

Protected Area Definitions



Tatra Biosphere Reserve, Poland

Biosphere Reserve: Areas of terrestrial and coastal or marine ecosystems that are internationally recognized as promoting and demonstrating a balanced relationship between people and nature. Biosphere reserves are much like laboratories where new and best practices to manage nature and human activities are tested and demonstrated. Examples include Haleakala and Hawaii Volcanoes National Parks in the U.S. and Tatra in Poland and Slovakia.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO). "Biosphere Reserves: Reconciling the Conservation of Biodiversity with Economic Development." <http://www.unesco.org/mab/BRs.shtml> (accessed on December 21, 2006).



Shenandoah National Park, Virginia

National Park (U.S.): An area of particular natural, cultural, historic, or recreation value that is under the jurisdiction of the National Park Service. It includes national parks, national monuments, national historic sites, and so forth. According to a congressional act, the National Park Service shall promote and regulate those areas "to conserve the scenery and the natural and historic objects and the wildlife therein and

to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." Examples include Yellowstone and Rocky Mountain National Parks.

Source: National Park Service. "The National Park System: Caring for the American Legacy." <http://www.nps.gov/legacy/mission.html> (accessed on December 21, 2006).



Wading Birds at a Wildlife Refuge

National Wildlife Refuge (U.S.): Areas protected by the federal government through the U.S. Fish & Wildlife Service (USFWS). "The National Wildlife Refuge System is a network of habitats that benefit wildlife, provide unparalleled outdoor experiences for all Americans, and protect a healthy environment. Refuges are special places where the USFWS and its partners restore, protect, and manage habitat for America's wildlife." An example is the Arctic National Wildlife Refuge.

Source: U.S. Fish & Wildlife Service. "America's National Wildlife Refuges." <http://www.fws.gov/refuges/generalInterest/factSheets/FactSheetAmNationalWild.pdf> (accessed on May 2, 2007)



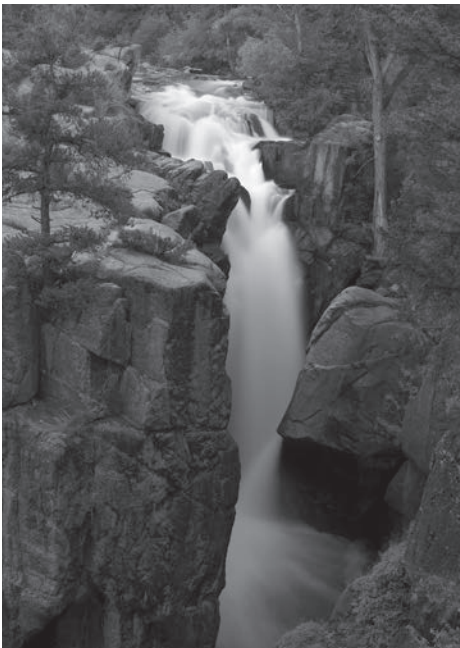
Chiricahua Wilderness Area, Arizona

National Wilderness Area (U.S.): "[A]reas of undeveloped federal land that retain their primeval character and influence, without perma-

Protected Area Definitions (continued)

ment improvements or human habitation, which are protected and managed to preserve their natural conditions. These areas are established as part of the National Wilderness Preservation System according to the Wilderness Act of 1964. P.L. 88-577." Examples include the Petrified Forest National Wilderness and Sawtooth National Wilderness areas.

Source: NationalAtlas.gov. "National Wilderness Preservation System of the United States." <http://nationalatlas.gov/mld/wildrnp.html> (accessed on December 21, 2006).



Bighorn National Forest, Wyoming

National Forest: Federally owned reserve administered by the U.S. Forest Service, which is part of the U.S. Department of Agriculture. By law, the national forests must be managed for multiple uses, such as forest products, recreation, watershed protection, wilderness, livestock grazing, mineral extraction, and wildlife habitat. Examples of National Forests include the Chattahoochee National Forest and Bighorn National Forest.

Source: Project Learning Tree's Secondary Environmental Education Program titled "Exploring Environmental Issues: Focus on Forests." Washington, DC. 1998.



Greenway Bike Path

Greenway: A linear open space; a corridor composed of natural vegetation. Greenways can be used to create connected networks of open space that include traditional parks and natural areas.

Source: Smart Growth Online. "Green Development Literature Search." http://www.smartgrowth.org/bibliographies/greenlit_search/glossary.html (accessed on December 21, 2006).



City Park

Park: A place or area set aside for recreation or preservation of a cultural or natural resource and under some form of government administration, not including national or state forests or reserves.

Source: ChartTiff. "Place Name Definitions." http://www.charttiff.com/place_names.shtml (accessed on December 21, 2006).

A Road through the Trees

If you watch television, chances are good that you have seen at least one advertisement showing a car or sport utility vehicle cruising up a forested mountain road or across a rocky plateau. As advertisers hope, those ads make many consumers see their cars as their ticket to freedom, beauty, and wilderness. But some people see the ads differently. For them, cars and roads are the very things destroying beauty and wilderness in many parts of the world.

To see how strongly people feel about roads in our wildest places, consider the wide differences in opinion about roadless areas in our national forests.¹ In 1998, the head of the Forest Service declared that he was placing a temporary moratorium on road-building in the national forests. He pointed out that our national forests already have about 400,000 miles of roads. He suggested that we should think about how to care for and manage our forests in the future, especially in areas that have never had roads at all. In 1999, the Forest Service extended the moratorium. And then later that year, then-President Bill Clinton indicated that the time had come to stop all road-building and timber-cutting in the remaining roadless wilderness areas within our national forests. Before he left office in January 2001, President Clinton set aside about one-third of all federally owned forestland as being off limits to road-building and to most logging. Soon after President George W. Bush took office, however, he put the measure on hold.

The head of the Forest Service and the former President supported the bans on road-building in national forests because it has been their position that roads are detrimental to forested lands.² Roads cause erosion and water pollution.³ They fragment wildlife habitat.⁴ They increase the presence of humans in wilderness areas in this country. Some people are especially upset because the government has subsidized road-building.⁵ For example, it has allowed timber companies to harvest a certain number of trees from national forests for free, in exchange for the company's building the road to those trees. That, say critics, is a free ride for which the public should not be paying.

But opponents to the ban maintain that roads are necessary to reach timber. And they don't think it's bad to subsidize road-building because, they say, once a timber company builds a road, people can continue to use it for years to come, thereby increasing access for camping, hunting, fishing, and other outdoor pursuits. So the public benefits from the road in the long run. It is their position that our national forests were created for use by the people, not for preservation of habitat. Many believe it's possible to harvest timber from these areas without harming the species that live in the forests.

At the heart of this controversy are some very basic questions. Who decides what the purpose of our national forests is? And how do we resolve differences of opinion about what the future of our national forests should be and how they should be managed?

¹ Bengston, David, and David Fan. "Attitudes Toward Roads on the National Forests: An Analysis of the News Media." Draft version of December 22, 1997. <http://www.treesearch.fs.fed.us/pubs/11267> (accessed on December 15, 2006).

² American Institute of Biological Sciences. "Washington Watch: U.S. Forest Service Proposes Ban on Road Construction." http://www.aibs.org/washington-watch/washington_watch_2000_09.html (accessed on December 15, 2006).

³ Ibid.

⁴ Ibid.

⁵ *Christian Science Monitor*. "Roadless Areas Get Protection—For Now." <http://www.csmonitor.com/2006/1207/p03s03-uspo.html> (accessed on December 15, 2006).

Forest Quotes

1. "Because a road is one of the most indelible marks man can leave on the landscape, it is our responsibility to safeguard the often irreplaceable ecological value of unroaded areas until a permanent policy can protect our last great open spaces, our water and wildlife, and the economic health of forest communities... We are therefore calling an official time out, so we can examine the science, involve the public, and build a roads policy for the 21st century."⁶
—Dan Glickman, former Secretary of Agriculture
2. "And last night I saw a Forest Service spokesman come on the air and say, 'They just need to understand that all we're doing is asking for a time-out for 18 months for us to get our plan together.' And I thought to myself, 'How many paychecks have you lost because you had to face being out of work?' They don't."⁷
—Helen Chenoweth, former Republican Representative from Idaho
3. A group of loggers in southern Utah has endorsed a recent U.S. Forest Service directive that halts new road-building in the roadless areas: "The bottom line is we want to maintain timber supply from here until eternity, so that my kids can grow up and take over the company... We are fearful that down the road, there's not going to be any more timber, that the big corporations will come in and take all the lumber and head on out. We want to maintain a healthy forest and maintain a timber supply to maintain our needs."⁸
—Clark Chappell, owner of Boulder Mountain Log Homes
4. "Environmentalists complain that ... roads, cut for the timber companies and maintained by the Forest Service, are degrading watersheds, filling streams with silt, and subdividing wildlife habitats. It is simply time to stop logging our national forests."⁹
—Carl Pope, Sierra Club executive director
5. "Our performance should be based on the long-term health of the land ... rather than the number of board feet produced."¹⁰
—Mike Dombeck, former chief of the U.S. Forest Service.
(Dombeck, who has traveled more than his share of forest roads, agrees that they cause problems. But he's not a "zero cut" forester; he believes there's a place for the timber industry on federal lands. Without harvesting, he points out, forests become overgrown and can be destroyed as quickly by fires as they are by overlogging.)
6. "While we can disagree over the level of resource uses in the national forests, the American Forest & Paper Association doesn't think this administration has the right to change the multi-use purpose of the national forests without involving the public and its representatives. Unfortunately, this is what ... Forest Service Chief Mike Dombeck has done with the moratorium on new roads in national forests, which virtually shuts down many

⁶ USDA Forest Service. "Forest Service Limits New Road Construction in Most National Forests." Forest Service News Release no. 0054.99. http://www.fs.fed.us/eng/road_mgt/nr-11feb99.shtml (accessed on December 15, 2006).

⁷ PBS Online. "Through the Woods, June 19, 1998; The NewsHours with Jim Lehrer Transcript." http://www.pbs.org/newshour/bb/fedagencies/jan-june98/road_6-19.html (accessed on December 15, 2006).

⁸ Israelsen, Brent. "Say What? Loggers Say No New Roads in Roadless Areas." *Salt Lake Tribune*, April 2, 1998.

⁹ Thompson, Dick. "Ruckus in the Woods; Ex-Fishing Guide Michael Dombeck Cuts a New Path for the Forest Service." *Time*, February 15, 1999.

¹⁰ Ibid.

Forest Quotes (continued)

national forests for recreational purposes. Changing the mission of national forests is not the solution, because demand for wood and paper products will not abate. If we continue on the road to shutting down national and private forests, the demand will be filled by nations that do not adhere to our high

standards. The cost to the environment and our economy will be significant.”¹¹

—*W. Henson Moore, former president and CEO of American Forest & Paper Association*

7. “Within our national forests, there are large parcels of land that don’t contain roads of any kind and, in most cases, never have.... They offer unparalleled opportunities for hikers, hunters, and anglers ... (and) ... they’re absolutely critical to the survival of many endangered species.... It is very important to point out that we are not trying to turn the national forests into museums.... This initiative should have almost no effect on timber supply. Only 5 percent of our country’s timber comes from the national forests. Less than 5 percent of the

national forests’ timber is now being cut in roadless areas. We can easily adjust our federal timber program to replace 5 percent of 5 percent, but we can never replace what we might destroy if we don’t protect these 40 million acres.”¹²

—*Former President Bill Clinton*

8. “This [the Roadless Area Conservation Rule] was flawed and one-sided.... Boise Cascade believes that there ought to be some level of harvesting in the roadless areas because it’s good for local economies and it’s also good for forest health.”

—*Mike Moser, spokesperson for Boise Cascade timber company*

9. “Ninety-nine point nine-nine percent of all roadless areas would have been protected even without this rule-making because ... the agency said that it was probably only going to construct 625 miles of road, anyway, [in those areas].”¹³

—*Carla Boucher, an attorney for the United Four Wheel Drive Associations, who believes the rule is not necessary*

¹¹ Op-Ed in the Washington Post. “National Forests: Who Decides?” *Washington Post*, April 30, 1999, p. A34. Babington, Charles. “Forest Protection Plan Is Unveiled.” *Washington Post*. October 14, 1999, p. A23.

¹² Grossman, Joe. “Blue Planet: Forest Roads Measure at Risk.” United Press International, Science News, March 21, 2001. <http://forests.org/archive/america/fordmeas.htm> (accessed on December 19, 2006).

¹³ Ibid.

Student Page

Analyzing the Issue

Area of Concern and Location:

Problem:

Issue:

Parties	Interests	Beliefs	Values

Possible Solution(s):

The Components of an Environmental Issue

Understanding environmental issues can be complex. One way to investigate and analyze an issue is to look at the following components:

Problem: A condition in which something is at risk. Most environmental problems involve the interaction of humans and the environment, as well as the threat or risk associated with that involvement. (Think about what is at stake when defining an environmental problem.)

Issue: A problem, or its solution, for which differing beliefs and values exist, usually involving two or more parties who don't agree. Often, different parties disagree on how to resolve an environmental problem. This conflict turns an environmental problem into an environmental issue.

Parties: The individuals or groups who are involved in an issue.

Interests: What the concerns or interests are of each party.

Beliefs: The ideas concerning the issue, whether true or not, held by the parties. A belief is strongly tied to a person's values.

Values: The relative worth that an individual places on something. Some examples used in labeling environmental values are as follows: aesthetic, cultural, ecological, economic, educational, egocentric, legal, recreational, and social.

Solutions: The various strategies proposed to resolve the issue.

Source: Adapted from Project Learning Tree's secondary module, *Exploring Environmental Issues: Focus on Forests*.

Protected Area #1: Galápagos Islands, Ecuador

Seething over Sea Cucumbers

If you cruised around the Galápagos Islands, you could see Galápagos giant tortoises, weighing as much as 400 pounds. You could spy marine iguanas—the world's only sea-going lizards. And you might see flocks of finches that use tools to get their food, as well as many other unique bird species. These are just some of the many rare and unusual species that inhabit the Galápagos, an isolated chain of islands found in the Pacific Ocean about 600 miles off the mainland of Ecuador. Many of the Galápagos's species are found nowhere else on Earth. What's more, biologists estimate that the islands still have about 95 percent of their original biodiversity. For all those reasons, the Galápagos Islands—and all waters within 40 miles of their outer perimeter—were declared a protected area in 1998. The protected area is called the Galápagos Marine Reserve.



Sea Cucumber

But a recurring controversy has many conservationists concerned about the health of this protected island ecosystem. In response to pressure from local fishers, the Ecuadorian govern-

ment has periodically allowed people to fish for sea cucumbers (*Isostichopus fuscus*) in the Galápagos. Sea cucumbers are invertebrate, slug-like animals that range in size from 2 centimeter to 2 meter. While not popular in Ecuador itself, sea cucumbers are considered a delicacy and a medicinal tonic in China and Taiwan. Thus, fishers know that they have a ready market for any sea cucumbers they catch. In fact, sea cucumbers are so popular that fishers have already exhausted the supply of them in many fishing grounds, and that's why they are so eager to fish the Galápagos.¹⁵

But allowing fishers into the Galápagos has been tricky. In 1995, the government opened a three-month sea cucumber season in the Galápagos, setting a total limit of 550,000 sea cucumbers. But in the first two months alone, approximately 800 fishers descended on the Galápagos, harvesting 7 million sea cucumbers!¹⁶

Conservationists expressed their outrage—not only because of the potential damage to the food web, but also because fishers were endangering native wildlife by accidentally introducing rats to the islands and dumping their waste overboard. But the fishers were just as insistent that they had a right to those resources. They pointed out that the government allows scores of tourists onto the islands, which causes environmental damage too. But little is being done to control the tourists. The living conditions on the Galápagos, combined with high unemployment, are driving the fishers to illegally harvest the sea cucumbers. There is a lack of jobs, and there is insufficient drinking water.

¹⁵ World Wildlife Fund. "New Study Finds Controls Inadequate to Protect Galapagos Sea Cucumbers." http://www.panda.org/about_wwf/what_we_do/marine/news/index.cfm?uNewsID=1916 (accessed on January 2, 2007).

¹⁶ Trade and Environment Database. "Sea Cucumber Loss in the Galapagos." <http://www.american.edu/ted/SEACUKE.HTM>

Protected Area #1: Galápagos Islands, Ecuador

Seething over Sea Cucumbers (continued)

In the 1995 season, the government halted the fishing season one month early. But the fishers had a quick response. The fishers entered the Charles Darwin Research Station—some armed with machetes and clubs—and took the scientists and their families hostage. The fishers threatened to destroy the giant tortoises at the center and to start fires on the islands unless the sea cucumber fishing season was restored.¹⁷ Those incidents suggest the unresolved nature of the basic dynamics that spur conflict between conservation and development and between local residents and the national government.



Galápagos Islands

On April 29, 2005, a technical team of biologists and representatives of local fishing groups presented a report on the results of population monitoring for sea cucumbers. The results indicate that sea cucumber populations have not changed in the past 12 months but show a population that has declined substantially over the past five years.¹⁸ The results of this and other studies help

determine whether the sea cucumber fishing season will open and under what conditions.

The rulings on the fishing of sea cucumbers change from time to time. Today, the same questions remain as in 1995. Should the Galápagos Islands be open to some fishing of sea cucumbers and other species? Is it too hard to protect the Galápagos sea cucumbers when fishers have access? Can a balance be achieved between the need to protect the islands' plant and animal species and the fishers' need to make a living?

Different Perspectives on the Galápagos

1. "Continued illegal fishing is posing a threat to local sea cucumber populations and threatening to affect the unique ecosystem of the Galápagos Islands. It's vital that the government of Ecuador bring the fishery and trade under more effective control and for consumer countries and others to provide assistance where they can."¹⁹
—Teresa Mulliken, co-author of a study on the sea cucumber trade and manager at TRAFFIC, the wildlife trade monitoring program of World Wildlife Fund and the World Conservation Union
2. A local fisherman commented that the ecologists say they are trying to protect the environment, so they block us [fishermen] from making a living, but for foreign tourists, anything goes.

¹⁷ Galápagos Coalition. "Seizure of Charles Darwin Research Station by Sea Cucumber Fishermen." <http://www.law.emory.edu/PI/GALAPAGOS/EnvironmentalFrameset.html> (accessed on January 9, 2007).

¹⁸ Charles Darwin Foundation for the Galapagos Islands. "Scientists and Fishermen Present Results of Sea Cucumber Population Monitoring." <http://www.darwinfoundation.org/news/news29042005.html> (accessed on January 8, 2007).

¹⁹ World Wildlife Fund. "New Study Finds Controls Inadequate to Protect Galapagos Sea Cucumbers." http://www.panda.org/about_wwf/what_we_do/marine/news/index.cfm?uNewsID=1916 (accessed on January 2, 2007).

Protected Area #1: Galápagos Islands, Ecuador

Seething over Sea Cucumbers (continued)

3. "The irony is the Galápagos has the highest environmental protection of any marine habitat in the world. But it's all on paper."²⁰
—*Jack Grove, marine biologist*
4. A former congressman for the Galápagos Islands commented that people can't just see the Galápagos as a zoo—the local people have to have help.
5. A director of the Charles Darwin Research Station commented that people who fish can still make a decent living, but their own livelihood depends on preserving the park's delicate ecosystem. They need to understand that everyone undergoes restrictions here in the Galápagos.
6. "The concerns of the protesters must be addressed—but through existing legal mechanisms established under the Special Law for the Galapagos and in ways that do not undermine either the long-term livelihoods of the fishermen or the ecological and overall economic health of the islands."²¹
—*Guillermo Castilleja, World Wildlife Fund's Vice President for Latin America and the Caribbean*

²⁰ Miller, Ken. "Ecological Crisis Looms for Fragile Galapagos." Gannett News Service, February 10, 1995.

²¹ World Wildlife Fund. "Siege Shuts Down Park; Threatens Galapagos Wildlife."
<http://worldwildlife.org/news/displayPR.cfm?prID=76> (accessed on January 5, 2007).

Protected Area #2: Pelekunu Preserve, Hawaii

Alarmed about Invasives in the Nature Conservancy Preserves

The Hawaiian Islands are a place of incredible beauty and a place of amazing biodiversity. You'll find more than 800 flowering plants that grow nowhere else on Earth, rare birds, and two unique mammals: the Hawaiian Monk Seal and the Hawaiian Hoary Bat. The main reason Hawaii's biodiversity is unique is that the islands are located about 2,500 miles from the nearest continent. The remoteness of the islands has allowed unique species to evolve. Hawaiian plants and animals evolved in nearly complete isolation, and more than 90 percent of the native terrestrial plants and animals in Hawaii are found only in the Hawaiian islands.

But many of the islands' species have gone extinct—and many others are at risk—from invasive species. (An invasive species is a plant, animal, or other organism that is nonnative to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or to harm human health.)

The Polynesians sailed to Hawaii more than 1,500 years ago and introduced pigs to the Islands.²² Later, British Captain James Cook and his shipmates released European pigs, sheep, cattle, and goats.²³ Those invasive species ate so much vegetation that they reduced the habitat quality for native wildlife. Later introductions—most notably rats, mongoose, and cats—dramatically reduced the number of bird species. Hawaii was home to more than 140



Napali coastline on the Hawaiian island of Kauai

types of birds; now more than half of them are extinct. Of the surviving species, approximately half are endangered.²⁴ As a result, conservationists are working hard to combat invasive species.

The Nature Conservancy (TNC) is working to protect the biodiversity of Hawaii on TNC's preserves. One key part of TNC's conservation efforts is protecting Hawaii's native plants and animals, as well as keeping the nonnative, invasive species out.

Pigs, which are not native to Hawaii, uproot native plant species, open up the ground so that invasive species can take hold, and create muddy wallows where disease-carrying mosquitoes can breed. Avian malaria, a mosquito-borne disease, is suspected of being a major cause of the decline of Hawaii's forest birds.²⁵

²² National Park Service, Hawaii Volcanoes National Park. "People of the Islands." <http://www.nps.gov/havo/historyculture/people.htm> (accessed on January 9, 2007).

²³ U.S. Geological Survey. "Hawaii and the Pacific Islands." <http://biology.usgs.gov/s+t/SNT/noframe/pi179.htm> (accessed on January 9, 2007).

²⁴ Conservation Hawaii. "Native Forest Birds of Hawaii." <http://www.state.hi.us/dlnr/dofaw/consrvhi/forestbirds/> (accessed on January 9, 2007).

²⁵ TenBruggencate, Jan. "Nature Conservancy Ripped Over Traps." *Honolulu Advertiser*, April 17, 1996.

²⁶ Rosenberger, Jack. "Attack of the Feral Pigs: Non-Indigenous Species Are Crowding out the Natives." *E: The Environmental Magazine*. October 1994.

Protected Area #2: Pelekunu Preserve, Hawaii

Alarmed about Invasives in the Nature Conservancy Preserves

(continued)

To keep out the worst of the invasive species on the TNC preserves, TNC officials decided to set snares for wild goats and wild pigs. TNC decided to use the snares only after attempts to hunt the animals and to use fences to control them did not work. In 1989, TNC started setting snares, eventually setting out 1,410 in its Molokai preserves.²⁶

But word got out, and soon some people began protesting TNC's actions. The first to complain were members of the organization called People for the Ethical Treatment of Animals (PETA). Two PETA representatives helicoptered to the Pelekunu Preserve on the island of Molokai, destroying 700 snares and collecting evidence about the effects of snares. They said that the snares were inhumane and that snared animals often died of starvation, infection, or dehydration.²⁷

Next to complain were local hunters. According to a number of researchers, hunting is a very important subsistence activity for many Hawaiian families on Molokai. Hunting provides food for low-income families, offers a form of recreation and stress-relief, and reinforces the cultural strength of the community. Through hunting, families learn about wildlife, special places, and how to love and care for the land. The hunters were angered that TNC's snares might completely eradicate the wild pigs, goats, and deer on the wildest part of the island.

All of those complaints left TNC staffers in a difficult position. They wanted to control the invasive species to protect Hawaii's dwindling

native species, but they also understood the importance of respecting the economic, social, and cultural needs of the local people.

How could those different parties find a way to balance their concerns?

Different Perspectives on the Hawaiian Island of Molokai

1. "The decision to use snares was not one we came to lightly.... A feral pig can rototill 100 square feet of rain forest in a single morning. The forest is a giant salad to them."²⁸
—Alan Holt, TNC spokesperson
2. The Nature Conservancy claims that "in exceptionally remote areas, we have no choice but to continue snaring or risk losing our watershed forests and the native plants and animals that live there."²⁹
3. "The Nature Conservancy has squandered many opportunities to end the terrible animal suffering caused by (its) cruel snaring in Hawaii."³⁰
—PETA representative
4. A native Hawaiian hunter commented that the pigs have "walked with our ancestors" in ancient time and that "much of our culture" is built around this animal.
5. A Hawaiian botanist commented that the pig plays a part in the Hawaiian culture. The forests, which are being destroyed by the pigs, play a larger part in the Hawaiian culture.

²⁷ Ibid.

²⁸ Ibid.

²⁹ Ibid.

³⁰ TenBruggencate. "Nature Conservancy Ripped Over Traps."

Protected Area #3: Blockhouse Point Conservation Park, Maryland The Techway: Bridge over Troubled Commuters

In cities and suburbs across the country, traffic is getting worse. As a result, many people are spending more time on roadways as they commute to and from work. Things have gotten so bad that the term “rush hour” is being replaced by “peak period” to more accurately describe the length of time that commuters spend in their cars.

The Washington, D.C., metropolitan area—encompassing Northern Virginia, Washington, D.C., and parts of Maryland—is one of the nation’s leaders for the annual number of hours a commuter spends in traffic. In particular, commuters who travel from parts of Northern Virginia to parts of Maryland are limited in their route options and, therefore, face hours of traffic going from one suburb to the other. Businesses in Maryland and Virginia say they are losing employees who travel between Montgomery County and Northern Virginia because of the traffic conditions.

One project being explored to alleviate the congestion is the combination of a limited-access “Techway” and a bridge crossing the Potomac River north of the American Legion Bridge. The Techway would connect job and population centers in suburban Montgomery County, Maryland, and Fairfax County, Virginia, and the new bridge would provide an alternative crossing point between those two counties. Proponents of the Techway contend that the new route would reduce a peak-period commute from two hours to 20 minutes, and would help alleviate road rage and air pollution. However, opponents of the plan argue that there is a potential for negative environ-

mental consequences. And, they say, new roads could disturb established neighborhoods in the area of Potomac, Maryland.

Opposition to the plan comes from groups such as the Montgomery County Council and the Maryland National Capital Park and Planning Commission. They believe that the likely routes could cross three parks, 17 streams, and the C & O Canal, thereby negatively affecting both water quality and open space.

One of the proposed crossing points is the Blockhouse Point Conservation Park, an area that is off limits to horses and bicycles because it is home to a number of rare plant species. Blockhouse Point also contains one of the area’s largest tracts of undeveloped forest suitable for forest interior-dwelling bird species, such as the bald eagle. A citizen’s action group, Solutions Not Sprawl, believes that a new bridge across the Potomac River and its connecting super-highways will not solve the traffic problems. The group also believes that the cost of this project would far outweigh the benefits and that it would be harmful to the environment, parkland, and established neighborhoods that it would cut through.³¹

Conversely, groups such as the Northern Virginia Technology Council, Technology Council of Maryland, Greater Washington Board of Trade, and Marylanders for a Second Crossing support the plan for a Techway and a new bridge crossing. The Techway-bridge plan is viewed as one piece of the solution to commuter traffic that has resulted in lost work

³¹ Solutions Not Sprawl. “The Techway: A Threat to Our Rural Wedge and to the Heart of the Ag Reserve.” <http://www.solutionsnotsprawl.org/techway2.htm> (accessed on January 10, 2007).

Protected Area #3: Blockhouse Point Conservation Park, Maryland The Techway: Bridge over Troubled Commuters (continued)

hours, lower productivity, increased stress and frustration, and lost family and personal time.³²

Should the Techway and a new Potomac River bridge be built? Can it be done without disrupting neighborhoods, and affecting water quality and protected park areas? Can the increasing traffic problems be alleviated without an additional bridge and Techway?

Different Perspectives on the Techway

1. "The quality of life of people is the endangered species. I view land as a resource for the use of people."³³
—John T. "Til" Hazel Jr., developer
2. "If you build a new road, all you do is encourage more extreme commuting and in the process throw 35 years of land-use planning out the window. I'm totally opposed to that."³⁴
—Nancy Dacek, Member, Montgomery County Council
3. "Initially I was for the bridge crossing. I mean, anything to relieve the traffic. Something has to be done.... I'm very concerned that a quick decision will be made to throw a bridge over the Potomac as a Band-

Aid® for a process that needs some in-depth analysis.... There is a problem, but there are also many, many possible solutions. Why not examine all of them?"³⁵

—Peter Kreeger, resident of Potomac, Maryland

4. "A second crossing will only cause a shift in traffic to adversely affect an environmentally sensitive area and promote increased commercial development and sprawl."³⁶
—E. Clayton Embrey Jr., resident of Potomac, Maryland
5. "I am frustrated as many are with the growing traffic congestion in the Washington Metropolitan Area. I have and will continue to strive to get Maryland and Virginia working as a region to solve these massive traffic problems. I believe we must build an integrated transportation system of roads and cost-effective useable mass transit that links our region and does not stifle the economic growth that is the engine driving the economy of our state and country.... Therefore, I do support a new Potomac Crossing and will support that in every manner possible."³⁷
—Senator Patrick J. Hogan, Maryland State Senate (D)

³² Sunnucks, Mike. "Road Rage: Techway Backers Cry Foul Over 'Scare' Tactics." Washington Business Journal. April 6, 2001. <http://www.solutionsnotsprawl.org/archives/biz040601a.htm> (accessed on January 10, 2007).

³³ Fisher, Marc. "Studying the Gap Between Birds and Builders." Washington Post, April 5, 2001.

³⁴ Phillips, Angus. "At Planning Crossroads, a Highway to Ruin." Washington Post, April 8, 2001.

³⁵ Wraga, Monica P. "Residents Advocate Solutions, Not Bridge." The Gazette, April 4, 2001.

³⁶ Embrey, E. Clayton Jr. "Go Montgomery—Ruin Montgomery." Public Opinion article in Connection Newspapers, July 17, 2002. <http://www.connectionnewspapers.com/article.asp?archive=true&article=7430&paper=70&cat=132> (accessed on January 10, 2007).

³⁷ Marylanders for a Second Crossing Inc. "Comments From Elected Officials." <http://secondcrossing.org/> (accessed on January 10, 2007).

Protected Area #4: Katmai National Park, Alaska

Gridlock with the Grizzlies

Every year, bears gather at the Brooks River in Katmai National Park, Alaska, to feed on red salmon. As the fish move upstream to their spawning grounds, the bears prowl the waters to snag fat-rich fish snacks. Dozens of bears may gather along the short river during the red salmon run. Although the bears are normally solitary animals, they tolerate each other's close company along the river because of the tremendous abundance of fish. And one of their favored fishing spots is the Brooks River Falls where the fish leap out of the water as they try to jump the six-foot falls.

The annual arrival of red salmon attracts more than bears to the Brooks River. Each year, hundreds of fishers travel to the river to try their hand at catching salmon. But the number of fish is small compared to the thousands of tourists from all over the world who travel here to watch the bears. Some of the visitors fly or boat into the campground or stay at the lodge located at the mouth of the Brooks River. But many people also come, watch bears for a few hours, and then leave again all in the same day. Although the campground and lodge can accommodate about 120 people combined, more than four times that number may arrive just for the day. And since 1986, the annual number of people visiting Katmai has doubled.

All those people combined with all those bears in such a small area makes Park Service rangers nervous. The bears are, after all, big and potentially dangerous animals. And although there has never been a bear attack at Brooks River, many rangers worry that the situation is just an accident waiting to happen. Having so many people around may also negatively affect the bears' ability to survive. To reduce the chance of bear-human encounters, the Park Service

has built several viewing platforms along the river to give people a safe place from which to watch the bears. Rangers also monitor human and bear movements as best they can, encourage people to give bears the right of way, and stand ready with rifles to protect people, if necessary. But there are a lot of visitors and only a few rangers.

Worried about the health and safety of bears and visitors, along with wanting to ensure a continued positive experience for the people who trek out to the Brooks River (a roundtrip floatplane ride costs hundreds of dollars), the Park Service has developed a plan to better manage this area of the park. They would like to move the campground, lodge, and other facilities, currently located on the north side of the river, to the other side of the river and to take out the bridge that spans the river. This change would give the bears free access to the whole area on the north side of the river and would remove visitor facilities from known archaeological sites. It would also mean that people and bears would no longer be involved in traffic jams on the bridge. (Currently, if a bear gets close to or crosses the bridge, Park rangers keep people from using the bridge until the bear is a safe distance away. Sometimes people can wait for half an hour or more for the bridge to clear.) The Park Service wants to escort all visitors to designated bear viewing spots, instead of letting people wander at will. And they want to limit the number of day visitors to 85 people per day.

Some people applaud the Park Service's plan to resolve the people and bear conflicts at the Brooks River. Others condemn it, saying it is not necessary, will cost too much money, and will ruin the experience. The opponents

Protected Area #4: Katmai National Park, Alaska

Gridlock with the Grizzlies (continued)

contend that the Park Service should not be limiting the number of people in the area but instead should be developing ways to manage more visitors. What do you think?

Different Perspectives on Katmai

1. "People who travel to Brooks for the day tend to be less accustomed to the outdoors and are harder to manage. Limiting the number of day visitors will help preserve the uncrowded, wilderness-like quality of the visitor experience."³⁸

—Katmai National Park ranger

2. "Tourists want to see bears, and the Park Service should cater to that desire. [The Park Service] should build more boardwalks and viewing areas to increase the number of visitors it can handle at Brooks. [It] shouldn't move Brooks Camp. Anyone who wants to have a wilderness experience can do so in the other 4 million acres of the park."³⁹

—David McGuire, Anchorage orthopedic surgeon, owner of Quinaat Landing Hotel in King Salmon and operator of a daily boat service to Brooks

3. "Brooks Camp should be moved off the archaeological sites and away from the bears' favored beach. But limiting day users makes them second class citizens. Tourists in Alaska like to do a variety of things, and popping in to see bears for an afternoon is perfect. We'd like to expand—not limit—

the number of visitors who visit here each year."⁴⁰

—Tom Hawkins, operations chief for Bristol Bay Native Corporation

4. "The Brooks River is one of the most beautiful spots we have. It's accessible, and you can see the bears in a natural area. In recent years, the Bristol Bay economy has been hurt by poor salmon runs. Limiting visitor access to Brooks will further hurt businesses in this area."⁴¹

—Senator Ted Stevens (R-AK) and chairman of the Senate Appropriations Committee

5. "This is wilder than I thought it would be. I was kind of hoping we would have a ranger along."⁴²

—Kirsten Schultze, day use visitor

6. "For the price we paid to come out here for a day, we should be able to come and go when we like."⁴³

—Barb Collins, day use visitor

7. "This park should be managed for the protection and well-being of the bears first and for visitor access second. If this isn't done, inevitably, there's going to be human and bear conflict—and then everyone will lose. I'm willing to sacrifice some of my freedom of movement here in order to help give the bears the right of way."⁴⁴

—Dan Bogan, Brooks camper

³⁸ Rinehart, Steve. "Traffic Jams at Brooks River." *Anchorage Daily News*, July 26, 1998. A1.

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Personal interview with Dan Bogan.

Protected Area #5: Florida Everglades, Florida

At War with Water

The Florida Everglades is an ecosystem with severe problems. It was once a vast, free-flowing “river of grass” that stretched across more than 730 square miles of southern Florida. Each year, the Everglades would flood for about six months after the spring rains. Following that, the Everglades would experience a six-month drought. Although the plants and animals of the Everglades were adapted to this wet-dry cycle, it wasn't very conducive to farming or human settlement. In fact, many people in the late 19th century viewed the Everglades as nothing more than a mosquito-infested wasteland.

In the 1950s, approximately 500,000 people lived in the Everglades. They had suffered through floods, hurricanes, droughts, and fires. To help those people, Congress authorized the Central and Southern Florida Project.⁴⁵ This water management project was built to provide flood protection and to provide water for people and agriculture. Huge channels and pumping stations were built to drain water away from farms and cities during the wet season, and then to pump the water back during the dry season.

Today's population of approximately six million people is three times greater than what the project was designed to serve. In addition, the project has had many harmful effects on the environment that were not predicted. For example, wading birds nesting in the Everglades have declined 90 percent, and 68 plant and animal species are listed as threatened or endangered.⁴⁶ This change is due in large part to the

excessive drainage of the wetlands and changes to the natural flow of water.

The water quality in the Everglades is also declining. Pollutants from urban and agricultural runoff, including phosphorous, metals, and pesticides, have harmed the plants and animals in the region.

With an ever-growing human population in south Florida (about 900 people move to Florida daily), people are realizing that too much water is being pumped out of the Everglades. Soon there may not be adequate water supplies for south Florida's growing human communities.

To restore the Everglades so that it resembles its natural state, political figures at the state and federal level have been working on a Comprehensive Everglades Restoration Plan. The plan is designed to capture freshwater headed for the sea and to direct it back to the ecosystem to revitalize it. One estimate is that the plan will cost approximately \$7.8 billion and will take more than 20 years to complete.⁴⁷ Not surprisingly, such a plan will affect almost everyone in south Florida.

The growing demand for water for the expanding human population, as well as for agriculture and industry, has caused many conflicts and heated debates. Conservationists hope to restore significant portions of the original Everglades wetlands to protect alligators, panthers, and wading birds and to improve overall water quality. Local sugar farmers are agreeable

⁴⁵ Comprehensive Everglades Restoration Plan. “Why Restore the Everglades—Part 4: Ecosystem Problems Center on Water.” http://www.evergladesplan.org/about/why_restore_pt_04.aspx (accessed on January 18, 2007).

⁴⁶ Ibid.

Protected Area #5: Florida Everglades, Florida

At War with Water (continued)

to some limits on their phosphorous runoff, but they are opposed to changes in water quality regulations. Local Miccosukee Indians want the Everglades restored, but they are opposed to the flooding out of some nearby residents. The local residents are divided in their beliefs. Some are wary of environmental protection, but they are concerned about drinking water supplies and safety. Others are fully committed to protecting the wild habitat of their region.



Different perspectives on the Everglades

1. The Everglades Coalition is an alliance of 45 local, state, and national conservation and environmental organizations that are dedicated to full restoration of the greater Everglades ecosystem. They advocate for the restoration and protection of the greater Everglades ecosystem.
2. "But I would say that even if you don't care about the panthers and the gators and the otters and the royal palms and the wild orchids and all the other magical things in there, if you live in South Florida, what's bad for the Everglades is probably bad for you."⁴⁸ —*Michael Grunwald, an investigative reporter who has written a book on the Everglades titled *The Swamp: The Everglades, Florida, and the Politics of Paradise**
3. "The historic Everglades are a vast wetland of international significance. [The area constitutes] a single, biotic engine that drives the cycles and systems that support all life in south Florida. As such, this unique ecosystem has been the focus of the largest hydrologic restoration program ever attempted."⁴⁹ —*From the Everglades National Park homepage*
4. Jesse Hardy, a holdout homesteader, is fighting for his right to stay on his land in the middle of an Everglades restoration project. An attorney for Hardy filed a 43-page lawsuit against state and federal agencies planning the restoration of Southern Golden Gate Estates. Hardy is 68 years old and is a disabled Navy veteran. He has refused numerous land swaps and an offer of more than \$4 million.⁵⁰

⁴⁷ Ibid.

⁴⁸ Naples Daily News. "The Story of the Everglades." May 21, 2006.

http://www.naplesnews.com/news/2006/may/21/story_everglades/ (accessed on January 18, 2007).

⁴⁹ Everglades National Park. "Saving the Everglades." <http://www.nps.gov/ever/> (accessed on January 18, 2007).

⁵⁰ Staats, Eric. "Holdout Landowner's Attorney Sues State, Feds." Naples Daily News. November 6, 2004.

http://www.naplesnews.com/news/2004/nov/06/ndn_holdout_landowner_s_attorney_sues_state_feds/ (accessed on January 18, 2007).

⁵¹ Cox, Jeremy. "New Timeline, Priorities for Everglades Restoration." Naples Daily News. January 14, 2007.

http://www.naplesnews.com/news/2007/jan/14/new_timeline_priorities_everglades_restoration/?local_news (accessed on January 18, 2007).

Protected Area #5: Florida Everglades, Florida

At War with Water (continued)

5. Joette Lorion, a Miccosukee spokesperson, accused the U.S. Army Corps of Engineers of “just pushing paper.” She warned that unless contractors begin removing blockages soon in the flow of water into Everglades National Park, the ecosystem will die.⁵¹
6. Judy Sanchez, spokeswoman for U.S. Sugar Corporation in Clewiston, said sugar is a scapegoat for the ecosystem’s problems because people do not know enough about the sugar industry. Sanchez said, “We’re an easy target. We’re out here relatively isolated from everyone. We’re in a highly visible business because we’re so different and it’s something they don’t know much about.”⁵²
7. “My feeling is we just need somebody to take charge. Right now, we’re just trying to please everybody and nothing is getting done.... It’s just a big mess.”⁵³
—Terry Rice

⁵² Spinner, Kate. “We’re an Easy Target.” Naples Daily News. March 5, 2006.
http://www.naplesnews.com/news/2006/mar/05/were_easy_target/ (accessed on January 18, 2007).

⁵³ Cox. “New Timeline, Priorities for Everglades Restoration.”