ENHANCING THE ENVIRONMENT WITH TRAILS AND GREENWAYS

WHAT ARE TRAILS AND GREENWAYS?

Greenways are corridors of protected open space managed for conservation and recreation purposes. Greenways often follow natural land or water features, and link nature reserves, parks, cultural features and historic sites with each other and with populated areas. Greenways can be publicly or privately owned, and some are the result of public/private partnerships. Trails are paths used for walking, bicycling, horseback riding or other forms of recreation or transportation. Some greenways include trails, while others do not. Some appeal to people, while others attract wildlife. From the hills of inland America to the beaches and barrier islands of the coast, greenways provide a vast network linking America's special places.

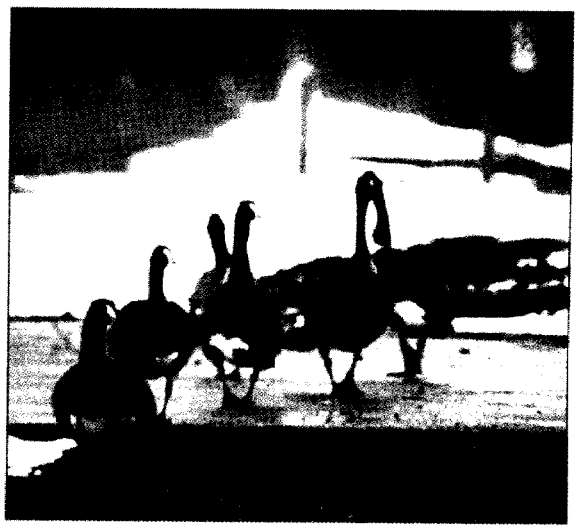
"PROTECTING ENVIRONMENTAL CORRIDORS THROUGH ESTABLISHING AND MANAGING GREENWAYS REPRESENTS ONE METHOD (TO BE USED IN CONJUNCTION WITH OTHER APPROACHES) TO SAFEGUARD VITAL ECOLOGICAL PROCESSES.

— JONATHAN M. LABAREE, AUTHOR OF *HOW GREENWAYS WORK, A HANDBOOK ON ECOLOGY*

TOOLS FOR CONSERVATION

As tools for conservation, trails and greenways preserve important natural landscapes, provide needed links between fragmented habitats and offer tremendous opportunities for protecting plant and animal species. Partially due to expansive development, "islands" of habitat dot the landscape, isolating wildlife and plant species and reducing habitat necessary for their survival. Trails and greenways provide important links between these island populations and habitat and increase the land available to many species.

- The preserved Pinhook Swamp between Florida's Osceola National Forest and Georgia's Okefenokee National Wildlife Refuge protects a vital wildlife corridor. This greenway keeps intact an important swampland ecosystem that sustains numerous wildlife species including the Florida black bear, timber rattlesnake and the Florida sandhill crane.
- In March 1999, 12,638 acres of critical wetland habitat along the Rio Grande in Cameron, Texas were added to the National Wildlife Refuge system, creating a larger ecological system needed by migratory birds.[1]



Visitors share the Pymatuning State Park Trail, Pennsylvania with geese and other wildlife. (Photo: Anthony J. Masich, Jr.)

If presented with the option, more people, such as this bicyclist using the Northern Delaware Greenway, would use trails and greenways to commute. (Photo: Edward T. McMahon)

IMPROVING AIR QUALITY

Trails and greenways improve air quality by protecting the plants that naturally create oxygen and filter out air pollutants such as ozone, sulfur dioxide, carbon monoxide and airborne particles of heavy metals. According to a study conducted by David Nowak, in 1991 natural tree-related air filtration provided Chicago, Illinois with $1 million in annual air pollution removal.[2]

Trails and greenways link neighborhoods with shopping and entertainment districts and provide pleasant transportation alternatives for commuting to work and school. Municipalities include trails and greenways into city plans not only for recreational purposes, but also to encourage the use of alternative modes of transportation.

- A 1991 Harris Poll found that 46% of those surveyed said that they would bike to work if designated trails were built.[3]
- Seattle, Washington's Burke-Gilman Trail is a popular route for commuting. A 1990 trail survey found that 37% of the bicyclists and 7% of the pedestrians used the trail for commuting.[4]
- A 1997 trail use study of the Iron Horse Regional Trail in California found that approximately one-third of those surveyed use the trail for transportation purposes, including commuting to work or school, or using the trail as an alternative route to access shopping areas and restaurants.[5]

WATER QUALITY

Trails and greenways are important tools for improving water quality. Greenways provide natural buffer zones that protect streams, rivers and lakes from pollution run-off caused by the frequent use of fertilizers and pesticides on yards and farms. Such non-point source pollution degrades waterways and threatens water quality and the health of aquatic species.

According to the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service, agricultural buffers, if properly installed, can remove up to 50% or more of nutrients and pesticides and up to 75% or more of sediment that would otherwise be washed into waterways.[6] Realizing the importance of these buffers, USDA launched an initiative to help landowners install 2 million miles of buffers by the year 2002.

Communities realize the benefits of buffers for raising water quality and saving money on artificial water filtration systems.

- The lowest cost estimate for a water treatment alternative to the natural water filtration created by wetlands in the Conagree Bottomland Swamp in South Carolina was $5 million.[7]
- The estimated annual value of the water filtration attributed to wetlands along a 3-mile stretch of Georgia's Alchoy River is $3 million.[8]
- The U.S. Forest Service is acquiring stream buffers to help protect the Pacific Northwest's $1 billion annual fishing industry.[9]

When used as buffers, greenways protect rivers, creeks and lakes from agricultural, lawn and road runoff.

"GREENWAYS ALLOW US TO TREAT LAND AND WATER AS A SYSTEM, AS INTERLOCKING PIECES IN A PUZZLE, NOT AS ISOLATED ENTITIES."

— EDWARD T. MCMAHON,
AMERICAN GREENWAYS PROGRAM,
THE CONSERVATION FUND

FLOOD DISASTER MITIGATION

River greenways mitigate damage caused by floods by absorbing excess water when rivers overflow. Unfortunately, many floodplains have been developed over the years. Today, almost 10 million homes are located in floodplains, placing millions of people in danger every time a river overflows. According to the Federal Emergency Management Agency (FEMA), flooding causes over $1 billion in property damages every year.[10] Some towns are flooded repeatedly; Tulsa County in Oklahoma has been declared a federal disaster area 10 times!

Many riverside communities have decided to restore developed floodplains to their natural state by moving structures out of the floodplain or by moving entire towns.

- The 900 residents of Valameyer, Missouri decided to move to higher ground after the city was destroyed in 1993 by 16 feet of water flowing from the Mississippi River.[11]
- Other cities have moved only those residences and businesses located in floodplains. Since the 1970s, 900 structures have been moved out of the Mingo Creek floodplain in Tulsa, Oklahoma. This once-developed floodplain now includes woodlands, wetlands, parks and trails.[12]

ECO-TOURISM

By protecting critical habitat, trails and greenways also support communities through eco-tourism. Some towns thrive on eco-tourism, such as Damascus, Virginia. Once an industrial-based town, Damascus now caters to users of the Appalachian Trail, Virginia Creeper Trail, the Jefferson and Cherokee National Forest, and many other natural recreational areas.

- The Slickrock Mountain Bike Trail in Utah generates $1.3 million in annual receipts for the city of Moab.[13]
- In a 1992 study, the National Park Service estimated the average economic activity associated with three multi-purpose trails in Florida, California and Iowa was $1.5 million annually.[14]
- River recreation such as rafting and kayaking contribute $50 million annually to Colorado's economy.[15]
- In 1991, 108.7 million people in the U.S. spent $59 million on wildlife-related recreation in the U.S., according to the U.S. Fish and Wildlife Service.[16]

RESOURCES

The benefits of trails and greenways to protecting and improving our environment are numerous. For more information about the environmental benefits of trails and greenways, contact the following organizations:

American Rivers
1025 Vermont Avenue, NW, Suite 720
Washington, DC 20005
www.americanrivers.org

Natural Resources Conservation Service
U.S. Department of Agriculture
P.O. Box 2890
Washington, DC 20013
www.nrcs.usda.gov

Rails-to-Trails Conservancy
1100 17th Street, NW, 10th Floor
Washington, DC 20036
www.railtrails.org

The Conservation Fund
1800 N. Kent Street, Suite 1120
Arlington, VA 22209
www.conservationfund.org

HELPFUL RESOURCES:

Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors, Rivers, Trails and Conservation Assistance Program, National Park Service. 1995. Can be found at www.nps.gov/pwro/rtca/econ_index.htm.

Planning Trails with Wildlife in Mind, A Handbook for Trail Planners. Colorado State Parks. 1998. Can be found at www.dnr.state.co.us/parks/ or order from the Colorado State Trails Program, (303) 866-3203 ext. 306.

Labaree, Jonathan M. *How Greenways Work, A Handbook on Ecology.* Rivers, Trails and Conservation Assistance Program, National Park Service, 1992. Available from The Conservation Fund, (703) 525-6300.

Flink, Charles A. and Robert M. Searns. *Greenways, A Guide to Planning, Design, and Development.* The Conservation Fund, 1993. Available from The Conservation Fund, (703) 525-6300.

ENDNOTES:

[1] "Texas Wildlife Refuge Gains Critical Rio GrandeWetlands," The Conservation Fund, News Release, March 22, 1999.

[2] Nowak, David J, "Air Pollution Removal by Chicago's Urban Forest," *Chicago's Urban Forest Ecosystem: Results of the Chicago Urban Forest Climate Project,* U.S. Forest Service, 1994. Cited in *Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors,* National Park Service, Rivers, Trails and Conservation Assistance, 4th edition, 1995, p. 8-9.

[3] Martin Guttenplan and Robert Patten, "Off-Road but On Track," *TR News,* 178, May-June 1995.

[4] Ibid.

[5] *Iron Horse Regional Trail, Trail Use Study,* East Bay Regional Park District, 1997, p. 11-12.

[6] "Buffer Strips: Common Sense Conservation," National Conservation Buffer Initiative, Natural Resources Conservation Service, U.S. Department of Agriculture, www.nhq.nrcs.usda.gov/CCS/Buffers.html.

[7] Floodplain Management Association "Economic Benefits of Wetlands," *MFA News,* July 1994.

[8] Steve Lerner and William Poole, *The Economic Benefits of Parks and Open Space,* The Trust for Public Land, 1999, p. 41.)

[9] Ibid., p. 43.

[10] "Mitigation, Reducing Risk Through Mitigation," Federal Emergency Management Agency, www.fema.gov/mit/flood.htm.

[11] "Floodplains," American Rivers, www.americanrivers.org/floodcase.html.

[12] Ibid.

[13] Lerner and Poole, p. 26.

[14] *The Impacts of Rail-Trails, A Study of Users and Nearby Property Owners from Three Trails,* National Park Service, Rivers, Trails and Conservation Assistance Program, 1992.

[15] *Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors,* Rivers, Trails and Conservation Assistance Program, National Park Service, 4th edition, 1995, p. 2-8.

[16] Ibid., 2-6.

Trails and Greenways
CLEARINGHOUSE

ABOUT THE CLEARINGHOUSE: The Trails and Greenways Clearinghouse provides technical assistance, information resources and referrals to trail and greenway advocates and developers across the nation. Services are available to individuals, government agencies, communities, grassroots organizations and anyone else who is seeking to create or manage trails and greenways. The Clearinghouse is a joint project of Rails-to-Trails Conservancy and The Conservation Fund's American Greenways Program.

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