

# PERC REPORTS

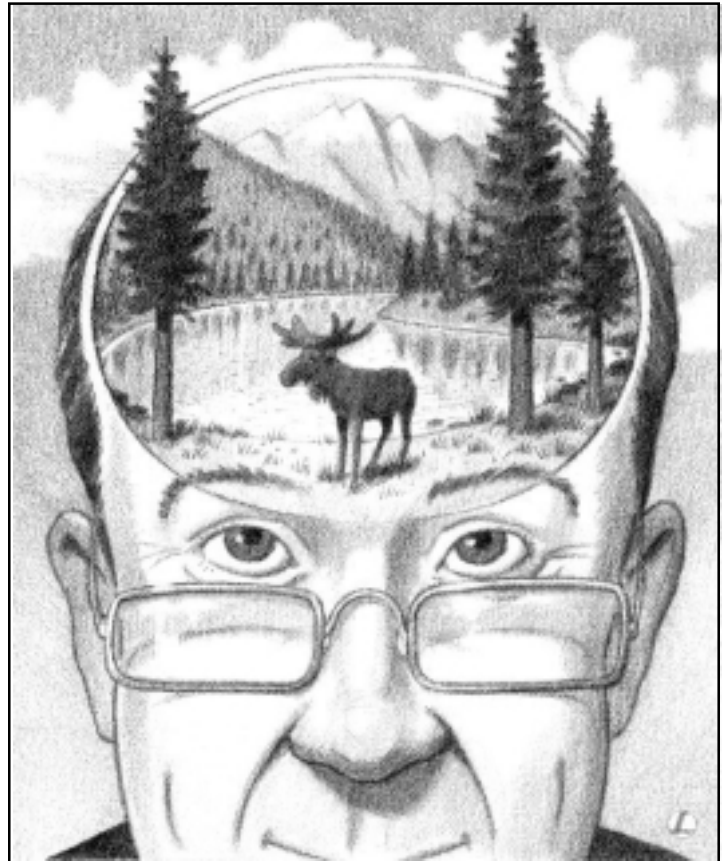
Volume 17 Number 5 December 1999

502 South 19th Avenue, Suite 211, Bozeman, Montana 59718

## ECOSYSTEM MANAGEMENT: AN ILLUSION?

*by Allan K. Fitzsimmons*

3



### LAND TRUSTS OR LAND AGENTS?

Second thoughts about  
a tool for conservation.

*by*  
Bruce Yandle

6

### DRIVING AND DENSITY

More people per square  
mile means more cars,  
too.

*by*  
Randal O'Toole

9

### SUPERFUND FOLLIES

Cost doesn't matter, but  
political pressure does.

*by*  
Daniel K. Benjamin

16

## PERC REPORTS

EDITOR  
Jane S. Shaw

ASSOCIATE EDITOR  
Linda E. Platts

PRODUCTION MANAGER  
Dianna L. Rienhart

ARTIST  
James Lindquist

### INSIDE THIS ISSUE

12

#### GREENER PASTURES

Can gas drilling save the Attwater's prairie chicken? Can cattle reclaim land?

—by Linda E. Platts

14

#### POLLUTION

Economists recommend taxes and fees, but industries like direct controls.

—by Todd J. Zywicki

19

#### TRULY SUSTAINABLE

An Enviro-Capitalist award for the White Mountain Apache Tribe.

—by Terry L. Anderson

Copyright © 1999 by the  
Political Economy Research Center.  
ISSN 1095-3779



502 S. 19th Avenue, Suite 211  
Bozeman, MT 59718 Z (406) 587-9591  
Fax: (406) 586-7555  
E-mail: [perc@perc.org](mailto:perc@perc.org)  
[www.perc.org](http://www.perc.org)

EXECUTIVE DIRECTOR  
Terry L. Anderson

SENIOR ASSOCIATES  
Daniel K. Benjamin  
P. J. Hill  
Donald R. Leal  
Roger E. Meiners  
Jane S. Shaw  
Randy T. Simmons  
Richard L. Stroup  
Bruce Yandle

ADMINISTRATIVE DIRECTOR  
AND TREASURER  
Monica Lane Guenther

DEVELOPMENT DIRECTOR  
Eric C. Noyes

ENVIRONMENTAL  
EDUCATION DIRECTOR  
Donald R. Wentworth

EDITORIAL ASSOCIATE  
Linda E. Platts

RESEARCH ASSOCIATES  
Matthew Brown  
Holly L. Fretwell  
David E. Gerard  
J. Bishop Grewell  
Clay J. Landry

CONFERENCE COORDINATOR  
Colleen Lane

COMPUTER OPERATIONS  
Michelle L. L. Johnson  
Dianna L. Rienhart  
Sheila J. Spain

BOARD OF DIRECTORS  
Kimberly O. Dennis,  
Chairman  
*D & D Foundation*

David W. Brady  
*Stanford University*

Thomas J. Bray  
*The Detroit News*

Jean A. Briggs  
*Forbes*

David G. Cameron  
*Dana Ranch Co., Inc.*

Eugene Graf III  
*Land Developer*

Joseph N. Ignat  
*J. N. Ignat & Associates*

Dwight E. Lee  
*Barker, Lee & Company*

Adam Meyerson  
*The Heritage Foundation*

E. Wayne Nordberg  
*KBW Asset Management*

Neil Oldridge  
*Associated Business Consultants*

Jerry Perkins  
*Karst Stage, Inc.*

Leigh Perkins  
*The Orvis Company*

Hardy Redd  
*Charles Redd Foundation*

Vernon L. Smith  
*University of Arizona*

John Tomlin  
*The Vista Group*

CONSULTING DIRECTOR  
William A. Dunn  
*Dunn Capital Management, Inc.*

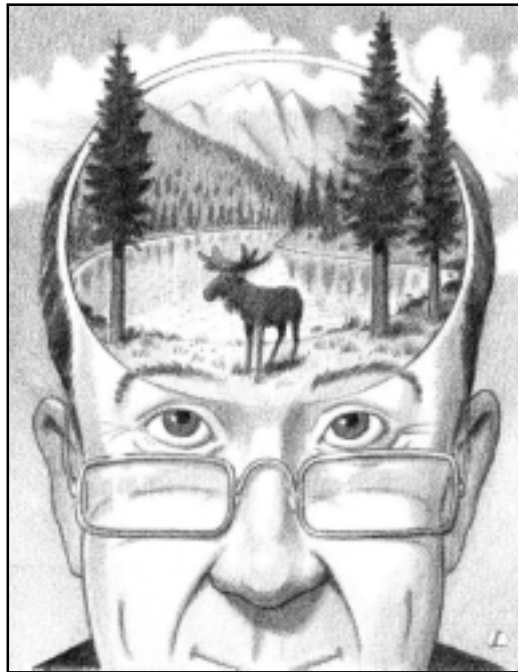
# THE ILLUSION OF ECOSYSTEM MANAGEMENT

By *Allan K. Fitzsimmons*

One of the Clinton administration's first major environmental policy initiatives was to call for a shift to ecosystem management. In a nutshell, ecosystem management means that the federal government makes protection or restoration of the health, integrity, and sustainability of ecosystems the primary goal of its activities. The Forest Service, for example, now intends to make protection of ecological sustainability the "guiding star" of land management (USDA 1999b, 54095). Secretary of Agriculture Dan Glickman, who supervises the Forest Service, calls the new approach a "fundamental change in philosophy" (USDA 1999a).

Protection of nature comes first in ecosystem management. Enhancement of human well-being is subordinate to this goal. This represents a radical departure from over a century of natural resource policy in the United States. In this essay, I will explain some of the difficulties with the new paradigm, difficulties discussed more thoroughly in my book, *Defending Illusions: Federal Protection of Ecosystems* (Fitzsimmons 1999).

Supporters of ecosystem management use scientific language to enhance the credibility of their proposals with policy makers and the public. But what is the state of the science on which such proposals rest?



*The high-sounding notions that populate ecosystem ecology are long on style and short on substance.*

*The problems starts with the idea of an ecosystem itself.*

To answer this question, I reviewed what ecologists have been writing about their field and what scholars say about ideas like "ecosystem," "ecosystem health," "ecosystem integrity," and "ecosystem sustainability." My review revealed numerous problems.

Prominent ecologists Stuart Pimm and Robert Peters note several shortcomings within their discipline. Pimm (1994, 188) writes that "ecosystem ecology for too long has operated in a dream world with few hypotheses and even fewer data." Peters (1991, 1) points out that "to many contemporary ecologists, the weakness of ecology is patent and the problem needs little elaboration." His list of difficulties includes: "lack of scientific rigor," "weak predictive capability," "lack of testable theory," and "many constructs of dubious merit."

It turns out that the high-sounding notions that populate ecosystem ecology are long on style and short on substance. The problem starts with

the idea of an ecosystem itself. The term was coined by Arthur Tansley in 1935, who described them as physical systems encompassing living and nonliving things and their interactions. Ask the Forest Service, the Environmental Protection Agency, the Fish and Wildlife Service, and the Sierra Club to show you their maps of the ecosystems of the United States.

They differ greatly. The so-called Greater Yellowstone Ecosystem can cover anywhere from 5 to 19 million acres, depending on who is defining it.

These discrepancies occur because the human mind fabricates ecosystems. Nature does not put ecosystems on the land for researchers to discover. Instead, as Bruce Hannon (1991, 238) observes, “the delimitation of the [eco]system is strictly up to the observer. . . .”

Ecosystems are only mental constructs, not real, discrete, or living things on the landscape. They do not breathe, emerge from wombs, or spring from seeds. They are not real, organized entities consciously seeking to perpetuate themselves against internal or external threats to their existence. As Simon Levin observes (1992, 1960), “what we call an ecosystem . . . is really just an arbitrary subdivision of a continuous gradation of local species assemblages.”

While the ecosystem concept may be helpful as a tool for researchers to better grasp the world around us, it is far too ambiguous to serve as an organizing principle for the application of federal law and policy. As spatial units, ecosystems represent a geographic free-for-all.

Just as ecosystems are defined inconsistently, associated concepts are similarly vague. People use the term ecosystem health frequently, for example, but researchers disagree about its meaning, too. Guelph University professor David Rapport (1998, 25) is a strong advocate of centering policies on protection of ecosystem health, yet he writes that “the question of what constitutes ecosystem health remains somewhat perplexing and controversial.” He sees the literature as “replete with a plethora of definitions that reflect the views of researchers and environmental/resource interest groups.”

Indeed, the editors of the book *Ecosystem Health* conclude that “there is no clear conception of the term” (Haskell, Norton, Costanza 1992, 1). Furthermore, they note, both ecosystem health and ecological integrity “have never been defined well enough to make them useful” in policy documents.

The fundamental difficulty supporters of ecosystem health face is the lack of norms to judge the condition of ecosystems. Looking at one view of

ecosystem health illustrates the woolliness of the idea. Ecologists Bryan Norton and Robert Ulanowicz (1996, 429) consider “the capacity for creativity” as the crux of ecosystem health.

But what is “creativity?” It is the ability of an ecosystem to solve problems, which requires the ecosystem to possess “ordered complexity,” which means having enough “apparatus” to respond to events via “a channelized sequence of reactions.” At the same time, ecosystems must also have internal “incoherence,” or the presence of “dysfunctional repertoires” not normally used by the ecosystem but that serve as reservoirs of “stochastic, disconnected, inefficient features that constitute the raw building blocks of effective innovation.” This spiral of ill-defined concepts leads them to accept the vague idea that “an ecological system is healthy and free from ‘distress syndrome’ if it is

stable and sustainable; i.e., if it is active and maintains its organization and autonomy over time.”

To test the usefulness of this definition, try applying it to a beached whale carcass, which ecologists assure us is an ecosystem. Does the carcass actually strategize using a “capacity for creativity” in order to sustain itself? Clearly not. Is it active or does it maintain its autonomy over time? No. Can

the idea of “stability” have any reasonable meaning for this ecosystem?

Or can scientists pin down ecosystem integrity. Some ecologists link ecosystem health and ecosystem integrity, but differ on the nature of the relationship. Rapport (1992, 145) argues that healthy ecosystems are “characterized by systems integrity” while James Kay (1993, 205) considers ecosystem health as “the first requisite for ecosystem integrity.” He links integrity with the “wholeness and well being” of the ecosystem which means naturalness; e.g., the less impact people have on an area the greater its integrity.

To make matters more complex, some ecologists reject naturalness as the measure of integrity. Henry Regier (1993, 16), for example, writes that “there is room for choice in the kinds of ecosystems with integrity that humans might prefer.” De Leo and Levin (1997) likewise reject nature-based definitions of integrity and acknowledge that multiple (and often

*The ecosystem*

*concept may be a helpful tool for researchers, but it is too ambiguous to serve as an organizing principle for federal policy.*



quite different) definitions of the term abound.

Finally, the idea of a sustainable ecosystem is self-contradictory. While some ecologists (Christensen et al., 1996, 666) urge us to make protection of ecosystem sustainability the centerpiece of ecosystem management, they say at the same time that “ecosystems are dynamic in space and time. . . [they] are constantly changing,” “there is no single appropriate scale or time frame for management,” and “boundaries defined for the study or management of one process are often inappropriate for the study of others.” How can sustainability have intelligent meaning when the entity to which ecologists would attach it is, in the view of those same ecologists, in constant flux in space and time and has no intrinsic attributes?

Sixty years after the ecosystem idea surfaced in the scientific literature; after decades of dominance on university campuses; after thousands of books, articles, conferences, and monographs; scholars cannot agree on the most fundamental matters regarding ecosystems. They do not agree on what constitutes the core characteristics of ecosystems. They cannot say where ecosystems begin or end in space or time, or tell us when one ecosystem replaces another on the landscape. They cannot agree on how to locate ecosystems. They offer no generally accepted definitions or measures of health, integrity, or sustainability. The state of the science concerning the ecosystem notion and its attendant ideas provides little scientific justification for the radical change in public policy proposed by the Clinton administration.

### References

- Christensen, Norman L., et al. 1996. Report of the Ecological Society of America Committee on the Scientific Basis for Ecosystem Management. *Ecological Applications* 6(3): 665–91.
- De Leo, Guilio, and Simon Levin. 1997. The Multifaceted Aspects of Ecosystem Integrity. *Conservation Ecology* 1(1). Available: <http://www.consecol.org/vol1/iss1/art3>.
- Fitzsimmons, Allan K. 1999. *Defending Illusions: Federal Protection of Ecosystems*. Lanham, MD: Rowman & Littlefield Publishers, Inc.
- Hannon, Bruce. 1991. Accounting in Ecological Systems. In *Ecological Economics: The Science of Management of Sustainability*, edited by Robert Costanza. New York: Columbia University Press, 234–52.
- Haskell, Benjamin D., Bryan D. Norton, and Robert Costanza. 1992. Introduction: What is Ecosystem Health and Why Should We Worry About It? In *Ecosystem Health: New Goals for Environmental Management*, edited by Robert Costanza, Bryan D. Norton, and Benjamin D. Haskell. Washington, DC: Island Press, 1–19.
- Kay, James J. 1993. On the Nature of Ecological Integrity: Some Closing Comments. In *Ecological Integrity and the Management of Ecosystems*, edited by Stephen Woodley, James Kay, and George Francis. Delray Beach, FL: St. Lucie Press, 201–12.
- Levin, Simon. 1992. The Problem of Pattern and Scale in Ecology. *Ecology* 73(6): 1943–67.
- Norton, Bryan G., and Robert E. Ulanowicz. 1996. Scale and Biodiversity Policy: A Hierarchical Approach. In *Ecosystem Management*, edited by Fred B. Samson and Fritz L. Knopf. New York: Springer, 424–34.
- Peters, Robert H. 1991. *A Critique for Ecology*. Cambridge: Cambridge University Press.
- Pimm, Stuart. 1994. An American Tale. *Nature* 379(21): 188–89.
- Rapport, David J. 1992. What is Clinical Ecology? In *Ecosystem Health: New Goals for Environmental Management*, edited by Robert Costanza, Bryan G. Norton, and Benjamin D. Haskell. Washington, DC: Island Press, 144–55.
- . 1998. Defining Ecosystem Health. In *Ecosystem Health*, edited by David Rapport, Robert Costanza, Paul Epstein, Connie Gaudet, and Richard Levins. London: Blackwell Science, 18–33.
- Regier, Henry A. 1993. The Notion of Natural and Cultural Integrity. In *Ecological Integrity and the Management of Ecosystems*, edited by Stephen Woodley, James Kay and George Francis. Delray Beach, FL: St. Lucie Press, 3–18.
- U.S. Department of Agriculture (USDA), Forest Service. 1999a. Glickman Proposes New Rules for Managing the National Forests. Press Release 0399.99, September 30. Washington, DC.
- . 1999b. National Forest System Land and Resource Management Planning: Proposed Rule. *Federal Register*, 54073–112, October 5.

Allan K. Fitzsimmons, Ph.D., is the author of *Defending Illusions: Federal Protection of Ecosystems* (Rowman & Littlefield), which can be purchased by calling 800-462-6420 or online at [www.rowmanlittlefield.com](http://www.rowmanlittlefield.com). A geographer and environmental analyst, Fitzsimmons is president of *Balanced Resource Solutions*, a consulting firm in Woodbridge, Virginia.

# LAND TRUSTS OR LAND AGENTS?

By Bruce Yandle

Celebrated by market enthusiasts and conservationists alike, land trusts have become the instrument of choice across the nation for conserving farmland, sensitive habitat, and open space. Recently, however, free market environmentalists have been raising a few questions about them.

For years, friends of the market such as PERC associates have cheered trusts because of the way they go about achieving their mission: Trusts rely on voluntary transactions and respect private property rights. They buy land and purchase or receive voluntary donations of land and conservation easements. (See p. 12 for an example of the sophisticated management typical of the Nature Conservancy, the nation's largest land trust.)

Conservationists, whether market-oriented or not, applaud the mission of protecting land from development and other disturbance. Some 17 million acres of U.S. land is now controlled by land trusts.<sup>1</sup> That's a lot of habitat, farmland, and open space, an amount close to the size of South Carolina.

Land trusts have been growing dramatically. Prior to 1950 there were fewer than 40 land trusts in the United States. There are now more than 1200 land trusts operating across the 50 states and U.S. territories (Land Trust Alliance 1999).

Small local trusts are found in every state, led by Massachusetts with 137, followed by California with 119 and Connecticut with 113. The local trusts control some four million acres of land. The 14 larger national land trusts control 13 million acres of U.S. land. Indeed, the Nature Conservancy alone claims to have protected 10.5 million acres since its

founding in 1953 (Nature Conservancy 1999).

Notice the word "control." Of the 4.7 million acres protected by local and regional trusts, only 17 percent is owned in fee simple. Some 30 percent is controlled by way of conservation easements, and the rest, about 50 percent, is transferred to government or controlled by other means such as through the ownership of mineral rights (Land Trust Alliance 1999).

The breakdown appears to be different for the large national land trusts. Nine of the 14 national trusts provide land management data. They indicate fee simple ownership of just one percent of the land they "control." Some 20 percent is transferred to government, and the remainder is managed by way of conservation easements, deed restrictions, and mineral right ownership (Land Trust Alliance 1998, 197-99).

The growth of land trusts raises three issues that environmentalists and conservationists

would do well to consider.

First, land trusts don't always retain the right to divest ownership. Yet this is a key characteristic of private property rights. If land parcels can be transferred, they can be traded and assembled to better achieve environmental objectives. When they are able to do so, land trusts willingly sell or trade land that has been donated to them so that they can acquire more sensitive habitat.

For example, some years ago the Nature Conservancy surprised some observers by selling beachfront property that it had received as a gift. The beachfront land in the Virgin Islands was degraded and damaged and did not have any endangered animals or plants. The conservancy, whose mission was to protect en-

*The growth of land trusts  
raises issues that  
environmentalists  
and conservationists  
would do well to consider.*

dangered species, traded the beachfront property for Wisconsin land that provided nesting habitat for the hooded warbler, a rare Neotropical migrant bird.<sup>2</sup>

When land is set aside through easements and other agreements rather than through direct ownership, this freedom to divest is lost. Some of the traditional incentives of private property rights weaken. Conservation easements or land donated as a perpetuity freeze the present use of land into the limitless future.

Over time, both the environment and the desires and locations of human populations can change, turning a perpetuity into a millstone. Perhaps it would be wise for donors to require that court-supervised environmental reviews be made every one hundred years with an allowance for selling land that no longer satisfies the donor's intent.

A second issue is the transfer of land from private ownership to government. The federal government's track record for managing land is not a stellar one. To select a few examples: Yellowstone's outmoded sewer system spews sewage into native trout streams and prehistoric dwellings in Mesa Verde National Park are disintegrating from a buildup of oils and airborne particles (Fretwell 1999, 3). And according to a General Accounting Office (1999, 22) report, 39 million acres of national forests are in danger of going up in flames due to poor management.

Managing land properly costs money. When additional land is transferred to governmental bodies, public funds for land management must be stretched even farther.

The issue is incentives, not the character or commitment of government agents. Generally speaking, government managers and the units they manage do not reap rewards for managing resources effectively. Nor are they systematically punished when bad decisions are made.

A third problem to consider is that land trusts are making many large purchases using taxpayer money. Evidence comes from the Interior Department. Between 1985 and 1991, the Department of the Interior made 317 land purchases of land from conservation organizations. These cost \$222.6 mil-

lion in taxpayer funds. In some cases, the department reported, the land was sold to the government at prices that exceeded fair market value (U.S. Department of the Interior 1992, 3).

Such taxpayer-financed purchases cloud the widely held image of trust managers accepting and managing donated land or buying it with funds contributed by dedicated land trust members. It did not sit well with a member of the Nature Conservancy who wrote a letter to the editor of the conservancy's magazine (the November/December 1999 issue).

The reader fumed about the conservancy's purchase of 45,000 acres of Florida land using \$133.5 million in federal funds: "If the federal government is paying for the Conservancy's purchases, then you do not need my membership pittance!" wrote Osman Latif. "An explanation would be appreciated."

The letter generated two explanations within the same issue of the magazine. The magazine's editor responded that donations from individuals "comprise the greatest and most valued source of funding for our work; nevertheless, when an opportunity arises to accomplish our conservation goals with funding from outside

sources, we think our members would want us to take full advantage of the opportunity."

In his column, John Sawhill, president of the conservancy, implied an even more expansive role for government funds and government ownership. He noted that the Nature Conservancy "has a long record of working with federal, state and local public agencies to protect ecologically important land and waters," and added that "stewards from the Nature Conservancy collaborate with government officials to promote conservation on all types of public land holdings" (Sawhill 1999, 5). This description differs from the usual concept of a land trust.

For the most part, there is little journalistic scrutiny of how organizations such as the Nature Conservancy operate. However, land trust collaboration with government was described in a series of 1991 columns by the late Warren Brookes, editorial page writer for the *Detroit News*. For example, Brookes discussed (January 23) a provision that had been added to the

■

*"If the federal government is paying for the Conservancy's purchases, then you do not need my membership pittance!" a member wrote.*

■

## LAND TRUSTS

Interior Department appropriation bill for fiscal 1988. It required Diamond International Paper Company to sell a 53,000-acre New Hampshire holding to the Nature Conservancy or the Society for the Protection of New Hampshire Forests; if it did not, its land would be purchased by the U.S. Forest Service for \$5.25 million. This, Brookes commented, was a fraction of its actual value.

It appears that these two trusts were obtaining help from the federal government. All they had to do was to offer something more attractive than the price demanded by the Forest Service to get a deal. (The conservation group could offer a tax benefit if the land was sold at a loss and in turn gain a “profit” when the land was resold to the government.)

Today, the federal government is dangling before environmental organizations enormous sums of money that can be used to control land use. For example, the 1998 Transportation Equity Act for the 21st Century provides some \$630 million for transportation enhancements, which include greenways, bike trails, and open space easements. Millions in matching funds have emerged for the acquisition of wetlands. And billions are being proposed to enrich the Land and Water Conservation Fund, a plan that has received support from Republicans as well as Democrats.

A typical example of the close relationship between government and private organizations was the Forest Service’s 1999 purchase of acreage near Yellowstone National Park. The Rocky Mountain Elk Foundation acted as a facilitator as the Forest Service negotiated the purchase of land from a religious organization, to the tune of about \$13 million. The elk foundation, along with the Forest Service, holds a right of first refusal to assist the federal government in acquiring additional land (Rocky Mountain Elk Foundation 1999a and 1999b).

Such programs encourage land trusts to serve as government land agents, often quite profitably. If land trusts continue to respond to this temptation, land conservation will become ever more political. The splendid conservation incentive that comes with bearing costs and earning benefits will be compromised. History teaches us that market incentives for conservation are strongest when individuals pay market prices and receive market rewards. They are weakest when government agents spend someone else’s money and get no reward for good management.

Free market environmentalism is about harnessing property rights and markets for the purpose of managing environmental resources. Beneficial outcomes depend on getting the incentives right and keeping them right.

### Notes

1. These figures are based on calculations from data included in Land Trust Alliance (1998, 197–99).
2. Brent Haglund, former Wisconsin Nature Conservancy official, e-mail correspondence, November 10, 1999.

### References

- Fretwell, Holly Lippke. 1999. Paying to Play: The Fee Demonstration Program. *PERC Policy Series*, PS-17. Bozeman, MT: Political Economy Research Center, December.
- General Accounting Office (GAO). 1999. *Western National Forests*. GAO/RCED-99-65. Washington, DC, April.
- Land Trust Alliance. 1998. *1998 National Directory of Conservation Land Trusts*, Washington, DC: Land Trust Alliance.
- . 1999. Summary of Data from the 1998 National Land Trust Census. [cited 10/26/99]. Available: [www.lta.org/censtate.html](http://www.lta.org/censtate.html).
- Nature Conservancy. 1999. About the Nature Conservancy. [cited November 15, 1999]. Available: <http://www.tnc.org/welcome/about/about.htm>.
- Sawhill, John. 1999. The President’s View: Conservation in the Commons. *Nature Conservancy*, November/December. Available: <http://www.tnc.org/magazine/president.html>.
- Rocky Mountain Elk Foundation. 1999a. Royal Teton Ranch Phase II Purchase Agreement Reached, Public Celebration Planned. [cited November 15, 1999.] News release dated August 29, 1999. Available: [http://www.rmef.org/press\\_releases.php3?articleid=28](http://www.rmef.org/press_releases.php3?articleid=28).
- . 1999b. Royal Teton Ranch Transaction Signed and Sealed. [cited November 15, 1999.] News released dated February 11, 1999. Available: [http://www.rmef.org/press\\_releases.php3?articleid=12](http://www.rmef.org/press_releases.php3?articleid=12).
- U.S. Department of the Interior. 1992. *Inspector General’s Report on Land Acquisitions*. (Comments by Solicitor.) M-36974, 100 Interior Dec. 195, July 30.

*Bruce Yandle is Alumni Professor of Economics and Legal Studies at Clemson University and a Senior Associate of PERC.*



# MORE PEOPLE, FEWER CARS?

By Randal O'Toole

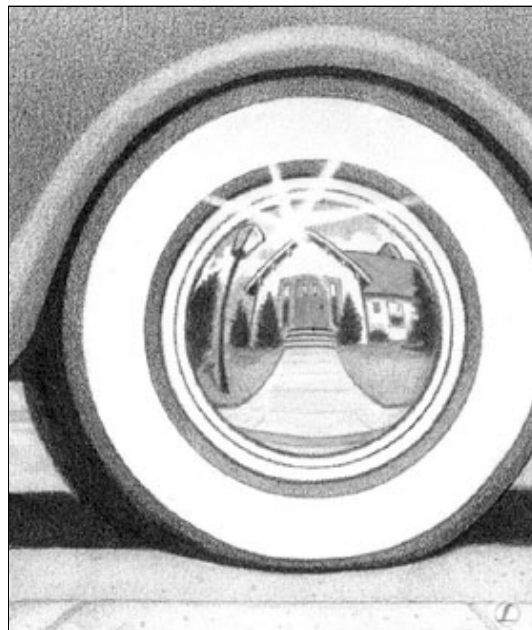
One technique proposed for combating “urban sprawl” is increasing population densities. Government planners are beginning to require new residential developments to house more people per acre. Even existing low-density suburbs are supposed to be rebuilt to higher densities.

The “smart growth” plan for Portland, Oregon, considered a model for anti-sprawl policies, calls for increasing the density of the entire urban area, suburbs and all, from under 3,000 to nearly 5,000 people per square mile (Metro 1994). A report by Metro (1996, 20), Portland’s regional planning agency, says that “congestion signals positive urban development.”

In reality, however, most people have always lived in fairly low densities. They don’t necessarily want to change that fact. Nor is increasing density likely to achieve the objectives of its proponents.

It was not until 1920 that the Census Bureau counted more Americans living in urban areas than in rural areas (U.S. Census Bureau 1995). And by that year, many city dwellers were already moving to low-density suburbs (which census takers count as urban rather than rural). In 1990, the Census Bureau found that nearly half of all Americans lived in the suburbs. Half the remainder lived in rural areas (U.S. Census Bureau 1993). In other words, only a quarter of the nation lives in what the Census Bureau calls “central cities.”

A careful scrutiny of census data (U.S. Census Bureau 1993) shows that only a small percentage of Americans live in truly high densities:



Only about half of all Americans live in densities of 2,000 per square mile or higher. To put this in perspective, Indianapolis and Tulsa have densities around this figure. Half of all Americans live in cities that are this dense or more, while half live in even less crowded areas. About 28 percent live in rural areas, which have between zero and 200 people per square mile.

Only 3 percent of Americans live in densities like New York’s 20,000 people per square mile. (Manhattan’s density is 50,000 per square mile.)

Only about 18 percent of Americans live in cities with densities above 5,000 per square mile—cities such as Seattle, Washington, D.C., Chicago, and Boston. About a third live in densities of 3,000 or more (Houston and Atlanta have densities of about 3,000). In other words, two-thirds of all Americans live in cities with densities of 3,000 per square mile or less. Bozeman, Montana, has about 2,300 people per square mile, while Little Rock has 1,700; Colorado Springs, 1,500; Chattanooga, 1,300.

All these numbers count only the central cities. Suburbs around these cities are typically much lower.

Advocates of higher density say that it will improve urban livability. Because people will live more closely together, they will reduce auto usage, and more people will walk or ride transit (Sierra Club 1998).

But Census Bureau (1990) surveys (which asked one out of six households how they got to work) indicate that hopes for reducing auto usage are unrealistic. Ninety percent of commuters drive to work until densities are above 5,000 per square mile. Even above

## DRIVING AND DENSITY

that density, huge changes in density are needed to significantly change driving behavior.

For example, quadrupling Seattle's density from 5,000 per square mile to New York's 20,000 might cut per capita driving in half. But with four times as many people, twice as much traffic would be on the roads.

It is not even likely that simply quadrupling density would lead Seattle to achieve New York's low driving rates. Unlike Seattle, New York enjoys very high employment densities as well as a historically dense transit network. Most American cities have widely dispersed employment, with less than 10 percent of jobs located downtown. Mass transit is only efficient when employment densities are high.

"Smart growth" is even more impractical when applied to entire urban areas—meaning the central cities and their suburbs. Only three of the nation's 400 urban areas have densities greater than 5,000 per square mile. For the rest, even doubling density would reduce per capita auto driving by only about 5 percent. Twice as many people, each driving 95 percent as much translates to a 90 percent increase in traffic. Since "smart growth" calls for few to no new roads, this means far more congestion.

Once we understand that the "smart growth" solutions will increase congestion, we can begin to understand their appeal to people who expect to benefit from more crowds. Transit agencies love density. The Metropolitan Council (1996, 54), which operates transit in Minnesota's Twin Cities, says that "as traffic congestion builds, alternative travel modes will become more attractive."

Big city mayors and officials also love these policies, which will give them more control over the suburbs. Portland city councilor Charles Hales makes no bones about his dislike of the suburbs around his city. He has called the suburbs "trashy . . . godawful subdivisions" (quoted in Ehrenhalt 1997, 23). Officials and business executives tied to urban downtowns also like "smart growth." It would reduce the low-congestion advantage that suburban shopping and office centers have over downtowns.

Ironically, the push for congestion is at odds with worldwide trends toward lower densities. Today's "smart-growth" policies echo those adopted by most

European countries after World War II, when they decided to emphasize high-density housing and transit and heavily tax autos and gasoline. Yet today, European cities are losing population, their suburbs are growing rapidly, urban densities are falling, auto ownership and usage is rising, and transit usage is stagnant or declining (Kenworthy and Laube 1999).

"In worldwide perspective, rapid growth of automobiles began in the United States because we were richer than other nations," says University of California (Irvine) economist Charles Lave (1992, 11). "But other nations headed down the same path as their incomes increased." Lave concludes that "the desire for personal mobility seems to be unstoppable."

Policies to increase density will be an urban disaster. In the years ahead, they will have the opposite of the intended effect, leading to an even more rapid movement away from the cities.

■  
*For most cities,  
doubling density would  
reduce per capita auto driving  
by about 5 percent.*

## References

- Ehrenhalt, Alan. 1997. The Great Wall of Portland. *Governing*, May, 20–24.
- Lave, Charles. 1992. Cars and Demographics. *Access* 1: 4–11.
- Kenworthy, Jeffrey R., and Felix B. Laube. 1999. *An International Sourcebook of Automobile Dependence in Cities, 1960-1990*. Boulder, CO: University of Colorado Press.
- Metro. 1994. *Regional 2040 Recommended Alternative Technical Appendix*. Portland, OR, September 15.
- . 1996. *Regional Transportation Plan Update*. Chapter 1. Portland, OR, March 22.
- Metropolitan Council. 1996. *Regional Transportation Plan*. St. Paul, MN: Metropolitan Council.
- Sierra Club. 1998. *The Dark Side of the American Dream*. San Francisco: Sierra Club.
- U.S. Census Bureau. 1990. Census Lookup. Current Level: State. Available: [venus.census.gov/cdrom/lookup/CMD=LIST/DB=C90STF3A/LEV=STATE](http://venus.census.gov/cdrom/lookup/CMD=LIST/DB=C90STF3A/LEV=STATE).
- . 1993. Land Area, Population, and Density for Places: 1990. Available: [www.census.gov/population/www/censusdata/places.html](http://www.census.gov/population/www/censusdata/places.html). (March 23).
- . 1995. Urban and Rural Population: 1900 to 1990. October. Available: [www.census.gov/population/censusdata/urpop0090.txt](http://www.census.gov/population/censusdata/urpop0090.txt).

*Randal O'Toole is senior economist with the Thoreau Institute (rot@ti.org).*

Dear *PERC Reports* Reader:

As you are thinking about holiday gifts, I hope your list will include a tax-deductible year-end contribution to PERC. After twenty years, free market environmentalism is moving toward the center stage of the environmental policy debate. So now, more than ever, we need your support to make a difference for the environment and for freedom.

Generous support from those who receive *PERC Reports* has contributed to the advances we have made in common-sense, market-based approaches to environmental concerns. Here are a few policies that we have encouraged:

- Water markets can enhance fish habitat, as exemplified by the Oregon Water Trust, which purchases irrigation water from farmers and keeps it in the stream.
- Realistic recreation fees on public lands can improve roads and sewage facilities, as shown in Yellowstone National Park.
- Direct compensation of landowners can increase wildlife habitat, as shown by Delta Waterfowl's "adopt-a-pothole" program for ducks.
- Marketable pollution credits can improve water quality, as illustrated in the Tar-Pamlico Sound in North Carolina.
- Tradable fishing rights can improve ocean fisheries, as demonstrated by the Atlantic Salmon Federation, which retires fishing rights to increase wild salmon stocks.

Now PERC is embarking on a campaign to put its ideas into the national and international spotlight. Our goal is to increase annual budgets by \$500,000 through individual supporters willing to make a long-term commitment to these ideas. The additional funds will allow PERC to 1) conduct more research in five major areas—water, fish and wildlife, land management, pollution control, and international environmentalism; 2) produce more newspaper columns; 3) host more students; and 4) develop and present more curriculum materials to teachers.

Please make the most generous year-end contribution you can make in any of these convenient ways:

- Use the attached business reply envelope.
- Go to [www.perc.org](http://www.perc.org) and contribute online quickly and easily.
- Call 1-888-406-9532 and use your Visa or MasterCard.

Thank you for your contribution as we celebrate our twentieth anniversary in 2000.

Sincerely,

Terry L. Anderson  
Executive Director

# GREENER PASTURES

## PRIVATE INITIATIVES

By *Linda E. Platts*

### DRILLING FOR HABITAT

The Nature Conservancy, well known for protecting habitat for threatened plants and animals, is taking a fresh look at ways to fulfill its mission. Surprisingly, gas drilling on one of its preserves seems to make a lot of sense right now.

The Galveston Bay Prairie Reserve near Texas City was donated to the conservancy in 1995 by Mobil Exploration & Production US, Inc. It provided badly needed habitat for the nearly extinct Attwater's prairie chicken. In fact, biologists estimate that of the 46 remaining wild birds, 28 of them make their home on this 2,263-acre site. In order to ensure the prairie chicken's survival, however, a wild population of more than 3,000 is needed. The current preserve can only support about 50 birds, which means the Nature Conservancy needs more land.

Money for the purchase of additional land could come from gas wells on the existing preserve. The conservation group has granted permits to two companies for exploratory gas drilling. Strict safeguards have been put in place, although some risk to the birds does exist. Still, the conservancy is willing to take that risk as the project could provide as much as \$5 million to finance the acquisition and restoration of more habitat.

—*Houston Chronicle*

### TANTALIZING TAMARINS

In Brazil's Atlantic coastal forest, farmers are finding they can make more money by protecting the trees than from agriculture. The golden lion tamarin, a rare monkey, makes its home in this forest and attracts ecotourists from around the world.

Scientists have relocated monkeys who are barely surviving in small isolated forest patches to larger, intact areas where the owners agree to protect the forest. In return, the farmers are able to attract paying customers who want to be guided through the forest in hopes of seeing the brilliantly colored tamarins in their native habitat.

Luis Nelson, a farmer and forest owner, has built a lodge for 12 visitors based on his ability to attract tourists to his land. He has added a waterfall and pond for swimming, a series of gardens that are home to butterflies and birds and also provide fresh native fruits and vegetables to his dining room.

However, the highlight of any visit to Nelson's lodge is the guided walk through the forest. While he is well versed in the local flora and is able to point out many of the unusual wild plants, most eyes are glued to the treetops. A glimpse of the golden lion tamarin swinging through the treetops is what keeps Nelson in business, and also protects the forest that is home to the endangered monkey.

—*Los Angeles Times*

### THE HOOVES HAVE IT

The sight of 600 cattle crammed onto an acre of ground might cause even a certified urbanite to wonder about the quality of land management. But according to Land Renewal, Inc. of Albuquerque this is actually a healing process for lands that have been severely disturbed by the likes of mining, construction, and fire.

Reclaiming disturbed landscapes is this company's job, and it has found that many hooves work better and cost less than the shaping, seeding, and watering process that has been widely used by mining companies. Because tailings piles lack nutri-



ents and often form hard, impervious surfaces, they rarely support new vegetation.

Land Renewal enriches the soil first with green waste such as grass clippings and then introduces cattle, allowing them to feed for one day on twice the amount of food they normally consume. The pounding of many hooves breaks up the hard surface and begins to incorporate the green matter as well as the excess feed into the nutrient-poor soil.

While capping, the traditional reclamation process, can cost as much as \$7,000 an acre, Land Renewal's high impact cattle approach costs just \$1,500 an acre. It requires some ongoing maintenance, but the results are long-lasting compared with the short-term success of seeding barren soil.

According to Shannon Horst, a principal with the company, the firm did \$150,000 worth of business in its first year and expects to do \$1 million in its second year. It is planning projects at 10 reclamation sites in three countries and is in the process of opening subsidiary offices in South Africa and Australia.

—*Albuquerque Journal*

## CALLING ALL CHEMICALS

Dow Chemical Company and a group of environmental activists have completed a two-year collaborative project to cut the production of toxic chemicals and reduce their release into the air and water. Despite deep skepticism on both sides, the project has achieved reductions of more than 35 percent in both areas.

The challenge was to determine if environmentalists who were thoroughly versed in the company's needs and processes could reduce pollution and also boost profits. The answer turned out to be yes. Dow invested \$3.1 million to make the necessary changes at its Midland, Michigan, plant and as a result stands to save \$5.4 million annually.

In one instance, innovations and modifications in the manufacture of resins eliminated formaldehyde-laced tars as a by-product. The one-time cost of \$330,000 produced annual savings of \$3.3 million at Dow's waste treatment center.

In other departments, pollution prevention equipment was being bypassed or not used properly as managers strove to increase production. Dow executives changed these practices by tying a portion of their engineers' salaries to the performance of the environmental equipment.

While the savings that resulted from the project represent only a fraction of the \$1.3 billion that Dow earned last year, the voluntary nature of the program and the chance to see their industry through new eyes has not been lost on Dow executives.

Corporate goals call for reducing toxic emissions by 50 to 90 percent by 2005. With that in mind, Dow is already making plans to duplicate the Michigan project at its giant Freeport, Texas, petrochemical complex.

—*New York Times*

## CATALOGING PARKS

While there has been no lack of news coverage on the sad state of our national parks, there is still not enough money to shore up the buildings and patch the roads. To help fill the gap, two energetic entrepreneurs turned their disappointment over a canceled trip to Yosemite during the 1995 government closure into a new business that offers financial support to the parks.

Joe Galliani and Mike Baggetta saw the parks as an underpromoted and undermarketed commodity. No one, after all, can doubt that Americans love their national parks. So they figured a lot of people might like to buy caps, T-shirts, coffee mugs, and other items that feature the various national park logos. And, perhaps these same folks would cotton to the idea that 5 percent of the money that they spent would be donated to the parks. That was the deal the two businessmen wanted to offer.

With that kernel of an idea, they put together the merchandise and designed a catalog. In July 1997, the first round of catalogs went to just 25 people. The mailing list now stands at 60,000 and the partners expect it to double before the holiday season is over.

The Parks Company National Parks Catalog is available by phone or on the Internet. So far the most popular items are the series of park posters created in the 1930s by artists for the Federal Arts Project.

The catalog company has donated more than \$28,000 for national park programs and improvements. Although this is a small contribution in light of the \$9 billion the park service says it needs for maintenance and repair, at least it's a start at narrowing the gap. (For more information: 888-727-5726 or <http://www.theparksc.com>).

—*Environmental News Network*

# WHY INDUSTRY EMBRACES REGULATION

By Todd J. Zywicki

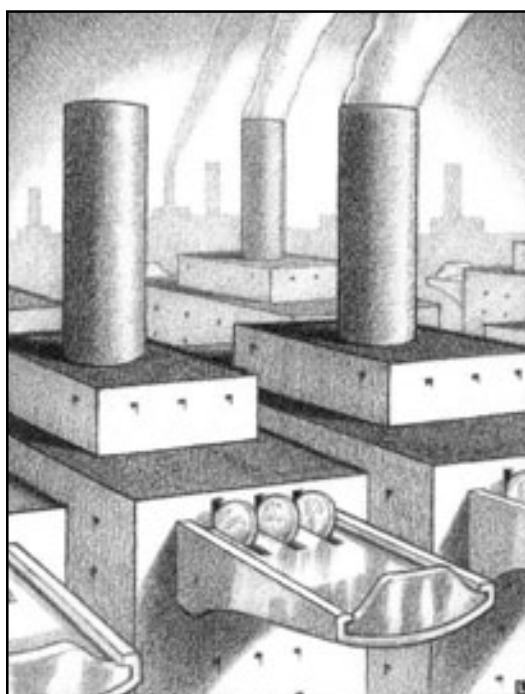
Many scholars still assume that regulated industries have nothing to gain and much to lose from the imposition of environmental regulation. To a large extent this assumption reflects ignorance of an *American Economic Review* article by James Buchanan and Gordon Tullock (1975) and later findings that support their research.

Once it is understood how environmental regulation can transfer wealth to those who are regulated, it will become more evident why regulation generally takes the form of inefficient centralized, command-and-control approaches, rather than more decentralized and flexible approaches, such as taxes or tradable pollution permits.

Indeed, the paradox is striking: While economists stress taxes and emissions fees, regulators generally prefer direct restrictions on pollution emissions or the imposition of technological requirements. One reason is that the regulated industry may prefer direct regulation.

Consider what happens when regulators charge a tax in proportion to a firm's pollution or require it to buy the right to pollute through purchase of tradable pollution permits.

The cost of doing business will increase. The polluter previously used the environmental resource for free; now it must pay for each unit of waste it creates. Firms will minimize their use of these inputs (i.e., the pollution permits), just as they do with any



*Economists stress taxes and emissions fees, but the industry may prefer direct controls or technological requirements.*

other resource that they must purchase. Although costs will increase, there will be a tendency toward an equilibrium that will fully reflect the cost of these additional inputs. Firms that fail to use these pollution rights efficiently will be driven from the market by firms that do. Pollution rights will tend to flow toward the firms and industries that can use them most efficiently (Coase 1960). Costs will be higher and output lower, but a competitive outcome will be achieved and all remaining producers will earn normal returns.

Direct regulatory controls, however, have a different impact. By imposing costs, they will reduce overall industry output, thereby raising prices. If the marginal price increase that results from the lowered output exceeds the marginal increase in cost from regulation, the regulated industry will be more

profitable after the imposition of the regulation than before. (This will be especially true if the regulation makes the firm's supply curve more inelastic.) In short, the regulation will encourage a cartel, cooperation among competitors that is illegal under the antitrust laws (Pritchard and Zywicki 1998). The government will help substitute monopoly for competition.

Not all firms in a given industry will benefit or benefit equally, as the higher costs may be larger for some firms than others and may even drive some firms

from the market. However, at least some firms within the industry will benefit.

Empirical support for Buchanan and Tullock's thesis comes from a study of the worker protection standards for cotton dust in textile mills and a Supreme Court decision upholding copper smelting regulations that limited entry of new smelters (Maloney and McCormick 1982). Tough regulations increased costs and thereby reduced output, yet the stock values of existing firms increased. While further empirical research is warranted, this study suggests that regulation led to higher profits in spite of the higher costs.

Similar forces may also account for the otherwise puzzling decision of some automobile producers to support even stricter miles-per-gallon standards than Congress eventually adopted (Yandle 1980, 300). Presumably, for these manufacturers the benefits of regulation in raising prices outweighed the direct compliance costs.

These gains from regulation, however, will be dissipated unless entry into the regulated industry is restricted. It turns out that such entry restrictions are routine.

For example, environmental regulations commonly impose stricter pollution control requirements on new firms than on existing firms. The 1970 Clean Air Act and its amendments imposed standards on existing pollution sources based on the ambient air quality. In contrast, new firms had to meet the strictest standards regardless of local air quality (Hahn and Noll 1983, 64).

Indeed, writes Robert Crandall (1983, 126), the law "heap[s]" requirements on those seeking permits that "can only be described as baroque," while remaining silent about existing sources. Entry restrictions "seem to pervade every aspect of this regulatory process," write Michael Maloney and Robert McCormick (1982, 101). Not only does this quash entry by new firms but it also discourages existing firms from replacing older plants with new ones.

Barriers to entry are compounded by the application of different rules to different regions of the country. Under the 1977 Clean Air Act Amendments, heavily polluted regions of the country are held to a lower standard of ambient air quality than less devel-

oped regions. Peter Pashigian (1984), for example, found that politicians were driven more by the desire to protect home-state special interests from competition than by environmental concerns.

In 1975, Buchanan and Tullock urged economists to develop institutional arrangements that would make tradable permits and emission taxes "acceptable to those who are primarily affected" (140). The past twenty-five years of environmental regulation suggest why many of those "primarily affected"—the regulated industries—still prefer direct controls.

### References

- Buchanan, James M., and Gordon Tullock. 1975. Polluters' Profits and Political Response: Direct Control Versus Taxes. *American Economic Review* 65 (March): 139–47.
- Coase, Ronald H. 1960. The Problem of Social Cost. *Journal of Law and Economics* 3(1): 1–44.
- Crandall, Robert W. 1983. *Controlling Industrial Pollution: The Economics and Politics of Clean Air*. Washington, DC: Brookings Institution.
- Hahn, Robert, and Roger Noll. 1983. Barriers to Implementing Tradable Air Pollution Permits: Problems of Regulatory Interactions. *Yale Journal of Regulation* 1: 63–91.
- Maloney, Michael T., and Robert E. McCormick. 1982. A Positive Theory of Environmental Quality Regulation. *Journal of Law and Economics* 25 (April): 99–123.
- Pashigian, B. Peter. 1984. The Effect of Environmental Regulation on Optimal Plant Size and Factor Shares. *Journal of Law and Economics* 27(April): 1–28.
- Pritchard, A. C., and Todd J. Zywicki. 1998. Finding the Constitution: An Economic Analysis of Tradition's Role in Constitutional Interpretation. *North Carolina Law Review* 77: 409–521.
- Yandle, Bruce. 1980. Fuel Efficiency by Government Mandate: A Cost-Benefit Analysis. *Policy Analysis* 6: 291–301.

Todd J. Zywicki is Assistant Professor of Law at George Mason University School of Law in Arlington, Virginia. This excerpt is from his essay, "Industry and Environmental Lobbyists: Enemies or Allies?" in the forthcoming book *The Common Law and the Environment*, edited by Roger E. Meiners and Andrew P. Morriss (Lanham, MD: Rowman and Littlefield, 2000).

Direct pollution controls reduce overall industry output, raise prices, and increase the profits of the regulated industry.

WHERE RESEARCH AND  
POLICY MEET

# TANGENTS

By Daniel K. Benjamin

**economist**, n. *a scoundrel whose faulty vision sees things as they are, not as they ought to be.*  
—after Ambrose Bierce

Most people are aware that we live in a world of scarce resources and act accordingly. Not so with the Environmental Protection Agency (EPA). When it comes to cleaning up Superfund sites around the country, recent research suggests that the EPA acts as though costs don't matter—no matter how high those costs might be.

In a study actually funded by the EPA, Kip Viscusi and James Hamilton (1999) have found that EPA cleanups of Superfund sites cost an average of almost \$12 billion for every cancer case prevented. Even more amazing is that virtually all—99.5 percent—of the cancer cases that will be averted by EPA efforts are prevented by the first 5 percent of the agency's expenditures. The remaining 95 percent of expenditures avert only 0.5 percent of the cancer cases—at a cost per case of an astonishing \$200 billion.

Although economists have previously scrutinized the Superfund program, which is designed to clean up hazardous waste sites, the Viscusi-Hamilton study is an improvement on several fronts. First, they use geographic information systems and detailed census data to permit the most precise assessment yet of costs and benefits of cleanups. Second, by examining how cleanup decisions are made, they uncover new evidence regarding biases in EPA responses to risks. And finally, they isolate the role of political factors in influencing cleanup decisions. Together, these features help us understand both the huge cost of

Superfund cleanups and the enormous variation in those costs across sites.

Cleanup at Superfund sites targets chemical pathways. These are the specific ways in which people are exposed to particular chemicals—such as breathing in contaminated dust blown from a slag heap. When the pathways pose a high risk, cleanup is mandatory, while with low-risk pathways cleanup is at the discretion of local EPA officials. Viscusi and Hamilton find that the forces pushing the extent of cleanup often vary markedly between these two types of sites.

To cite just one example of EPA's inconsistency: In high-risk settings, the agency sets more stringent cleanup standards the greater the population density, a policy that seems sensible enough. But in low-risk settings, greater population density leads the EPA to choose less stringent standards—an outcome that neither the authors nor I can justify on any sensible grounds.

Overall, Viscusi and Hamilton find that "Superfund site [cleanup] decisions do not follow the expected pattern for efficient risk management." This will come as little surprise to many readers, because Congress directs the EPA to make Superfund decisions without also ordering the agency to consider costs. What is disconcerting is which factors replace cost-effectiveness in guiding EPA decisions: misplaced risk perceptions and political influence.

For example, a key ingredient in determining EPA cleanup stringency is the public notoriety of the

EPA cleanups  
of Superfund sites  
cost an average  
of \$12 billion for  
every cancer  
case prevented.



chemicals at the site. Even after controlling for the known risks of the site, Viscusi and Hamilton found that the more times a chemical was mentioned in the popular press, the more stringent was the target (or permissible) risk chosen by the EPA. Thus, instead of cleaning the most dangerous sites, the EPA is cleaning up the sites that might get bad press.

Sadly, the EPA does not seem to care whether the cleanup costs it incurs will actually benefit real people. That is, cleanup decisions generally are unaffected by whether the risks of the site are borne by people who live there today, or are hypothetically borne by people who *might someday*, under a worst-case scenario, live near the site. (Often the EPA assumes that today's Superfund sites will someday become residential communities teeming with children.) Thus, many cancer cases "prevented" by EPA cleanups are purely hypothetical—benefits likely to materialize only in the minds of EPA employees.

The average cost per cancer case averted by the EPA expenditures—\$11.7 billion per case—masks enormous variation from site to site. At the most efficiently cleaned-up site, the cost per cancer case averted was but \$20,000. At the other end of the spectrum, the cost was \$961 billion. Now, the EPA is not actually spending \$961 billion; indeed, the largest amount spent on any one site was only \$134 million. The problem is that the hundreds of millions of dollars poured into the least efficient cleanups had so

little impact that they were essentially a complete waste to society.

What could possibly lead to such abysmal decision-making by the EPA? The answer, it seems, is plain old politics. Viscusi and Hamilton use local voter turnout as their proxy for political pressure. They find that higher turnout pushes the EPA into more stringent cleanups—and does so in the worst possible manner. For sites with cost-effectiveness at the median or better, political forces actually have little effect. But at the most inefficient sites, where costs per cancer case averted are in the billions, political factors have their strongest effect. Thus, in answer to the question: does politics matter in determining EPA policy, the answer is "yes"—by inducing local EPA managers to pursue ridiculously costly cleanups. For anyone who doubts that Superfund ranks with the worst of Congress's policy choices, I can only hope that this study will end their skepticism.

#### Reference

Viscusi, W. Kip, and James T. Hamilton. 1999. Are Risk Regulators Rational? Evidence from Hazardous Waste Cleanup Decisions. *American Economic Review* 89(4): 1010–27.

*Daniel K. Benjamin is a PERC Senior Associate and Professor of Economics at Clemson University. "Tangents" investigates policy implications of recent academic research.*

what's new

## PERC UPDATE

Readers of *PERC Reports* have already seen two adaptations of material from the forthcoming book, *The Common Law and the Environment*, edited by **Roger E. Meiners** and **Andrew P. Morriss**. The book will be published early in 2000 by Rowman & Littlefield ([www.rowmanlittlefield.com](http://www.rowmanlittlefield.com)), the latest in the Political Economy Forum Series edited by **Terry Anderson**. The book reevaluates the case for addressing environmental problems through statutory law, as United States policies do at present, and considers a

return to traditional common law. For another excerpt, see the article on p. 14 by Todd J. Zywicki.

The role of common law in environmental protection is getting attention through "Common Law and the Conceit of Modern Environmental Policy," by **Roger E. Meiners** and **Bruce Yandle** in the *George Mason Law Review*, vol. 7, no. 4. Roger Meiners is

## PERC UPDATE

spreading the word about the role of common law, most recently at the State Policy Network annual meeting in Dallas in October. Bruce Yandle, who addresses numerous free market environmentalism topics, recently spoke at the Philanthropy Roundtable's annual meeting in Naples, Florida, on "What Have We Learned about Environmental Giving?"

PERC has introduced a new publication, *Square One*, a newsletter for and about grassroots environmental groups. In the premier issue, editor **Linda Platts** noted that "everyone from the mega environmental groups with chapters in every whistlestop on the continent to the federal agencies occupying acres of office space in Washington are going back to square one when it comes to working on environmental issues."

The result is "grassroots environmentalism." Platts explained that the newsletter will carry stories that are "rarely simple, often a bit ragged and dirty, and the players are not always cuddly. In some instances, they are just plain ornery. Despite the untidy packages that they come in, these people are making a difference."

If you are interested in receiving a copy or wish to add an environmental group to our mailing list, send us an e-mail at [grassroots@perc.org](mailto:grassroots@perc.org).

**Terry Anderson** was the luncheon speaker at a special session at the annual meeting of the National Council for the Social Studies in Orlando, Florida, in November. More than 200 teachers attended, a sign of growing interest in PERC and free market environmentalism. Sponsors included the National Council on Economic Education, Junior Achievement, the Foundation for Teaching Economics, and the Federal Reserve Bank of New York. The session was organized by **Donald Fell** of the Florida Council on Economic Education.

The federal government's program to raise entrance and user fees in national parks and forests is the subject of a new *PERC Policy Series* paper (PS-17) by **Holly Lippke Fretwell**. "Paying to Play: The Fee Demonstration Program," points out that fees provide a new source of funding for deteriorating parks and other public lands and can improve park managers' incentives. The paper is available from PERC or on our Web site ([www.perc.org](http://www.perc.org)).

PERC Senior Associates **Richard Stroup** and **P. J. Hill** took part in a recent conference sponsored by the Acton Institute. The Acton Institute seeks to further a free society that is sustained by religious principles. Its leadership is concerned that many Christian and Jewish congregations blindly support government solutions in dealing with environmental problems. The conference in New Haven, Connecticut, was designed to develop a strategy for bringing free market environmentalism to these congregations.



**Bishop Grewell** participated in the Fourth International Wildlife Ranching Symposium in Toronto. Grewell and **Don Leal** are authors of the handbook,

*Hunting for Habitat*, which surveys the state of ranching for wildlife programs. **Clay Landry**, author of the PERC handbook, *Saving Our Streams through Water Markets*, continues to promote the idea of water trades, most recently in *Water Policy*, a leading international journal published by the World Water Congress.

**Jane Shaw** and **Richard Stroup** helped lead a workshop at the Foundation for Economic Education (FEE) headquartered in Irvington-on-Hudson, New York, for students from across the country. In November, Shaw spoke on free market environmentalism at a seminar for editors and publishers of the Freedom Newspapers, a chain with 27 dailies.

## TRULY SUSTAINABLE

By Terry L. Anderson

The word “sustainable” is frequently overused, but PERC associates are impressed with the sustainable management of natural resources by the White Mountain Apache Tribe. By strategically managing the habitat on the tribe’s 1.6 million-acre reservation in east-central Arizona and by using the tools of the marketplace, the White Mountain Apache maintain a rich environment for wildlife, offer recreational opportunities, and provide tribal jobs and income.

For this environmental entrepreneurship, the tribe received PERC’s 1999 Enviro-Capitalist Award. Jon Cooley, Director of Wildlife and Outdoor Recreation for the tribe, accepted the award at PERC’s conference for journalists in October.

The tribe is best known for its elk trophy hunts, which can cost \$12,500 and more. For example, between 1977 and 1995, hunters took ninety bull elk that were recorded in either Boone and Crockett or Safari Club record books. (For comparison purposes, this is about the number of record elk that have been taken from the entire state of Montana since record keeping began in 1932.)

However, the tribe provides a wide array of hunting opportunities, some of which are much less expensive. For example, the tribe periodically issues permits, priced at \$300 each, for nonantlered elk. The tribe also offers permits for black bear and mountain lion (\$300), javelina (\$75), and wild turkey (\$1,500 for a guided hunt and two turkeys). It costs \$50 per season or \$10 per day to hunt quail, squirrel, and cottontail rabbit.

Nor is hunting the only recreation offered. Families and individuals can fish, camp, boat, and river raft, they can even rent an entire lake. The fees from these enterprises have enabled the White Mountain Apache Tribe to take significant steps to

protect the endangered native Apache trout.

The tribe’s environmental success story began in 1977. At that time, the state of Arizona was issuing 700 nontribal elk permits a year, priced at \$150 each, for hunting on the reservation. Each license entitled the bearer to shoot a bull elk, regardless of size. Typical of state wildlife management, Arizona was maximizing the number of hunter opportunities rather than pricing the licenses to reflect the value to hunters. A state and tribal permit were both required to hunt on the reservation, but the tribe received none of the revenues.

Things changed that year. Tribal chairman Ronnie Lupe, with the backing of the tribal council, told the state that the tribe would take over management of hunting and fishing on the reservation. The state opposed this action but acquiesced after a federal court decision.

The tribe began by reducing hunting pressure on immature bull elk. It ended the general elk hunt, replacing it with a trophy elk hunt. From 700, the number of elk permits was cut to thirty, and the price rose to \$1,500.

The tribe tapped into a mother lode of hunter demand. Today, at \$12,500 per permit, fifty people are on a waiting list for the trophy elk hunt. Each year an auction is held so that some can hunt without going through the waiting list. The winning bids can be as high as \$35,000. Other attractive game include antelope, bighorn sheep, and white-tailed deer.

While the high prices—reflecting strong demand—attract the most attention, the accomplishment of the tribe is to use those fees and others to nurture its natural resources and to provide income for tribal members. To echo the subtitle of the book *Enviro-Capitalists* (1997) that Don Leal and I wrote, the White Mountain Apache are “doing good while doing well.”



## QUERY

# AN UNSEEN COST OF LOW PARK FEES

By Holly Lippke Fretwell

Why aren't there more Campgrounds of America, more youth hostels, more hunting and hiking available on private lands? The answer is that federal recreation is available at such low prices that private landowners, who must pay the full cost of their businesses, have trouble competing. Rather than lose money providing scenic landscapes similar to national parks, private recreation gravitates toward amusement centers, theme parks, and sometimes garish museums.

Private owners who want to showcase their natural resources must differentiate their offerings. Consider the privately owned Kentucky Caverns. These are part of the same karst (limestone formation) as Mammoth Cave National Park and have been open for public tours since 1927.

In 1946, nearby Mammoth Cave was designated a national park. The National Park Service dropped the fees for cave tours from \$3 per person to \$1.50. (In the late 1980s, the fee gradually increased to \$3.50.) To compete with the low fees, Kentucky Caverns had to offer unusual features just to keep people coming. The owner could not simply offer cave tours.

In the 1970s, the owner, Bill Austin, created a North American wildlife exhibit, adding bison to the existing stock of elk and white-tailed deer. But in 1996, the Land Between the Lakes Recreation Area, operated by the federal Tennessee Valley Authority, introduced an elk herd that visitors could see without charge.

Unable to compete, Austin shifted gears. He replaced elk with kangaroos, emus, and Aboriginal artifacts from Australia. The facility is now known as Kentucky Down Under and has an Australian theme.

Today, thanks to a federal program to raise fees to more realistic levels, the fee for a Mammoth Cave tour is \$7. In addition to making life a little easier for Bill Austin, such fees may encourage more entrepreneurs to provide recreation that many Americans want.

*This excerpt is taken from "Paying to Play: The Fee Demonstration Program," a PERC Policy Series paper available from PERC.*

Non-Profit Organization  
U.S. POSTAGE  
PAID  
BULK RATE  
Permit No. 433  
Bozeman, MT



502 S. 19th Avenue, Suite 211  
Bozeman, MT 59718

ADDRESS SERVICE REQUESTED