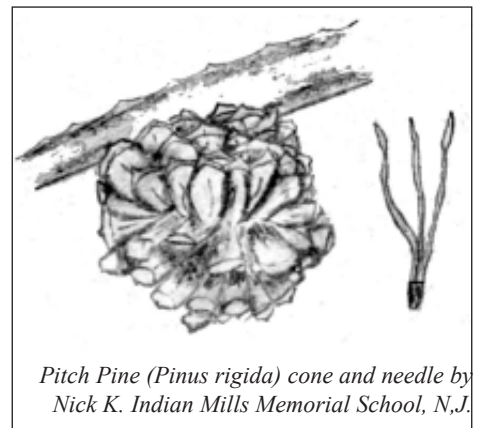
A number of plant species have adapted to these poor soil conditions by gaining much needed nutrients, such as nitrogen, by "catching" insects. A few of these include the Pitcher Plant (*Sarracenia purpurea*), Round Leaf Sundew (*Drosera rotundifolia*), and Purple Bladderwort (*Utricularia purpurea*). These insectivorous plants use three different but effective ways to trap insects.

The Pitcher Plant has specially designed pitcher shaped leaves that collect rainwater through openings at the tops. Insects are attracted by a sweet-smelling substance produced by glands on the leaves.

Once they are inside the "pitcher," the insects cannot escape due to downward growing hairs on the inside surface of the leaves. The insects tire, fall into the collected water, and eventually drown. Digestive enzymes break down the insect, and the nutrients are absorbed.

The Round Leaf Sundew has hair-covered leaves that produce a sweet-smelling, sticky substance. Small insects land on the leaves and are trapped, much like how flypaper works. The insects eventually die and their nutrients are absorbed.

The Purple Bladderwort actually catches small aquatic insects and other tiny aquatic organisms in "bladders" or small structures located on fine, threadlike, underwater leaves. Tiny organisms can enter the bladders but cannot leave. Once they die, their nutrient are absorbed by the plant.



Pitch Pine (*Pinus rigida*) cone and needle by Nick K. Indian Mills Memorial School, N.J.

The dominant pine of the Pine Barrens is the Pitch Pine (*Pinus rigida*). It grows to be forty to seventy feet tall, asymmetrical, and not a very good looking pine (It is not a variety that you would decorate for a Christmas tree).

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Swamp Pink (*Iteionias bullata*) by David S.
Indian Mills Memorial School, N.J.

In an area where wildfire is a frequent occurrence, the Pitch Pine is a survivor. It has a thick bark, which is very resistant to fire. After fires, many Pitch Pines sprout needles directly out of their trunks. In addition, Pitch Pine cones only open in extreme heat, so after forest fire, the trees reseed themselves.

There are four different areas in the Pine Barrens where the Pitch Pines only grow to a height of five

or six feet, no taller than your parents! These regions are called Pygmy Pine Forests. It is thought that soil conditions, wind, and more frequent forest fires have actually stunted the growth of these trees.

There are approximately fifty-five plant species considered endangered in the New Jersey Pine Barrens.

Reasons for the dwindling numbers include introduction of aggressive, non-native plants, the preventing and extinguishing of fires (normally a natural occurrence of the Pine Barrens), and changing the natural water flow, or hydrology, because of farming and building.

One of these endangered plants is the Swamp-Pink (*Hellonias bullata*). True to its name, it does grow in wet areas such as swamps or bogs. The Swamp-Pink stands from one to two feet tall with the leaves only along the bottom of the stem, which is topped with a cluster of small, pink or pinkish purple flowers.



Pine Barrens Tree Frog (*Hyla andersonii*) by
Sarah O. Indian Mills Memorial School, N.J.

There are presently twenty-eight species of vertebrate, including birds, reptiles, and amphibians, considered threatened or endangered. Two of these are the Bog Turtle (*Clemmys muhlenbergii*) and the Pine Barrens Tree Frog (*Hyla andersonii*), inhabitants of bogs and swamps. Both have become threatened because of habitat destruction of freshwater wetlands.

With greater and greater pressure for space in the state of New Jersey, how has the Pine Barrens remained so untouched? Both federal and state legislation protect it from development. In 1978, the United States Congress passed a law declaring one million acres as the Pinelands National Reserve. One year later, the state of New Jersey passed the Pinelands Protection Act. These greatly limit development and, in some areas, totally forbid it. In recognition of its unique nature, the New Jersey Pine Barrens was designated as an International Biosphere Reserve by the United Nations in 1983.

I have been a resident of the New Jersey Pine Barrens for over twenty years, and my appreciation and wonder of this beautiful place only increases with time.



Bog Turtle (*Clemmys muhlenbergii*) by Sarah
O. Indian Mills Memorial School, N.J.



Whether we live at sea level or at the highest elevations, we are all mountain people. We are connected to mountains and are affected by mountains in more ways than we can imagine. Mountains provide most of the world's fresh water, harbour as much or more biodiversity than any other areas and are home to at least one in ten people. Yet, war, poverty, hunger, climate change and environmental degradation are threatening the web of life that mountains support. The International Year of Mountains is an opportunity to take steps to protect mountain ecosystems, to promote peace and stability in mountain regions and to help mountain people attain their goals and aspirations. By taking care of the world's mountains, we help to ensure the long-term security and survival of all that is connected to them, including ourselves.

To learn more about mountains, visit:

<http://www.mountains2002.org>



Contribute with our Next Issue!

Have you ever thought about traveling to other countries without your passport? You may be surprised to learn that many animal species travel between countries quite frequently! In the next issue of *The Wild Times*, we will explore "Wildlife Conservation Across International Borders". Get ready to learn about animals that feel at home in several countries and about the scientists who study them. What do you think are some of the challenges to conservationists in studying and protecting these well-traveled animals?

Share your artwork and observations with *The Wild Ones*! If you send us your work, you just may be a featured artist in the next issue!



Scarlet Macaw, Ara macao, moves seasonally across international borders of Belize, Guatemala and Mexico.



Monarch Butterfly, Danaus plexippus migrates as much as 5,000 km from Canada to the pine forests in the State of Michoacan, Mexico

Don't know what to send us? Here is a list of suggestions:

- § drawings and photos you have made of animals
- § stories you have written
- § observations of animals in the wild, at zoos, or even in your backyard
- § poetry
- § puzzles

Send your work to:

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