

PERC



REPORTS

Volume 17 Number 3 June 1999

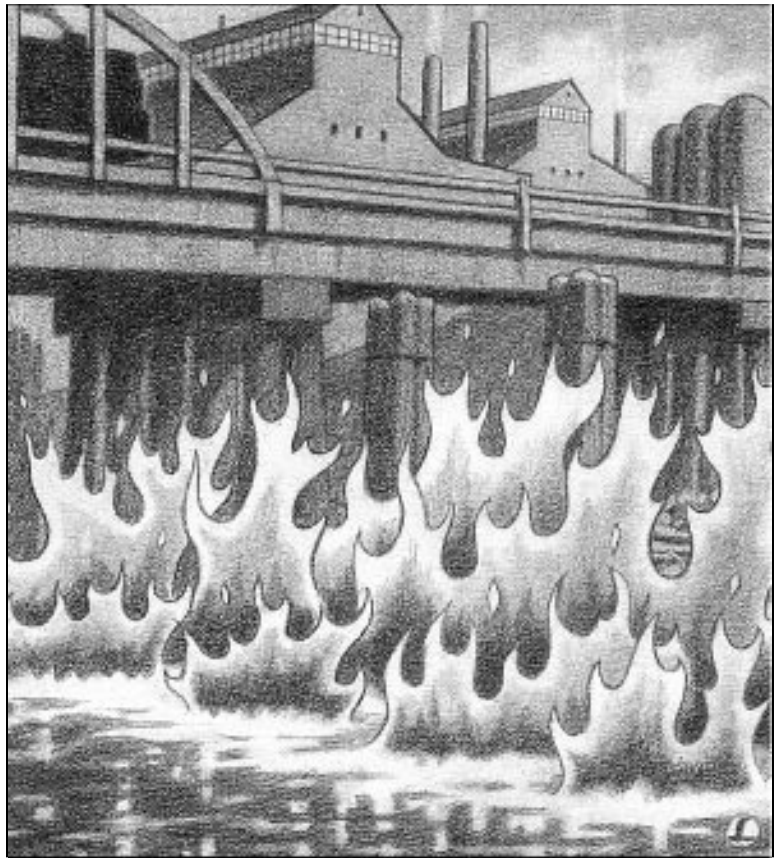
502 South 19th Avenue, Suite 211, Bozeman, Montana 59718

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ISSN 1095-3779



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# CUYAHOGA REVISITED

By Stacie Thomas

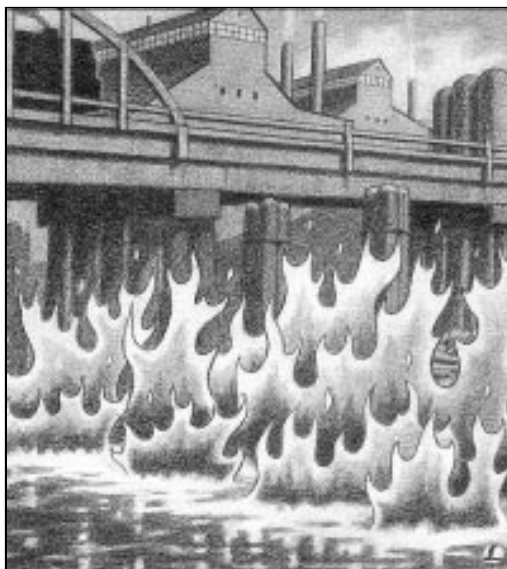
Early in the summer of 1969, the Cuyahoga River caught fire. Piles of logs, picnic benches, and other debris had collected below a railroad trestle, which impeded their movement down the river. These piles only lacked a spark to set them afire. A passing train with a broken wheel bearing probably provided that spark, igniting the debris which, in turn, lighted the kerosene-laden oil floating on top of the river.

The fire burned only 24 minutes—too short a time for the *Cleveland Plain Dealer* to catch a photo—and at first it attracted little attention. However, in the following months, the fire became a symbol of a polluted America. It helped galvanize the environmental movement. Even today, the idea of the burning river remains a symbol of industrial neglect of the environment.

A few things have been ignored in the legend surrounding the Cuyahoga fire:

- The Cuyahoga, which flows through the city of Cleveland into Lake Erie, had caught fire at least two times before (in 1936 and 1952). The earlier fires burned much longer and caused much more damage.
- While oil on the river burned, most of the fuel was not industrial but, rather, logs, debris, and household waste washed downstream by the periodic

*Had the common-law doctrine of strict liability been upheld, the Cuyahoga probably would not have burned in 1969.*



charge into it at will.

Not everyone was content with that policy. In some cases Cuyahoga water was too polluted even for industrial use. In 1936, a paper manufacturer on Kingsbury Run, a tributary of the Cuyahoga, sued the city of Cleveland to stop it from dumping raw sewage into the stream.

The city responded by saying that it had used the stream as a sewer since 1860 and that therefore it had a “prescriptive right” to use it that way. The court agreed with the city of Cleveland. It stated that when part of a stream “being wholly within a municipal corporation, so that none but its residents are thereby affected, is generally devoted to the purposes of an open sewer for more

storms that roil the deep, fast-moving river many miles above Cleveland.

- Most important for our understanding of environmental problems, the fire came about because political control replaced the emerging common-law rule of strict liability. Had that doctrine been allowed to hold sway, there would probably not have been a fire in 1969.

The industrial stretches of the Cuyahoga River were, indeed, polluted in 1969 and had been for many years. In the 1930s, for example, the people of Cleveland had clean drinking water from Lake Erie. So municipal authorities left the Cuyahoga River alone—allowing firms along its banks to dis-

## CUYAHOGA REVISITED

than 21 years . . . it becomes charged with a servitude authorizing its like use by other riparian owners.”<sup>1</sup>

So much for protection of riparian rights in 1936! However, that attitude changed rapidly. By 1948, the doctrine of strict liability was taking hold. A court decision states that “one may not obtain by prescription, or otherwise than by purchase, a right to cast sewage upon the lands of another without his consent.”<sup>2</sup> Other rulings were similar.

Incomes were rising and concern about industrial wastes was mounting. Pollutants were corroding sewage treatment systems and impeding their operation. In another part of the state, the Ohio River Sanitation Commission, representing the eight states that border the Ohio River (which runs along Ohio’s southern border), developed innovations to reduce pollution. The municipalities and the industries along the Ohio began to invest in pollution control technology.

Unfortunately, this progress soon ended. The evolving common law and regional compacts hit a snag in 1951 when the state of Ohio created the Ohio Water Pollution Control Board. The authorizing law sounded good to the citizens of Ohio. It stated that it is “unlawful” to pollute any Ohio waters. However, the law continues: “. . . except in such cases where the water pollution control board has issued a valid and unexpired permit.”<sup>3</sup>

The board issued or denied permits depending on whether the discharger was located on an already-degraded river classified as “industrial use” or on trout streams classified as “recreational use.” Trout streams were preserved; dischargers were allowed to pollute industrial streams. The growing tendency of the courts to insist on protecting private rights against harm from pollution was replaced by a public decision-making body that allowed pollution where it thought it was appropriate.

During the 1960s, attempts were made to revive the application of common-law rights to stop pollution of the Cuyahoga. Those complaints were redirected to the state or local agency in charge of managing water quality, with one exception. In 1965, Bar Realty Corporation, a real estate company, sued the city and the board to compel them to enforce the city’s pollution control ordinances against industrial polluters. The judge agreed, and directed the city and the board to stop

pollution of the Cuyahoga.<sup>4</sup> However, the Ohio Supreme Court overturned the ruling. The Supreme Court decided that Cleveland’s ordinances were in conflict with state statutes. Management by permit continued to dominate other institutional arrangements on the Cuyahoga.

Cleveland Mayor Carl Stokes, who helped draw attention to the Cuyahoga fire, criticized the state for letting industries pollute. “We have no jurisdiction over what is dumped in there. . . . The state gives [industry] a license to pollute,” the *Cleveland Plain Dealer* quoted him as saying (June 24, 1969). Stokes was not far off the mark. However, he thought the solution was to move to federal regulation rather than back to the guidance provided by court decisions.

The famous fire illustrates the unfortunate history of pollution control in the United States. Growing citizen concern about pollution was leading to voluntary cleanup—as illustrated by the Ohio River Sanitation Commission—but the emerging common-law rule of strict liability was abandoned in favor of a political process that allowed continuing pollution of certain segments of the state’s waters.

By catering to special interests, Ohio’s regulatory scheme stopped the emergence of a doctrine that would have spurred cleanup. It also helped propel the nation toward national legislation and its costly technological specifications. The Clean Water Act of 1972 may have led to

change on the Cuyahoga, but it also stifled innovation in pollution control and wasted vast sums of money, both industry’s and the taxpayer’s.<sup>5</sup>

In sum, the Cuyahoga fire, which burns on in people’s memory as a symbol of industrial indifference, should also be viewed as a symbol of the weaknesses of public regulation.

### Notes

1. *City of Cleveland v. Standard Bag & Paper Co.*, Ohio, 1905. 72 Ohio St. 324, 74 N.E. 206.

2. See *Vian v. Sheffield* (June 14, 1948), 85 Ohio App. 191, 88 N.E. 2d 410, at 199. The decision cites four other precedents. See also *Weade v. City of Washington* (July 15, 1955), 128 N.E. 2d 256. While *Vian* involved the overflow of contaminated water onto a person’s land, those living along rivers had riparian rights to nondeteriorated water quality.

3. The Water Pollution Control Act of Ohio, Sec.

The evolving

common law hit a

snag in 1951 when the state

started issuing water-

quality permits.



1261-1e of the Act, Violations of Act Defined.

4. *Bar Realty Corp. v. Locher, Ohio*, 1972. 30 Ohio St. 2d 190, 283 N.E. 2d 16.

5. See pgs. 76–77 in Bruce Yandle, *Common Sense and Common Law for the Environment*, Lanham MD: Rowman & Littlefield Publishers (1997).

*Stacie Thomas, a 1998 PERC Fellow, is an economist with the Senate Banking Committee in Washington, D.C. More information about the Cuyahoga fire and common law can be found in "Burning Rivers, Common Law, and Institutional Choice for Water Quality," forthcoming in The Common Law and the Environment, ed. Roger E. Meiners and Andrew P. Morriss, Rowman & Littlefield Publishers (1999).*

## A PROPERTY RIGHTS DEFENDER RESPONDS

# ANTI-ENVIRONMENTAL?

By Carol LaGrasse

When my husband and I moved to the Adirondacks from New York City, we wanted to live in harmony with nature. We farmed organically and lived in a barn, heated by a log fire, until we completed our permanent home. We used recycled and local materials wherever we could.

We have continued to live this way to the extent we can. Today, however, I would be ashamed to encourage the environmental movement. Instead, I defend private property rights.

The national property rights movement draws its inner fire from the modern persecution of individual property owners. This persecution is accomplished in the name of lofty goals espoused by environmental groups. These include preserving multi-million-acre areas that are supposedly "ecologically sensitive," protecting real and imagined wetlands and wildlife habitats, and upholding multitudinous building and land-use restrictions on the grounds of community design, historic preservation, water pollution control, and scenic preservation.

The actual effect is to take away the rights of ordinary people.

- In Massachusetts, Marie and Joe Hill lost their

*The property rights movement draws its inner fire from the persecution of property owners in the name of lofty environmental goals.*

house and farm, worth \$20 million. All they wanted was to build a small subdivision on their property so that they could buy equipment for their farm. They had a permit from the town of Dartmouth, but an "environmental" group, Friends of Russell Mills, sued them and kept them in court. After several years, the Hills were bankrupted.

- Jay Montfort has a stone aggregate business, part of his Fishkill, New York, concrete products firm. Montfort has spent over nine years and \$4 million trying to obtain a permit to expand his gravel mining. He hasn't received a permit. He hasn't received a denial, either—just one obstacle after another. The current problem is the possible impact on rattlesnakes. An "environmental" group, Scenic Hudson, has been fighting him every inch of the way.
- Jim Morris bought 272 acres of land in Johnsbury, New York, in 1988, to provide homes for his children and future grandchildren. He could meet the state's special Adirondack zoning, which requires eight-acre lots for home building in that location, but he has been opposed year after year by the

## ANTI-ENVIRONMENTAL?

Adirondack Park Agency, and environmentally conscious townspeople. For example, he waited two years for a permit to cross a 15-foot wetland, while an environmental lobbyist received a permit for a 467-foot wetland crossing in 42 days. Morris was finally bankrupted.

The environmental movement appears to be comfortable with pursuing its goals through central planning and regulation, no matter how much these rules hurt individual Americans. Ideology justifies ever-heavier penalties for nonconformance, adherence to increasingly minuscule regulation, and greater subservience to government control over land use. Environmental leaders consider lengthy federal prison terms appropriate penalties for minor wetlands encroachments. They uphold prohibitions against using private property in order to protect dubious habitats for rattlesnakes, bats, and rats.

Such controls and prohibitions represent a change. Historically, the American legal system respected private property rights. When highways, schools, other major public buildings, and parks are to be created, the government abides by rules of procedure. If consent to sell is withheld, the government can condemn the property but it must compensate the owner in the amount agreed upon by the court. Whatever faults exist with this system, the remedies in place for the private property owner reflect respect for private property rights.

Laws enacted to accomplish more recent societal goals have lost restraint, however. In addition to eroding the property rights guaranteed in the Fifth Amendment, they are eroding the privacy rights guaranteed in the Fourth Amendment, the right to a representative government guaranteed in Article IV, and other rights. These rights are especially succumbing under laws to protect the environment, to accomplish land-use planning, and to conduct the “war” on drugs.

The environmental movement makes a regular practice of attacking property rights organizations as anti-environmental. It is easier to demonize the property rights movement than to deal with human rights questions. Through the laws that they have enacted, environmentalists are forcing private owners to pay for public goods. This means making some people bear

public burdens that should be borne by society as a whole.

You wouldn't know it by listening to environmental activists, but the property rights movement did not attack nuisance laws or even clean water and clean air legislation except where these became a venue for land-use controls. The property rights movement never held to the belief attributed to it that “people can do anything they want with their own property.” Instead, the property rights movement arose because environmental government began taking private property through regulation without compensation.

Yet researchers have shown that the environment can be protected, often more effectively, in the context of respect for private property rights. One study, “Swamped—How America Achieved No Net Loss,” by Jonathan Tolman (available from the Competitive Enterprise Institute in Washington, D.C.), shows that wetlands preservation is far less expensive and more successful under voluntary methods such as the Wetland Reserve Program than under regulation by the Army Corps of Engineers under the Clean Water Act. PERC, the Competitive Enterprise Institute, and others have reported convincingly about the success of private wildlife conservation.

It used to be self-evident that conservation could be done by any property owner. The early land trusts (most of which have unfortunately evolved into land agents for government) were private conservation groups, as are hunting clubs to this day. Middle-class people would sometimes just buy the property next door if they wanted to preserve it; they did not resort to confiscation by zoning.

Today, the government has techniques of preservation that are logical and just—purchases, easements, leases, subsidies, and education. But the government also uses regulation, which varies from minor restrictions to prohibitions of all use and may include forcing a person to purchase or create “mitigation” wetlands. These environmental regulations, not opposition to environmental protection, were the genesis of the private property rights movement. Even though there is no inherent reason for a conflict between private property rights and environmental protection, the environmental movement has created an enemy.

*Carol W. LaGrasse is the president of the Property Rights Foundation of America, Inc., based in Stony Creek, New York.*

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questions.*

# PRESERVING BEACHES

*James R. Rinehart and Jeffrey J. Pompe*

Along the coast of South Carolina, private island communities—Sea Pines on Hilton Head Island and entire islands such as Seabrook, Kiawah, Dewees, Dataw, Daufuskie, and DeBordieu—are protecting their beaches and other environmental resources. They are not doing this because of government regulation but in order to maximize the value of their investments.

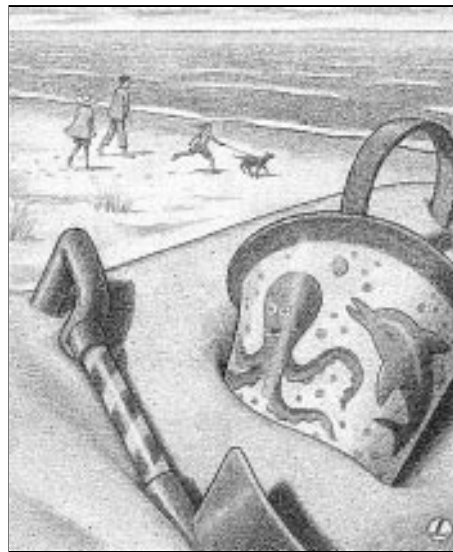
Extensive resort and residential communities on coastal barrier islands are a recent phenomenon. Until the 1960s, developers gave little thought to the value of open space, harmony with nature, or the stabilization value of sand dunes and vegetation. They sometimes built close to the sea, used seawalls, revetments, and bulkheads. They clearcut tree stands and filled in marshes.

In the 1960s, however, rising prosperity and growing interest in the environment led many private developers to see the islands in a new light. The notion of total community development replaced traditional lot-by-lot development.

Hilton Head, for example, a large island off the coast of South Carolina, was heavily logged in 1950. However, after a bridge was built from the mainland, bringing visitors and potential residents by car, owners began to realize that the island had something much more valuable than timber: the natural beauty of beaches, trees, and water.

Charles Fraser, who developed Sea Pines resort on Hilton Head, was a pioneer in preserving that beauty.

*Developers on  
Kiawah, Dewees, and  
other islands built houses away  
from the ocean, constructed walkways  
over dunes, protected wildlife  
and trees, and restricted the  
use of chemicals.*



He kept trees standing along the coast. He used natural building materials that blended in with the surroundings, designed lots to maximize their views, built houses that were open to the outside, and constructed streets that wound through protected trees and natural vegetation. Fraser set aside some of the land as permanent natural preserves. According to Michael Danielson (1995, 34), “Sea Pines became a training ground for developers, architects, landscape designers, and others who later took their lessons to resorts and new communities across the nation.”

Fraser was not alone. Developers on Kiawah Island, Dewees Island, and others took similar steps to meet the needs of Americans who appreciated preservation as well as homesites. They located housing farther away from the ocean than required by state law. They protected the shoreline ecosystem by hiring geologists, biologists, and engineers as consultants. They constructed walkways over dunes, limited entry-points onto

the beach, protected wildlife and trees, and restricted the use of chemicals on golf courses and roadways. Above all, they protected their beaches.

Seabrook Island, about 23 miles south of Charleston, South Carolina, is a case in point. It has severe, recurring beach erosion problems caused primarily by natural elements. Bordered by tidal inlets (the North Edisto River, Kiawah River, and Bohicket Creek), Seabrook has the kind of shoreline that shifts continually.

## PRESERVING BEACHES

The 2,200-acre island, with three and a half miles of private beach, is heavily wooded and crisscrossed with marshes, lagoons, and tidal creeks. It has over 2,300 separate, privately-owned properties—495 single family homes, 1,003 villas, and 852 undeveloped lots. Except for a convenience store, a golf pro shop, and two restaurants, commercial activity (including schools and churches) is kept outside a security gate.

During the island's early development, little was known about shoreline dynamics. Beach protection was piecemeal and left primarily to individual property owners. Between 1975 and 1982, several "hard" engineering projects involving barriers to erosion such as sandbag revetments, groin, concrete sheetpile walls, and riprap stones were undertaken. The cost was \$3 million, paid for by individual property owners.

As knowledge grew, efforts switched from these "hard" engineering techniques to "soft" engineering projects, which involve replacing lost sand with sand from inland sites or nearby ocean locations. Beach nourishment projects appear to provide significant benefits. A study (using the hedonic technique) of a nourishment project at Seabrook shows that increasing beach width from 322 to 472 feet raised the value of oceanfront houses by \$22,718 and the value of houses one-half mile from the beach by \$8,081 (Pompe and Rinehart 1999). However, beach nourishment is usually short-lived.

Seabrook residents hired a geologist to advise them and in 1983, at a cost of \$300,000, relocated Captain Sam's Inlet to the north. This was a success. It caused sand to accrete on the island's beaches (Kana 1989). In 1990, a beach nourishment project widened Seabrook's beach area, although storms in 1994 seriously eroded portions of the beach once again. In the spring of 1996 Captain Sam's Inlet was again relocated northward at a cost of \$500,000, since it had migrated back to its 1983 position. Similar projects will be necessary in the future, a fact of which residents are aware. Inlet relocation is planned at intervals of approximately 10 to 15 years, with additional beach nourishment expected from time to time.

Seabrook's beach protection projects are paid for with funds collected from annual beach taxes and special assessments. Local property owners on Seabrook must give their approval via the ballot. This means that a beach protection project is not likely to be un-

dertaken unless the expected benefits exceed the costs.

Property owners make a careful assessment of benefits and costs and demonstrate considerable interest in who pays and who benefits. Although Seabrook residents have paid substantial sums for some projects, in 1996 a majority of property owners voted against a proposal to place 300,000 cubic yards of sand around Renkin Point. It would have cost each property owner an additional \$375. In spite of a lavish information campaign, the Property Owners Association was unable to convince a majority of property owners to cast a favorable vote.

Not only do property owners have a vested interest in protecting beaches, as communities they also engage in cooperative agreements with other communities. For instance, the decision to relocate Captain Sam's Inlet required an agreement between Seabrook and Kiawah, a neighbor island to the north.

The effectiveness of actions by homeowners stands in sharp contrast to the actions of government to control erosion and otherwise protect the beaches. Although a flurry of state and federal laws have mandated "coastal management," until 1982 the federal government actively encouraged development of barrier islands. And one of the stated purposes of the South Carolina Coastal Council, which regulates coastal activity, is to ensure "public access." This

means encouraging the construction of bridges, parks, ramps, docks, piers, and ferries—the kind of development that leads to the abuse of the ecosystem.

The experience of coastal barrier islands shows the close link between private property rights and protection of the environment.

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*James R. Rinehart and Jeffrey J. Pompe are professors of economics at Francis Marion University, Florence, South Carolina. This article is adapted from one published in the Journal of Private Enterprise (Fall 1998).*

*Increasing beach width from 322 to 472 feet raised the value of oceanfront houses by \$22,718.*



# POLLUTION CONTROL: A CASE STUDY

By David Hendersen

PERC's new paper "Environmental Progress: What Every Executive Should Know" (see page 13 of this issue) pointed out that the search for profits leads to reduction of pollution. That statement certainly applies to the food processing industry. One illustration is changes in the process of peeling potatoes to make frozen french fries (such as those sold at fast-food outlets).

When I began working with this industry in 1977, plants ordinarily used heated caustic solution to chemically soften the potato skin to remove the peel. In addition to using large quantities of chemicals, the process involved heating the solution with steam, which required one pound of steam for every ten pounds of potatoes. The peeling process lost about 15% of the raw potato.

Following the caustic bath, potatoes were washed in a barrel washer. The caustic solution and loosened peel were washed down the drain, creating much water contamination. Typically, a line peeling 50,000 pounds/hour of potatoes consumed (and contaminated) about 350 gallons/minute of water.

Today, nearly all peeling is done with high-pressure steam. A specially designed pressure vessel superheats the surface of the potatoes. When the steam is rapidly exhausted from the vessel, the natural moisture under the potato skin flashes off to steam. Water expands about 100-fold by volume when it flashes to steam. This natural action loosens the peel. Total steam consumption has been reduced to about 15 pounds of product per pound of

steam, and the loss of potato from peeling is now about 9%, down from 15%.

Following the steam peeler, new dry-scrubbing equipment removes about 90% of the peel without the use of water. This peel is collected and hauled to a cattle feedlot where it is used for feed. (When you order a hamburger and fries, you are eating the potato peel—but it is not on the fries). A finish washer following the dry scrubber removes the remaining peel and starch, but uses only about 22 gallons/minute of water. (See table.)

Today's process reduces chemical use, retains more of the raw product, and never introduces the bulk of the peel into the wastewater stream. The peel is now a salable by-product. Water consumption has been cut dramatically. Processing is far more efficient.

The competitive marketplace brought these changes. Processors continually push to eliminate waste of any kind. Just to stay in business, equipment manufacturers have had to create new peeling systems that improve recovery and reduce waste. The future is clear. Improvements in recovery, more efficient use of water and steam, and continual reductions of potato waste in discharged water will continue in the french fry industry. The marketplace demands it.

*Mr. Hendersen is the president of Columbia Food Machinery, Inc., in Salem, Oregon.*

## CHANGES IN PEELING POTATOES FOR FRENCH FRIES

	Caustic Chemical Usage (per 1,000 lbs. peeled)	Peel Waste Disposal	Water Usage (per 1,000 lbs. peeled)	Average Raw Product Loss Due to Peeling
1977	5-10 lbs. NaOH (Sodium Hydroxide)	In wastewater, contaminated with caustic	420 gallons	15%
1999	None	As cattle feed, not contaminated with caustic	17.6 gallons	9%

Source: Columbia Food Machinery, Inc.

# GREENER PASTURES

## PRIVATE INITIATIVES

By Linda E. Platts

### AN ATTRACTION FOR SHARKS

**S**hark fishing had been a way of life for generations of Donsol residents. Families in this tiny village in the Philippines relied on the giant, docile whale shark for their main source of income until overfishing made the shark increasingly scarce. With guidance from the World Wildlife Fund, however, the villagers have created a new income source while also protecting the largest sharks in nature.

What used to be peak hunting season for whale sharks has now become peak tourist season. Warm seas in December and January bring plankton close to shore followed by the whale sharks who feed on it. In nearby Legazpi City, the hotels are filled with tourists anxious to glimpse the whale sharks or even to snorkel in the waters close to where they are feeding.

Local fishermen are learning to become tour boat operators, and others are being trained as spotters to scan the water for the slowly moving shadows and gray fins. While most tourists prefer the view from on deck, others slip quietly into the water for a close-up view. A code of conduct prevents tourists from touching or interfering with the sharks, which can grow to 60 feet in length and weigh 15 tons.

The flourishing tourist economy has already convinced Donsol residents that there is more money to be made from live whale sharks than dead ones.

—Reuters

### POPLARS TO THE RESCUE

**T**he lowly poplar tree is well on its way to becoming the new hero of environmental cleanups. Fast-growing hybrid poplars can provide an economical and reliable way to clean contaminants from the soil.

Scientists have found that poplars absorb a variety

of chemicals which they safely store or release into the air as less volatile compounds. In the late 1980s, Lou Licht did some of the pioneering experiments with poplars while completing his doctoral studies at the University of Iowa. He then founded Ecolotree, a company that uses poplars for a variety of environmental cleanups. Last year, the company grossed \$500,000 and planted more than 2 million trees in the United States and Europe.

One of Licht's first jobs at an Oregon landfill may hold the key to further financial success, as well as economic and environmental benefits for nearby communities. Landfills are typically covered with plastic at a cost of \$100,000 an acre. The plastic prevents water from seeping into the garbage and then possibly leaking out of the sealed landfill and contaminating the groundwater. Because regulations did not require a plastic cap at the Oregon site, Licht instead deployed his trusted trees. He planted 11,000 poplars atop the site for just \$10,000 an acre. Not only did the poplars protect the groundwater, but Licht says, they also created a leafy green forest that provides wildlife habitat, cheap fuel, and new raw materials.

Environmental engineers are beginning to adopt Licht's methods for the obvious cost benefits and economic rewards. As a result, Licht too may reap some rewards when he is granted two patents later this year for landfill capping and soil detoxification.

—People

### SAVING OPEN SPACE

**M**any Americans are working to preserve open space in their communities, and their tactics are as varied as their towns. When a 930-acre farm went on the market near Yellow Springs, Ohio, a town known for its 1960s counterculture ambience, the residents went to battle in the marketplace.

Fearful that developers would buy the property at auction, residents earmarked \$400,000 from a greenspace fund and organized an array of fund-raising events. A concert along with sales of donated T-shirts, jewelry, pottery, and food raised another \$600,000. Even with \$1 million in the kitty, the town was far short of the sum it would need at a competitive auction.

As the bidding pushed higher, Yellow Springs residents joined forces with a married couple, two lawyers who wanted a section of the farm because it adjoined their property. The lawyers agreed to buy the farm with a combination of their own money, the town's money, and a bank loan.

The couple agreed to change the legal status of the land so that it can never be developed. They plan to resell some of the land for farming, lease another portion for agricultural uses, and keep a portion for themselves. The town may be reminiscent of an earlier era, but its public-private effort to save open space was an innovative step toward the future.

—Associated Press

## BANKING ON WETLANDS

In Broward County, Florida, rapid development and shrinking wetlands presented an unusual business opportunity for Lew Lautin, chief executive officer of Florida Wetlandsbank. By transforming a weed-choked, garbage-strewn tract near Pembroke Pines into a pristine wetland, he created a product that was in high demand by local developers.

Wetland regulations require developers to compensate for wetlands that they destroy. Lautin leaped to fill the void. He leased the 450-acre site from the city, cleaned it, lowered the ground level to allow water flow, and added more than a million new trees and plants.

By now the pickerel weed, sawgrass, and bulrushes are flourishing; oak, slash pine, and bald cypress are taking hold; and wildlife has returned. The Florida Audubon Society has counted 108 varieties of birds on the property. Furthermore, the wetland is also cleaning up the water supply before it seeps into the aquifer.

Without doubt, the project was an expensive one. Just the permits and licensing fees came to \$4.5 million, with another half million for a trust fund to cover maintenance. On the other hand, developers snapped up the credits to Lautin's wetland which sold for as much as \$60,000 an acre. The credits also allowed them to avoid a complex permitting process.

The lack of suitable land in Broward County for additional wetland development has forced Lautin to

move elsewhere, but he sees no end to the demand as long as mitigation is required. Near Naples, Florida, he is transforming 2,775 acres into new wetlands.

—Fort Lauderdale Sun-Sentinel

## A CHANGE FOR THE BETTER

When you drive into Hoffman's near Albany, New York, for an oil change and a car wash, you're doing a favor for your car, a good turn for the environment, and you are supporting a growing business. Tom Hoffman Sr. is using the oil that he drains from your crankcase to heat the water for your car wash.

The use of recycled oil is on the rise across the country. Hoffman says that it costs up to six cents a gallon to have the used oil hauled away, and tightened environmental regulations mean station owners must monitor the disposal. Alternatively, a fuel-recycling system filters out the impurities in the dirty oil so that it can be reused on the site to heat buildings as well as water. In this way, station owners can simultaneously eliminate waste hauling expenses and create a cheap fuel source.

Hoffman recently installed a new fuel-recycling system for \$26,000 at one of his oil change and car wash stations. As a result, he is saving nearly \$3,000 a month on his fuel bill which means the system will quickly pay for itself. His plans for next year call for adding oil-changing facilities with fuel-recycling systems to three more of his car washes.

—Albany Times Union

## NEW LIFE FOR OLD TIMBER

The reclaimed wood industry which began in the Northeast is now taking hold in the Northwest. As sources of old-growth timber dwindle and environmental awareness grows, old wood is much in demand.

Duluth Timber Company, a Minnesota-based firm, is doing a booming business in Seattle selling reclaimed wood from demolished homes, factories, warehouses, and even pickle barrels. The cost is often double the price of new hardwood flooring, while the much prized American chestnut, a tree that is nearly extinct because of a fungus, can sell for as much as \$12 a square foot.

These old woods have found a strong market among those who love natural building materials but do not want to contribute to the environmental problems that are sometimes attributed to logging.

—Seattle Times

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

Economists are notorious for using both sides of our mouths when talking about the government. We claim that government has a comparative advantage in provision of so-called public goods, such as national defense, the creation of property right systems, and the collection and dissemination of basic knowledge. But we also routinely criticize government for the waste produced by many of its actions. It is thus refreshing—albeit unusual—to find evidence that, at least during its early years, a prominent agency of the U.S. government yielded clear benefits to the American economy.

Erik Craft (1998) has studied the first twenty years of what was to become the modern-day U.S. Weather Service. He concludes that the agency's collection of weather data and the dissemination of storm warnings across the Great Lakes region did in fact yield substantial, positive net returns to society—in terms of both averted economic losses due to shipwrecks, and fewer lives lost at sea.

The U.S. Congress established a national weather organization in 1870 when it instructed the Secretary of War to collect meteorological observations and issue storm warnings on the Great Lakes. If severe weather forecasts were a valuable transportation input, one would expect several consequences after introduction of the service in the early 1870s. Specifically, the collection and dissemination of weather information should have caused a clearly measurable decline in shipping losses on the Great Lakes. Moreover, this should have manifested

itself in predictable changes in shipping rates and insurance premiums: Because fall weather on the Great Lakes is considerably more turbulent than summer weather, the beneficial impact of the storm warning system should have been much greater in the fall than in the summer.

After controlling for a host of other factors that might influence the analysis—including year-to-year fluctuations in weather conditions and the transition from sail to steam power during this period—Craft finds clear evidence that storm warnings sharply reduced the incidence of shipping losses on the Great Lakes. Craft estimates that the warning system as a whole generated savings of \$1 million per year (1880 dollars)

during the early years, rising to as much as \$4 million dollars per year during the late 1880s, the end of his study period. These savings were achieved at an annual cost of under \$1 million per year. Craft also suggests that the storm warning system played a key role in saving 50–70 seamen's lives annually during the period he studied.

If the weather service led to significant declines in shipping losses, the result would be lower costs for firms offering shipping services, and also for companies insuring the ships and their cargo. Because the storm warning information was much more useful during stormy fall months, the differences between insurance and shipping rates in the peaceful summer months and the turbulent fall months should have diminished. Indeed, Craft finds that the fall shipping price premium fell by 50 percent due to the storm warning stations, and that the ratio of

■  
*Late 19th-century*

*storm warnings from the U.S.*

*Weather Service yielded substantial,*

*positive net returns*

*to society.*



fall-to-summer insurance premiums declined as well. Overall, he estimates that the social rate of return from the expenditures on weather collection and dissemination during this period was at least 64 percent.

A one-year reduction in the Army Signal Service budget in fiscal year 1883 due to an embezzlement scandal conveniently provides Craft with an additional means of testing his predictions. The budget cut forced a temporary reduction in the number of storm-warning stations by nearly one-half. The result is a natural experiment: The apparently beneficial effects of the weather service should be sharply curtailed during the period of budget austerity, only to return to their former levels with the restoration of the agency's full funding. This is precisely the pattern observed.

The 1883 budget cut saved about \$130,000. But shipping losses that year soared to \$2.75 million from their prior \$1.5 million, returning to about \$1.5 million when the funding was restored. Moreover, although Craft makes no effort to impute specific fatalities to this episode, it is not hard to imagine that the sharp rise in shipping losses was accompanied by a corresponding increase in fatalities.

Craft does not claim that the timing of the estab-

lishment of the weather service was necessarily optimal. Nor does he argue that the government provision of weather information was necessary. Instead his objective is to examine a setting in which—if economists are correct about government's comparative advantage—one should be able to discern clear benefits from the activity in question. That he clearly did.

Whether the private sector could have beaten this figure is an issue not addressed by Craft's paper. But in a world in which it seems all too easy to find examples of the waste generated by government policies, it is of some comfort to find an episode in which the government contributed positively to the well-being of the public it is supposed to serve.

#### Reference

Craft, Erik D. 1998. The Value of Weather Information Services for Nineteenth-Century Great Lakes Shipping. *American Economic Review* 88(5): 1059–76.

*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

PERC Senior Associate **Bruce Yandle** has launched a major PERC project on agriculture and the environment. His conference, "Freeing Up Agricultural Land: An Examination of Environmental Constraints Affecting U.S. Agriculture," held at the Hoover Institution, brought key experts together to examine topics such as the availability of farmland, the role of land trusts in government zoning and land acquisition, and the role of water markets. The conference will produce a "white paper" outlining further areas of study that will lead to policy recommendations.

**Lynn Scarlett** and **Jane Shaw** have long felt that the public maligns the environmental record of business.

At the same time, they have observed that business executives sometimes bring criticism on themselves by focusing on the cost of regulation and by engaging in self-serving political lobbying. Believing that a better understanding of environmental problems could help executives deal in a more principled way with regulation, they have written "Environmental Progress: What Every Executive Should Know." This paper, part of the *PERC Policy Series*, makes such points as:

- The search for profits leads to conservation and reduction of pollution.
- Business is not the central cause of environmental problems.
- Regulation can be improved by moving selectively toward decentralization and performance standards.

## PERC UPDATE

Both authors have business-related credentials. Lynn Scarlett, executive director of the Reason Public Policy Institute, has consulted with businesses interested in improving their environmental records. She is author of *New Environmentalism*, published by the National Center for Policy Analysis. Jane Shaw, a PERC Senior Associate and editor of *PERC Reports*, was an economics editor with *Business Week* before joining PERC.

The paper, which was also supported by the Reason Foundation, is available from PERC for \$4 or from the PERC Web site ([www.perc.org](http://www.perc.org)).

**Terry Anderson** again spent the spring semester as a Senior Fellow at the Hoover Institution. He taught a course on "Markets, Law, and the Environment" at Stanford Law School, gave many guest lectures, and finished editing *Political Environmentalism*, forthcoming from Hoover Press.

*About our friends:* **Brent Haglund**, president of the Sand County Foundation in Madison, Wisconsin, gave a luncheon presentation in Bozeman on Sand County's private restoration and enhancement of the land around the Aldo Leopold Preserve in Wisconsin. **Pamela Snyder**, former PERC associate, recently discussed water markets at the Center for Environmental Law and Policy in Seattle. **Ian Wills** of Monash University, Victoria, Australia, will be spending four months at PERC adapting his natural resources textbook for the North American market.

PERC Associates have been addressing diverse audiences this spring. **Clay Landry** discussed stream protection through markets at a congressional staff seminar cosponsored by PERC, Senator Gordon Smith (R-OR), the Environmental Defense Fund, the National Water Resources Association, the Oregon Water Trust, Trout Unlimited, and the Washington Water Trust. Earlier this year PERC Senior Associate **Randy Simmons** presented PERC's research on the cost of public land management at a similar congressional seminar, and **Steve Hayward** of Pacific Research Institute discussed urban growth. Landry also recently participated in a conference in Brit-

ain on managing the world's water resources, sponsored by the Ditchley Foundation.

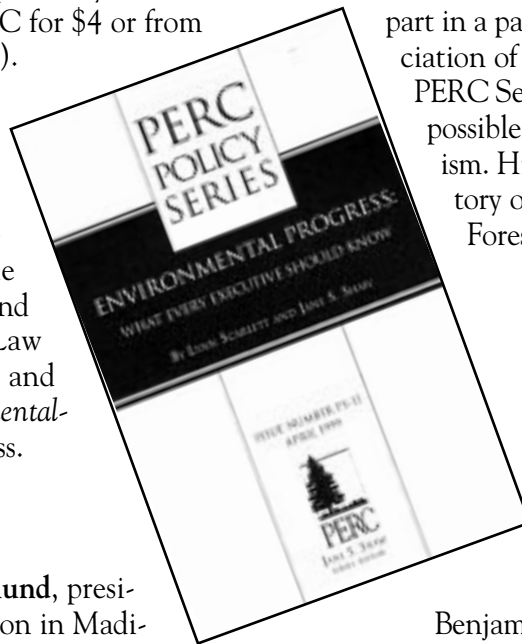
**Terry Anderson** and **Bishop Grewell** took part in Duke Law School's Fourth Annual Cummings Colloquium on Environmental Law. **Richard Stroup** presented a paper in May at a meeting honoring **Gordon Tullock** at the University of Arizona. Stroup's paper built on the concept originated by Tullock that public decision-making is a public good. Stroup discussed property rights in Portland and Salem, Oregon, in association with the Cascade Policy Institute. He and **Jane Shaw** took part in a panel at the 1999 meeting of the Association of Private Enterprise Education, where PERC Senior Associate **P. J. Hill** discussed the possible limits to free market environmentalism. Hill also presented research on the history of the western United States at Wake Forest University in April.

**Dan Benjamin** has been presenting the economics of recycling around the country at teacher workshops sponsored by PERC and the Foundation for Teaching Economics. (By the way, the Clemson student newspaper named

Benjamin the university's best teacher.) Several PERC associates are giving a series of presentations organized by PERC's **Eric Noyes** and long-time market proponent **Stu Pritchard** in Philipsburg, Montana. In April, **Don Leal** argued that property rights are the key to sustainability before the Oregon Board of Forestry in Salem, Oregon, and in May discussed federalism at a Sutherland Institute event in Salt Lake City. PERC Senior Associate **Roger Meiners** recently lectured to teachers in Indianapolis, to business students in Italy, and to the members of the Texas Historical Association.

We welcome our summer PERC Fellows! They include: **Tiago Cavalcanti** from the University of Illinois at Urbana-Champaign, **Pierre Desrochers** from the University of Montreal, **Laura Huggins** from Utah State University, and **John Romley** from Stanford University. The program is supervised by PERC Senior Associate **Dan Benjamin**.

*Correction:* The Tyrannosaurus Rex fossil known as Sue was found in South Dakota, not Montana, as erroneously reported in the March 1999 *PERC Reports*.



# NO 'COMMERCIALIZATION' OF YELLOWSTONE

By J. Bishop Grewell

**T**iny microbes living in the mud-pots and geysers of Yellowstone National Park have sparked a mammoth controversy.

Scientists think the genetic materials of these microbes could lead to medical breakthroughs or, at the very least, improve consumer products. In 1997, park officials signed an agreement with a corporation that had previously been prospecting the microbes for free—Diversa Corp. of San Diego. Diversa promised to pay the park \$175,000 over five years, as well as future royalties from any discoveries.

Up to twenty other biotech companies showed interest in signing similar deals. It looked as though backlogged repairs at the United States' oldest national park had found an untapped money tree. But then U.S. District Judge Royce C. Lamberth ruled from Washington D.C. that while bioprospecting in Yellowstone is not illegal, compensating the park for it is.

Lamberth argued that parkgoers might allow trespass into Yellowstone for science or education, but "commercial exploitation of that same parkland may reasonably be perceived as injurious." Even though Diversa—which has patented more than 500 enzymes since 1994—had a permit to bioprospect, the instant its managers wanted to compensate the park, Justice Lamberth ruled, they needed to consider the environmental impact and solicit public input. "Commercialization" had made the bioprospecting illegal without further review.

Biotech companies have prospected in the park for years. One Swiss company earns more than \$100 million per year from a Yellowstone thermophile that helps in DNA fingerprinting, and the park hasn't seen a dime of it. But with the 1997 Diversa agreement, park officials realized that the commercially valuable microbes might aid Yellowstone's cash flow. Diversa's CEO Terrance Bruggeman estimated that products derived from Yellowstone microbes could be worth between \$12-17

*Searching for microbes in Yellowstone is not illegal, but compensating the park for it is.*

billion dollars on the world market. The royalty could have been quite healthy.

Then in rode a small band of environmental groups and Justice Lamberth brandishing guns of enviro-morality.

Realistically, any Yellowstone visitor who has bought a moose-head hat, paid a lobster-dinner price for a scoop of ice cream at Old Faithful, or simply paid

the park's entry fee has commercialized Yellowstone. Dan Janzen is a scientific adviser to Costa Rica's Guanacaste Conservation Area and a University of Pennsylvania biology professor. He observes that nature-oriented tourism "has been conducting commercial development of biodiversity and ecosystems in, and downstream from, national parks since the first train tracks were laid to Yellowstone's front door more than 100 years ago." Yet, somehow we don't find tourism as evil as biotech. Why?

The traditional ballyhoo for tourism's benevolence is that it doesn't extract any resources. But this is a myth. Tourists take up space and time. The difference between four people at a lake and forty degrades an experience. And people transport microbes. Says Park Service's chief of public affairs David Barna: "You and I as tourists on the boardwalks probably carry more of these thermophiles home on our sneakers than the researchers take out."

The environment is not sullied when a dollar exchanges hands. In fact, the environment benefits from the funds that commercialization can bring. Thanks to programs like its fee demonstration program, the Park Service is learning what free-market environmentalists have always known: When it is allowed to function, the market preserves the environment. Someone needs to let a small band of misguided environmentalists and one federal justice in on the secret.

*J. Bishop Grewell is a Research Associate with PERC and a regular columnist for the Bozeman Daily Chronicle.*

# letters to the editor

## REACTIONS

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

### Organic Methods Can Be Modern

I was pleased to see the article by Bob Quinn (“Why I Am an Organic Farmer,” March 1999). As an economist teaching at the college in Havre, thirty miles north of Big Sandy, I have had many opportunities to hear Bob discuss his methods and have visited his farm.

I think it is beyond dispute that the invention and innovations of chemical herbicides, insecticides, plant breeding and related agricultural techniques have been enormously beneficial to modern civilization. But to say that these innovations were beneficial is not to say that many of the benefits could not be obtained by different methods. Bob’s methods work.

As many analysts have pointed out, if we stopped using chemical fertilizers, herbicides and pesticides cold turkey, *ceteris paribus* our agricultural output per acre would drop enormously and we would either starve or plow a lot more ground. I do not advocate that and neither does Bob. As I understand it, his point is simply that organic methods have been discovered and developed which, over time, could be substituted to obtain productivity levels just as large, with additional benefits for the soil and the environment. Such methods should themselves be viewed as modern technical developments (it is no accident that Bob has a Ph.D. in plant biochemistry). They should be adopted to the extent that profit-seeking businessmen find them useful, fulfilling, and financially attractive.

James Rolph Edwards  
Associate Professor of Economics  
Montana State University-Northern, Havre

### The Means or the End?

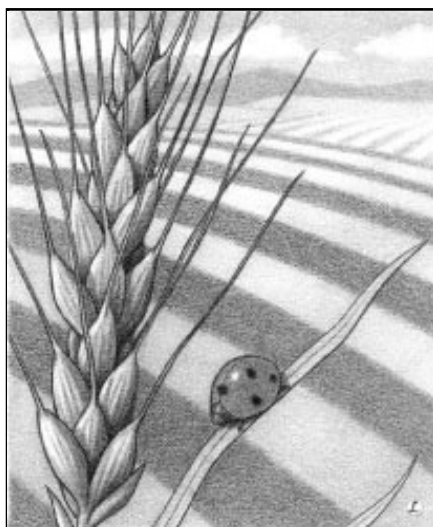
I read Daniel Benjamin’s “Tangents” article (February 1999) expecting to see how tradable SO<sub>2</sub> permits have reduced acid rain and the harmful effects on lakes and forests that it allegedly causes. It turns out, however, that the means have become the end.

Benjamin says that the tradable permit program for SO<sub>2</sub> is “superior to the command-and-control approach to reducing pollution” because it is “extraordinarily efficient at doing what it was designed to do—

move allowances to their highest-valued locations, permit equalization of control costs across sources, and generate a key source of information about the costs of reducing SO<sub>2</sub> emissions.” Tradable permits offer “every advantage suggested by their proponents.” In other words, SO<sub>2</sub> reduction is an end in itself. Whether or not the program is having a net positive effect on human well-being is irrelevant.

Unfortunately, this seems to be the direction taken by many economists and others who wave the banner of “market-based environmentalism.” Let the state identify emissions targets, and regardless of the implications for either economic well-being or liberty, we’ll give them advice on how to “efficiently” implement their central plan. Then, when it “works” the way economists said it would, we call it a triumph of markets over command and control, while blurring all distinctions between actual free markets and socialism.

Roy E. Cordato  
The Lundy Chair of Philosophy of Business  
Campbell University  
Buies Creek, NC





## An April Fool's Joke?

Is Randall G. Holcombe pulling our legs in "In Defense of Urban Sprawl" (February 1999)? His arguments are so preposterous that one scurries to examine the date of the magazine, suspecting April 1. On the off chance he's serious, however, I'll offer a couple of observations.

For one thing, offering Los Angeles as a model that any city in the world would deliberately emulate should have consigned the article to the spike right off. Los Angeles introduced the country to smog. Splashing billions of gallons of concrete throughout the basin in the form of freeways has increased the population of automobiles and kept the problem very serious. And if L.A. is the paragon of "efficient" growth, as Holcombe would have it, why is it built so far from the resources it needs to live? If Los Angeles had to depend on local supplies of fresh water, for example, I doubt it could support a tenth of its present population. Food likewise.

A factor Holcombe ignores is also germane. In some places, including Los Angeles and the San Francisco Bay Area, particularly the East Bay and Silicon Valley, this lovely leapfrog development Holcombe is so enamored of has plopped itself down smack dab in the middle of orchards and vegetable fields. This eliminates an important source of food, an esthetic amenity, and requires the importation of food from far away (at the cost of energy and air pollution) or the building of greenhouses (ditto).

Growth is a difficult and complicated issue, and I know PERC loves to challenge environmental orthodoxy, but this strains credibility. A joke, right?

*Tom Turner  
Director of Publications  
Earthjustice Legal Defense Fund  
San Francisco*

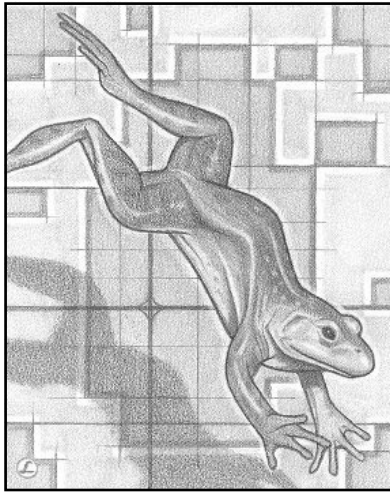
## More than Traffic Jams

Holcombe's essay is extremely disappointing. It provides no information or ideas of value, just a stream of consciousness. Which leads me to ask, what are the minimum intellectual standards for the inclusion of articles within *PERC Reports*?

Inconveniences such as traffic jams are a minuscule element in the scheme of what is really important, which is the sustainability of plant and animal populations (hu-

mans included). Ecosystems and atmosphere do not abide by voting jurisdictions. Sectors labeled as urban, rural, and intercity are all part of a connected, living system. For this reason, enterprising minds in the land development business need to think about the ecological impacts of their actions. Preserving greenspace corridors and ecosystems through thoughtful, sustainable development is presently the only viable means to accommodate a growing human population, while preserving a livable atmospheric and ecological environment.

*Doug Oates  
Washington Area Bicyclists Association  
Washington, DC*



## The Disaster of Zoning

A recent letter (Brian Mannix, March 1999) stressed that zoning makes sprawl inevitable. It is worse than that.

I have been in the real estate business for over forty years and have seen how zoning prevents the effective and imaginative use of land. With a partner I owned a plot that was zoned for garden apartments. The ordinance called for two parking spaces per dwelling unit. We ended up with a sea of asphalt.

Zoning freezes development at the time an ordinance is passed. Many areas have mixed uses because they existed that way at the time the zoning law was passed. However, once an area is zoned commercial or manufacturing, no residential use can be created. You cannot even by right enclose a porch to create an additional room—a variance must be obtained. If an area is moving from commercial to residential, you cannot make a dwelling of what were stores. We enjoy vacant buildings rather than housing people.

Zoning is a larger disaster than almost anyone understands. Building codes do less damage but builders build down to the code; they do not exceed it. We then obtain the worst of all worlds.

*Wm. A. Klein III  
Wm. A. Klein, Inc.  
New Rochelle, NY*

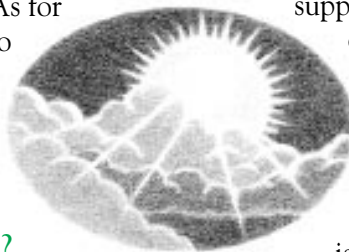
## Soaking Up Sun—At Public Expense

You cite the effort of the Sacramento International Airport Authority and the Sacramento Metropolitan Utility District to install solar panels over a small auxiliary parking lot at our pretentiously named "interna-

tional” airport (“Greener Pastures,” March 1999). While this may please the solar energy crowd, I am not sure why this article is placed under the heading “Private Initiatives.” Both the airport and the utility are governmental entities. That these august bodies have decided to generate electricity at a cost of about double the market rate is not an example of private initiative. It is an example of feel-good politics paid for by airport use taxes and subsidized every time I pay my electric bill.

*James Burling  
Director, Property Rights Section  
Pacific Legal Foundation, Sacramento*

*Linda Platts replies:* You are correct that neither the utility nor the airport is a private entity. I admit to taking liberties. While the column is intended to showcase private initiatives, I occasionally include public efforts that have the potential to use market mechanisms. As for the subsidy, the state requires utilities to spend 2.9% of their revenues on programs for the “public good,” one of which is renewable energy.



## Benefits from Climate Change?

Daniel K. Benjamin argues that “free markets may help transform global climate change into a source of net benefits for humankind” because the species favored by climate change in the United States may be more economically productive than those that lose out (“Tangents,” March 1999). This argument displays the incredible moral obtuseness on the part of some free market advocates that is one basic source of the distrust many environmentalists feel for all market advocates.

Climate change seems to bring this moral obtuseness to the fore. Benjamin assumes, so profoundly that he does not recognize his assumption, that as long as economic productivity increases, humanity benefits—that there are no moral issues involved in widespread loss of species, or that the issues are irrelevant to human welfare.

Similarly, he does not even note the distributional impacts of such change, that some communities and people will gain and others (such as the inhabitants of Bangladesh) will lose. The losers have not consented to have their lands flooded by the sea to support more profligate carbon dioxide emissions by the winners—nor will they be compensated. This is not the society of freely chosen transactions that market advocates claim to want—it is an enormous power grab over the commons of the global climate regime by the economically powerful.

These moral issues do not undercut the major

point Benjamin wanted to make—that markets can be an effective tool for minimizing the economic costs of climate. But it is one thing to argue that markets will minimize one of the negative consequences of climate change, and another to argue that this buffering mechanism transforms climate change from an enormous global roll of the dice, almost certain to produce many evils, into a net good.

*Carl Pope  
Executive Director, The Sierra Club  
San Francisco*

## PERC’s Unflappable Blindness

I am frustrated by *PERC Reports’* unflappable blindness to any positive role for the government in supporting the environment. It is not necessary or helpful for a pro-market environmental economist to be anti-government.

PERC praises the laudable work done by private individuals and industries to begin to reduce human’s footprint on the ecosystem, but fails to recognize that it is often legislation by the people (through their government) which provides the impetus for such changes. Markets exist for many enviro-capitalists because of the regulation-imposed need for businesses to reduce the impact of their negative externalities.

We gather as a government to decide the rules of the game—to codify our ethics into law. Then we gather as individuals and businesses to play the game, with market-refereed efficiency. How can efficiency and fairness be balanced when the market fails, such as with pollution externalities and common property? A tool used occasionally through the years seems to be coming of age. Public-private cooperation built the transcontinental railway and provided the local management structure for grazing lands, now the Bureau of Land Management. These cooperatives are becoming increasingly common now.

Today’s public-private partnerships include Oregon’s Quincy Library Group (*PERC Reports*, March 1998), Trout Creek Mountain Working Group, Colorado’s range management groups, and Arizona’s Grand Canyon Forests Partnerships. They are blessed and burdened by a panoply of voices representing business, the environment, and the government (the people). Such groups confront their differences and find common goals, working toward solutions with which everyone can live. In most if not all cases, there would be no basis for compromise without legislation, our codified ethics, to bring all parties to the table.

The work of public-private partnerships is hard, but it is the wave of the future. Scapegoating an important partner is, I hope, the wave of the past.

*Karen Telleen-Lawton  
Economics Instructor  
Regis University  
San Marino, CA*

## More on Prosperity and Environment

Matthew Brown and Jane S. Shaw (“Prosperity and Environment,” February 1999) cited my 1992 study in which I found that two important empirical factors tend to explain the environmental experience of the American economy. First, when a threshold income level of about \$5,000 per capita was reached, environmental desires were turned into environmental action. Second, since that time (in the late 1960s), environmental actions have tracked income in a manner that is described well by an income elasticity of 2.5.

As I began presenting my findings around the country I ran into international economists who urged me to also consider adjusting my results for what is called purchasing power parity. Put simply, this is an adjustment of income that takes into account how much real purchasing power a given amount of dollars has in a given country. For example, \$100 might have about as much ability to buy a set of goods in Chicago as in London, but it will buy a much larger bundle of goods in Mexico City.

When these adjustments were made to my analysis, my results were even stronger. Outside the OECD (industrialized) countries, the minimum adjustment factor is about two and runs to as high as six. Why is this important? Some might look at this work or the work surveyed by Brown and Shaw and say that a country such as Mexico is so far away from \$5,000 per capita that it will take decades at best for them to environmentally “engage.” This is wrong.

After correcting for purchasing power parity, Mexico and many other countries are found to be much closer to the point of taking environmental action. If world income continues to grow, the explosive growth in environmental awareness and clean-up activity already obtained by the wealthy nations of the world should quickly spread to South and Central America, Southeast Asia, India, and even more problematic nations such as China.

*Don Coursey  
Professor, Harris School of Public Policy  
University of Chicago*

## What PERC Neglects

About the only arguments I have with PERC are that you so often seem to ignore the negative facts about the environment and that you have no categories other than economics for valuing the creation. Because of your organizational name and purpose, you may well be stuck with that. Actually, I applaud PERC for the instances when you do touch on the underlying issue of religion and morality.

I have been grieved over the past eight years to see such a rift develop between the libertarian, laissez-faire, conservative think tanks and those of us who are working within the evangelical Christian tradition to reaffirm the biblical principles of earth stewardship. I have no bone to pick with capitalism as the best manner of doing business in a sinful world. I personally think that PERC’s attempt to address environmental issues through “ownership” is commendable.

My placing of “ownership” in quotes, however, indicates where I believe the problem lies. You see, your organizational limitation to political economics ties your hands. You cannot deal with the deeper, more fundamental issues that lie at the core of the Christian evaluation of society and society’s problems.

I have a transparency I use in lectures on the subject. It is called “The Human Household,” and its major graphic is an ornate house. The house is labeled “the economy,” which has to do with “the exchange of goods and services.” Below the house, however, is the foundation labeled “the environment,” which is “the source of goods and services.” The point, of course, is that the health of the earth and of its people is the foundation of any economic system. You will always have some sort of economy; however, you cannot have a healthy economy without a bountiful and healthy environment. That’s why I always quote the one-liner, “Standards of living that destroy the sources of life are not ‘high’; they are ‘evil.’”

*Dean Ohlman  
Grand Rapids, Michigan*

Mr. Ohlman is a member of the Editorial Advisory Board of *Creation Care* magazine, published by the Evangelical Environmental Network. To see PERC’s views discussed in a Christian context, we suggest reading “Takings and the Judeo-Christian Land Ethic: A Response” by PERC Senior Associate Peter J. Hill (*Religion & Liberty*, March/April 1999).

*Editor’s note:* Please send your letters to Jane Shaw at PERC ([shaw@perc.org](mailto:shaw@perc.org)).



EXCERPT

# THE TAR-PAMLICO STORY

By Bruce Yandle

North Carolina's Tar-Pamlico River Basin Association has created a market in water quality. In 1983, a serious fish kill occurred in nearby Pamlico Sound. The fish kill was the result of oxygen depletion from heavy discharge of phosphates and nitrates into the rivers. The Environmental Protection Agency (EPA) and state authorities recognized that their system of command-and-control could not do the job. Every one of 26 regulated dischargers was in compliance. Of these, 24 were publicly owned treatment works (POTWs) and two were industrial firms.

Runoff from farms, dairies, and timber operations accounted for more than 80 percent of the pollution of the sound. Yet these nonpoint polluters were, by statute, outside of the EPA's control. In short, the industrial firms and sewage treatment plants were cutting back, but farmers had unlimited access to the rivers.

After considerable debate and discussion, the regulators set a limit on the maximum amount of nutrients to be allowed in the rivers and then allowed a new not-for-profit river association—the Tar-Pamlico—to manage the river. The association, formed in 1989, included most of the POTWs and one industrial firm. (The others had recently met strict EPA regulations and saw no advantage to joining.) To meet the nutrient discharge limits for the river, the association charges its members a fee for nutrient discharges and matches dischargers with those who find ways to reduce discharge and runoff. Tar-Pamlico is accountable for the outcome.

With revenues received from the industrial firm and sewage treatment plants, the association pays farmers to change their practices. In addition, some operators of lower cost treatment works sell treatment services to others who face higher costs. A crude market has thus emerged. The river is healthy again, at a cost of about \$10 million instead of \$50 to \$100 million.

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