Where Markets Meet the Environment

PERC REPORTS

Volume 19 Number 1 March 2001 502 South 19th Avenue, Suite 211, Bozeman, Montana 59718

CLEAR-CUT

by Wallace Kaufman

3

GOVERNMENT RECALCITRANCE

Federal agencies reject liability for toxic harm.

by Bruce L. Benson

5

FOREIGN POLICY GOES GREEN

Mouthing goals, slowing progress.

by J. Bishop Grewell

7

MODERN AGRICULTURE

Boon or bane for the environment?

by Indur M. Goklany

12

PERC REPORTS

EDITOR
Jane S. Shaw

ASSOCIATE EDITOR
Linda E. Platts

PRODUCTION MANAGER
Dianna L. Rienhart

ARTIST
James Lindquist

PERC Reports is more than a newsletter about the Political Economy Research Center. It is a forum for ideas. Our goal is to offer multifaceted discussions of environmental problems, presenting our views but also introducing others'. We believe that if a variety of viewpoints are aired, the best ideas will prevail and all will learn from the discussion.

The articles in *PERC Reports* are written, selected, and edited with the same care that we apply to books and policy papers. Endnotes and references have been scrupulously edited to make them useful to scholars as well as to policy makers and the general reader.

PERC's views differ from those of many environmental organizations. In particular, we do not see government as an automatic way to solve problems such as pollution and species extinction. While regulation is sometimes necessary, we believe that voluntary activities—including markets—often achieve environmental objectives more effectively.

We welcome your comments.

ISSN 1095-3779

PERC

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

FROM *COMING OUT OF THE WOODS*, A NATURALIST'S MEMOIR

A CLEAR-CUT IN THE PIEDMONT

By Wallace Kaufman

Every few years the phone rings and a person in distress says, "Wallace, something awful is going to happen." The caller's neighbor or someone close by has decided to cut timber. The distress in the caller's voice verges on panic, as if the house had started to burn. The end is near. And it's true. Another forest is about to disappear—almost overnight.

In 1992, a caller from a mile north of me said the Merritt family was about to cut all its land. This was the first time land bordering mine would be cut.

I had walked through this land many times. On a high hilltop, I had often stopped at the chimney of an old cabin. A large, scarred walnut tree stood next to the foundations, and in the spring, old-fashioned yellow jonquils sprouted where someone had planted them a century ago. The English poet Wordsworth stopped in a forest like this and looked on the foundations of cottages. He imagined the life there and thought about his own life. The lives gone and the slower life of the rejuvenated forest made him think of "the still, sad music of humanity." I had several Tintern Abbeys in the forests near me, but this was my favorite. Soon, the loud, rap orchestration of humanity's chainsaws, skidders, and logging trucks would surround it.

Cutting timber in the Piedmont hills of North Carolina usually means clear-cutting. Clear-cutting turns woods that stand "lovely, dark and deep" into an expanse of naked ground, deeply rutted by skidders, punctuated with bleeding stumps, and strewn with the limbs and laps that are impossible to walk among.

Another forest is about to disappear—almost overnight.

The people who call me about timber cutting have seen this before and have good cause to believe that ecological Armageddon has arrived. Seeing in this case should not lead to believing. People react to a clear-cut in this region the way they react to blood from a scalp wound. Usually, however, the face covered with blood does not signal a broken skull or severed brains; but clear-cutting clouds the brains of reasonable people.

Clear-cutting does not, as the Bible says of Armageddon, put an end to all things forever. To provide some perspective, a clear-cut destroys less than a fire, the eruption of Mount Saint Helens, a tidal wave, or a glacier. A clear-cut does not destroy nature itself but the nature we love and have become accustomed to seeing. It destroys, temporarily, for less than a heartbeat of geological time, the plants we love most, the trees.

Most of us are terribly sentimental about trees. I have dozens of trees in my forest that I know as individuals, and I visit them like old friends. I have an album with their pictures, some as they grew up. They serve me instead of pets, but I don't give them names, and I don't feed them. I don't talk to them. They have become what they are without me—interesting shapes, enormous sizes, a mystery book of scars. I like their independence.

If someone were to clear-cut my forest, I would not only be sad but angry enough to shoot. Every day I look at the small patch of old growth across Morgan Branch in front of my house, and no matter how dark

the mood I wake up in or that I carry into the day's dusk, that little grove is as welcome as love. I understand why my neighbors call in alarm. I understand why John Muir, founder of the Sierra Club and America's greatest hiker, could conclude his defense of old forests by writing, "God has cared for these trees, saved them from drought, disease, avalanches, and a thousand straining, leveling tempests and floods; but he cannot save them from fools."

The Merritt who owns the land north of me is no fool. He is a plastic surgeon, a hunter, a reasonable and civil man. Like me, he can choose what he will do with his forest. The timber was worth maybe half a million dollars. Let's say that much money put in his retirement account might earn 10 percent a year, or $50,000. If he lets the forest stand, he is paying $50,000 a year for two or three weekends of hunting. Or maybe he is paying it so that his trees can absorb carbon dioxide, which is supposed to cause global warming. Even my strongest environmentalist friends would not pay $50,000 a year for the right to bird-watch, or hike among the California redwoods or the spruce trees of Alaska's Kodiak Island, or to lock up a few tons of greenhouse gas.

Even my strongest environmentalist friends would not pay $50,000 a year for the right to bird-watch or hike among the California redwoods or the spruce trees of Alaska's Kodiak Island.

Much of the surgeon's land was covered in pine trees that had taken over old fields and pastures. He could cut selectively and leave twelve or fifteen good seed trees for every acre. Among the hardwoods he could also cut selectively and leave an essential shade and enough trees to continue making the mast crops (nuts and seeds) that sustain deer, squirrels, and wild turkey. He could do it this way, but he would give up $100,000 or more. So he would still be paying $10,000 a year for a few weekends of hunting.

My other argument, if I wanted to argue with him, would have been that by selective cutting, the land would have a much greater appeal to the real estate market. Why would I argue that? Did I want to encourage him to sell it for development? I was better off if he clear-cut it. Even if he replanted it in pine, it would be an impenetrable thicket of saplings, blackberries, and smilax thorns for at least ten years.

The caller from the north side of Merritt's land asked, "Is there any way we can stop him? Isn't there some law about raping a forest like this?"

"If he cuts too close to the stream or leaves debris in the stream, he can be fined," was my answer.

"Then it's too late."

"The only way to stop him would be to go to the timber sale and buy the rights to the timber," I suggested. "Or call the owner now and ask him to sell you the rights. Then you sell the timber in a selective cut."

"I don't want to cut any timber," the caller said. "He doesn't need the money. Why is he doing this?"

The caller had a nice house, two expensive cars, and more than ten acres of land. "All of us have things we don't need," I said.

"Couldn't we get the state or someone to buy it for a park?"

Now we had come down to a fundamental obstacle to saving land the way environmentalists want to do it—someone else has to pay to rescue a favored piece of land. Only the Nature Conservancy, scattered land trusts, and a few sporting groups such as Ducks Unlimited have raised money to save wildlife habitat. I told the caller that Merritt's land was a beautiful piece of land, but it was not of great interest to the State Parks people or the Nature Conservancy.

The caller paused. I waited. "This is an environmental disaster."

I said, "It's not a disaster but it's going to be ugly and years will pass before anyone can walk through that land again." As a consolation, I explained that a clear-cut would explode with small animals—rabbits, mice, voles, moles, songbirds. Within months, those animals would attract snakes, fox, bobcats, hawks, owls, and eagles. "There will actually be more animals there after it's cut than now," I concluded.

The caller heard me out, waited a few seconds, sighed a four-letter word, thanked me, and hung up.

Wallace Kaufman is the author of Coming Out of the Woods: The Solitary Life of a Maverick Naturalist *(Perseus Publishing), just released in paperback, and* No Turning Back: Dismantling the Fantasies of Environmental Thinking *(iUniverse.com, Inc.)* *This selection from* Coming Out of the Woods *was abridged with the author's permission.*

THE GOVERNMENT PROTECTS ITSELF AGAINST FALLOUT

FEDERAL IMMUNITY FROM TOXIC SUBSTANCES

By Bruce L. Benson

Government agencies may be the largest single source of demand for potentially toxic substances. They use large quantities of allegedly toxic products in ways that put people at risk, often without warning the parties at risk or even acknowledging the risk. Yet government is often immune from tort liability.[1]

The saga of the chemical Agent Orange illustrates how the government can be immune from liability even when it is the best informed party and when its contractors are forced to pay compensation for harm.[2] Chemical companies were pressured to make these payments even though no substantive harms from Agent Orange were proven. The government simply denied liability.

Agent Orange illustrates how the government can be immune from liability even when it is the best informed party.

During World War II, as Peter Schuck (1986, 16) discusses in his book *Agent Orange on Trial*, the Army formulated a number of defoliant compounds, including 2,4,5-T. The compounds were regarded as more effective, easier to apply, and safer than existing weed killers, so after the war they were made available to the private sector. The Army continued to test many herbicides.

President Kennedy approved spraying various mixtures that include 2,4,5-T, another powerful herbicide, 2,4-D, and other chemicals on the jungles of Vietnam. As U.S. involvement in Vietnam increased, so did the defoliation efforts. Agent Orange, consisting of equal parts of 2,4,5-T and 2,4-D, was introduced in 1965. Several chemical companies were compelled to provide the Army with Agent Orange under the Defense Production Act (Glasser 1986, 514). By the time its use ended in 1970, 11.2 million gallons had been sprayed over about 10 percent of South Vietnam's land area.

Potential dangers of herbicide toxicity in general and of Agent Orange in particular had been known by Army officials for some time. Monsanto, one of the largest producers of Agent Orange, informed army officials that 2,4,5-T was a toxic substance as early as 1952. A 1963 Army review of toxicity studies of 2,4,5-T concluded that there was an increased risk of chloracne (a severe but often treatable skin condition) and respiratory irritations, and that the risk was heightened when the chemical was applied in high concentrations by inexperienced personnel.

The Army knew as much, and probably more, about the potential dangers of the herbicides as any company that manufactured them. The Joint Chiefs of Staff were also informed of potential health dangers of herbicides by the President's Science Advisory Committee in 1963. President Johnson's Science Advisory Committee apparently discussed the poten-

tial toxicity of 2,4,5-T in meetings between April and June of 1965. The National Cancer Institute contracted with Bionetic Research Laboratories in 1965 to study the potential toxicity of a number of herbicides and pesticides, including both 2,4-D and 2,4,5-T. A preliminary report indicating potential dangers was not made public until 1969 when it was leaked to Ralph Nader.

Before this, the Army had denied (perhaps correctly) that any serious danger existed, but on April 15, 1970, the Army stopped using Agent Orange. Subsequently, veterans, claiming that they had contracted diseases from Agent Orange, initiated litigation to obtain compensation.

Despite evidence of substantial knowledge by government officials of potential health hazards of Agent Orange, the government denied virtually all liability. The government's lead attorney on the case stated: "The United States declines to attend or participate in settlement negotiations or court settlement of this case because any settlement that calls for contribution by the United States is not warranted. This is the United States' firm position, and we anticipate no change whatever in any aspect of it" (Schuck 1986, 148).

The judge in the case manipulated the producers of Agent Orange into a $180 million settlement, in addition to their legal fees.

Although there are substantial scientific questions regarding causality with respect to many of Agent Orange's alleged health effects (Franklin 1994, 3–4), the judge in the case manipulated the producers of Agent Orange into a $180 million settlement. This was in addition to their legal fees, estimated to be in the $100 million range (Schuck 1986, 5). If government officials were correct in denying any liability, then the producers should also have been free of liability. The defendants attempted to recover litigation expenses and settlement costs from the federal government. They were not successful, as the Supreme Court affirmed lower court rulings against them in 1996.[3]

To the degree that Agent Orange causes harm, the case appears to be one of gross negligence on the part of government officials. Immunity for such officials can apply even when potential harms are intentionally inflicted.[4]

There are many other examples of government actions that exposed people to toxic materials without legal liability. Consider just a few examples.

- The Department of Defense (DOD) apparently knew of potential risks associated with experimental drugs and vaccines before the Gulf War but administered them to troops anyway, with no warning and no monitoring (Ritter 1994).

- The DOD has identified 10,439 suspected hazardous waste sites on active military installations that require cleanup or additional investigation. Over 100 of these facilities are on the Environmental Protection Agency's "Superfund" National Priorities List of the worst contaminated sites in America (Calhoun 1994).

- U.S. Department of Energy nuclear weapons laboratory, production, and test facilities have "an estimated 4,500 contamination sites covering tens of thousands of acres of land," and nine of these facilities are on the Superfund priorities list (Center for Defense Information 1994, 1). These nuclear weapons facilities have produced more than 99 percent of all the high-level radioactive waste in America. Several facilities are so contaminated that they probably will simply be sealed off from public access as "national sacrifice zones."

- While industry is recognized as the major producer of chlorofluorocarbons (CFCs such as Freon), which allegedly deplete the stratospheric ozone layer, estimates made in 1989 suggest that the armed services and their contracted weapons producers were responsible for about 37 percent of the nation's Freon emissions (Siegel 1990, 1).

- Millions of tons of asbestos were used to insulate ships built in naval shipyards. The way it was applied exposed many thousands of workers to dangerous levels of asbestos, unlike the relatively safe way that asbestos was used in building construction. As Chen (1984, 26) notes, "Even though the vast majority of asbestos victims worked in government shipyards, the United States government continues to re-

ject any suggestion that it bears a moral, if not a legal, obligation to the victims."

The list goes on and on. It is a sad commentary on government "responsibility. "

Notes

1. Federal Tort Claim Act, 1946; *Feres v. U.S.*, 340 U.S. 135 (1950).

2. Much of this discussion is drawn from Schuck (1986).

3. *Hercules Inc. et al. v. United States*, Yock, J., 25 Cl. Ct. 616; 26 Cl. Ct. 17; *aff'd*, 24 F. 3d 188; *aff'd*, 116 S.Ct. 981 (1996).

4. A large number of radiation experiments on human subjects were conducted between 1945 and 1970, for instance, some of which exposed large civilian populations (*Oakland Tribune* 1994).

References

Calhoun, Martin. 1994. The Military and the Environment. *Defense Monitor* 23(9): 1–7.

Center for Defense Information. 1994. Nuclear Threat at Home: The Cold War's Lethal Leftovers. *Defense Monitor* 23(2): 1–8.

Chen, Edwin. 1984. Asbestos Litigation is a Growth Industry. *Atlantic* July, 24–32.

Franklin, Jon. 1994. Poisons of the Mind. *Activities* 14: 1–6.

Glasser, Jonathan. 1986. The Government Contractor Defense: Is Sovereign Immunity a Necessary Perquisite? *Brooklyn Law Review* 52: 495–531.

Oakland Tribune. 1994. '65 Nuke Fallout Hit L.A. August 26.

Ritter, John. 1994. Report: Military Knew Risks of Gulf War Drugs. *USA Today*, December 8.

Schuck, Peter H. 1986. *Agent Orange on Trial: Mass Toxic Disasters in the Courts*. Cambridge, MA: Belknap Press.

Siegel, Lenny. 1990. *No Free Launch: The Toxic Impact of America's Space Programs*. Sabattus, ME: Military Toxics Project.

Bruce L. Benson is Devoe Moore Distinguished Research Professor of Economics at Florida State University. This article is excerpted from Cutting Green Tape, *edited by PERC Senior Associates Richard L. Stroup and Roger E. Meiners (Transaction Publishers).*

A DANGEROUS PARADIGM SHIFT

THE GREENING OF FOREIGN POLICY

By J. Bishop Grewell

While she was Secretary of State, Madeleine Albright summed up the newest trend in American diplomacy. "Not so long ago, many believed that the pursuit of clean air, clean water, and healthy forests was a worthy goal, but not part of our national security. Today, environmental issues are part of the mainstream of American foreign policy" (U.S. Department of State 1998).

The new "green" policy promotes pretense over performance.

Albright's words reflect a dangerous paradigm shift that has become embedded in the agencies of the United States government that deal with foreign affairs. While the Bush administration may be less intent on the "greening" of foreign policy than was the Clinton administration, environmental issues have already seeped into the policies of the State Department and Defense Department and agendas for trade and aid.

Adding an environmental component to the conduct of international affairs may arouse sympathy, but traditional foreign policy concerns are at

risk of being pushed aside. At the same time, the new "green" policy fails to make significant environmental progress. It promotes pretense over performance.

Scholars gathered together by the Hoover Institution examined evidence of this change in foreign policy (Anderson and Miller 2000). The evidence includes the following:

- At the Department of Defense (DOD), spending on environmental programs in the United States jumped from $250 million to $5 billion between 1984 and 1994 and has remained at a high level since. These expenditures consume nearly two percent of the department's budget (Schaefer 2000, 61).

- In 1997, the State Department announced in its document *United States Strategic Plan for International Affairs* that sustainable environment and a stabilized world population are among its primary goals. These goals were listed alongside national security and the protection of American citizens (Schaefer 2000, 47).

- The United States Agency for International Development now promotes environmental objectives. It has denied funding for countries to use DDT to combat malaria because of concerns about DDT's environmental impact (Tren and Bate 2001, 42).

- Trade itself is affected. The Clinton administration insisted on including supposed protections for the environment and labor in its "fast-track" authority, which streamlines the progress of free trade agreements through Congress. Partly as a result of such inclusions, Congress halted such authority in 1994, bringing trade negotiations to a virtual standstill.

The evolving international regime seeks broad cooperation on a myriad of second-tier issues. This means trying to secure nearly universal participation in many agreements. Yet the more parties signing on to a convention or treaty, the less chance there is for actual cooperation and resolution (Barrett 1994) and the greater the chance for sovereignty loss.

Open-door participation makes science subservient to politics. William Aron, a former United States Whaling Commissioner, suggests this happened with the International Whaling Commission. He and his coauthors have noted, "Any nation can accept the 1946 convention and become an equal voting member of the IWC" (Aron, Burke, and Freeman 1999, 24). Even landlocked countries can join the commission. Countries not directly affected by whales or whaling can vote on policies with the same degree of power as countries with a direct economic and cultural stake in whaling policy.

Environmental organizations have taken advantage of the policy. According to some observers, Greenpeace worked to pack the IWC against whaling and may even have paid membership fees for new member countries (Andresen 1998, 439–40). Open participation undoubtedly contributes to the continuing moratorium on whaling for whale species that scientific data indicate are no longer endangered.

Far more effective and appropriate are treaties that involve only those countries with a direct interest. The North Pacific Fur Seal Treaty is an example (Morris 2000, 274–75). This environmental treaty was signed in 1911 (before anyone would have called it an environmental treaty). In order to protect the fur seal population from overharvest, the four nations involved in harvesting fur seals (the United States, Canada, Russia, and Japan) signed an agreement setting quotas for each country. Breach of the contract was punishable by dissolution of the treaty. Because this would lead to a return to overharvesting and eventually destroy the value of the resource, the countries had an incentive to play by the rules. Other countries were discouraged from entry into the fur seal

market by credible threats of trade sanctions.

Another example of the benefits of limited international involvement was the 1941 *Trail Smelter* arbitration (Morris 2000, 271–72). Fumes from a smelter operated by Cominco Ltd. in British Columbia, Canada, were harming cattle ranchers in the United States. The ranchers petitioned the U.S. government for help. The case was taken to arbitration and settled. No other country had a direct interest in the case, and so no other country was involved. The ranchers were granted an injunction and awarded damages from Cominco.

Such limited and specific treaties have given way to broad agreements involving many countries. The Kyoto Protocol for reducing carbon dioxide emissions has raised talk of an international regulatory agency comparable to Interpol (Miller 2000, 229–30). A State Department document promoted the United Nations as a police force to patrol regulations of biotechnology. The 1992 Biodiversity Convention could interfere with national sovereignty by putting pressure on a country to set aside reserve areas for endangered species.

Far more appropriate are treaties that involve only those countries with a direct interest in the issue.

Foreign policy has always been a bag of goods bought with a finite amount of diplomatic currency. Adding another item to that shopping list increases the cost of foreign policy and risks losing focus. Because of these risks, only environmental issues truly international in scope should make it into the international policy arena.

Furthermore, economic research makes clear that wealth and well-being are linked (Anderson 2000). As people become richer, they begin to improve their surroundings and ultimately seek environmental amenities. Any foreign policy striving to improve environmental quality should promote economic growth.

References

Anderson, Terry L. 2000. Bucking the Tide of Globalism: Developing Property Rights from the Ground Up. *In The Greening of U.S. Foreign Policy*, ed. Terry L. Anderson and Henry I. Miller. Stanford, CA: Hoover Institution Press, 249–66.

Anderson, Terry L., and Henry I. Miller, eds. 2000. *The Greening of U.S. Foreign Policy*. Stanford, CA: Hoover Institution Press.

Andresen, Steinar. 1998. The Making and Implementation of Whaling Policies: Does Participation Make a Difference? In *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice*, ed. David G. Victor, Kal Raustiala, and Eugen B. Skolnikoff. Cambridge, MA; MIT Press, 431–74.

Aron, William, William Burke, and Milton Freeman. 1999. Flouting the Convention. *Atlantic Monthly*, May.

Barrett, Scott. 1994. Heterogeneous International Environmental Agreements. In *International Environmental Negotiations: Strategic Policy Issues*, ed. Carlo Carraro. Cheltenham: Edward Elgar, 9–25.

Miller, Henry I. 2000. Biotechnology Regulation and Foreign Policy: Eccentric Environmentalism Instead of Sound Science. In *The Greening of U.S. Foreign Policy*, ed. Terry L. Anderson and Henry I. Miller. Stanford, CA: Hoover Institution Press, 221–48.

Morris, Julian. 2000. International Environmental Agreements: Developing Another Path. In *The Greening of U.S. Foreign Policy*, ed. Terry L. Anderson and Henry I. Miller. Stanford, CA: Hoover Institution Press, 267–301.

Schaefer, Brett D. 2000. Green Creep: The Increasing Influence of Environmentalism in U.S. Foreign Policy. In *The Greening of U.S. Foreign Policy*, ed. Terry L. Anderson and Henry I. Miller. Stanford, CA: Hoover Institution Press, 41–113.

Tren, Richard, and Roger Bate. 2000. *When Politics Kills: Malaria and the DDT Story*. Washington, DC: Competitive Enterprise Institute.

U.S. Department of State. 1998. *Environmental Diplomacy: The Environment and U.S. Foreign Policy*. Available: http://www.state.gov/www/global/oes/earth.html. Cited January 31, 2001.

J. Bishop Grewell, a Research Associate with PERC, is currently a visiting scholar with the Competitive Enterprise Institute. He is working on a book on eco-entrepreneurs in the agricultural sector. For more information about environmental changes in foreign policy, see The Greening of U.S. Foreign Policy, *edited by Terry L. Anderson and Henry I. Miller (Hoover Institution Press, 2000) and the* PERC Policy Series *paper, "The Greening of Foreign Policy" (PS-20), by Terry L. Anderson and J. Bishop Grewell.*

GREENER PASTURES

PRIVATE INITIATIVES

By Linda E. Platts

SWEET SUCCESS

The EcoEnterprises Fund has invested $500,000 in a private company that works with small scale cocoa producers in Latin America. "By investing in businesses doing the right thing, we can help people make a living, and help protect the world's great places," says Tammy Newmark, president of the fund. The $10 million fund provides venture capital and technical assistance to businesses involved in sustainable agriculture and forestry, ecotourism, and other environmentally compatible activities. The Organic Commodity Products company that works with small scale cocoa farmers fits that description

Cocoa is the principal ingredient in chocolate and a product of the cacao tree. These trees grow best in the understory of tropical forests. By providing technical assistance and economic incentives to farmers, the fund is also promoting the conservation of tropical forests.

A joint project of The Nature Conservancy and the Inter-American Development Bank, the fund reflects a new trend in philanthropy. "People are looking for new ways to give, and, in particular, ways to give that capture the power of the marketplace and show measurable results," says David Whitehead, director of development for The Nature Conservancy.

—Environmental News Service

BANKING ON STREAMS

When plans for a $243.5 million industrial park in St. Louis County, Missouri, failed to come together, the developers looked for an alternative way to profit from the site. They found the answer in a 2.6 mile section of Fox Creek, which runs through the property. With the help of the Missouri Conservation Department and the U.S. Army Corps of Engineers, the nation's first stream mitigation bank was approved.

Federal law requires that developers mitigate any damage they cause to aquatic resources in the course of their projects. Now in Missouri, developers who adversely affect streams can purchase credits from the Fox Creek Mitigation Bank.

Unlike the more common wetland banks, which can be created from previously fallow land, a stream mitigation bank must be created by rehabilitating an existing degraded stream. The property owners will plant 5,000 trees and shrubs creating a 300-foot-wide protected stream corridor through their property. In return, they will be allowed to sell 197.2 stream mitigation credits. In some areas, credits from wetland mitigation efforts have sold for as much as $60,000 an acre.

Now that the mitigation bank has given the stream a quantifiable value, both the developers whose project stalled as well as those seeking to move forward with other projects can all benefit.

—Science Engineering News

A PLACE FOR THE OBSOLETE

Staying one step ahead of the regulators, IBM has created a recycling service for personal computers. The New York-based computer maker took the offensive by establishing the IBM PC Recycling Service. For a fee of $29.99, IBM will accept whatever computer parts you can cram in a box and ship to Envirocycle in Hallstead, Pa. And they don't even have to be IBM computers. The fee includes the shipping, cost and no purchase of IBM equipment is required in order to participate.

The company's director of corporate environmental affairs, Wayne Balta, says the program was cre-

ated to address the rapidly growing volume of obsolete equipment. Recent studies indicate that more than 20 million computers became obsolete in 1998, but less than 3 million of those were recycled. Some states have already banned the disposal of computer screens in landfills and incinerators. The ban increases the chance that computer parts containing hazardous materials such as lead, mercury and cadmium could end up in illegal dumps.

The program donates usable equipment to family service and job training organizations as well as to the nonprofit Gifts in Kind International. Unusable equipment is dismantled and recycled or disposed of in a safe manner. Other companies such as Dell Computer Corp. have a disposal program for large customers and Hewlett-Packard Co. is setting up a program for individual users.

If your attic is cluttered with broken monitors or the garage is piled with old CPUs, now is the time to act. Call United Parcel Service and send your obsolete items to IBM.

—Akron Beacon Journal

DOT.COM DOES GOOD

Many dot.com-ers around Silicon Valley seem to have stock options as their top priority. Not so for Richard Gill and Will Hoover, the cofounders of AndEarth.com, who had a slightly different business model in mind. They are raising money for environmental projects throughout the San Francisco Bay area, with a particular focus on the doings of grassroots groups.

Their business works by soliciting sponsors who want to have their advertising banners attached to an email newsletter that goes to a fast-growing list of subscribers. The emails describe the specific projects that AndEarth.com has selected to assist with fund raising. In addition, the email contains a stunning color photograph and a button labeled "Support." The more people who click that button, the more money the sponsors donate, knowing that their ad has reached a targeted audience. Gill estimates that 70 percent of their revenues go directly to the environmental projects.

In business for just four months, Gill reports that subscribers number more than 5,000. The money raised so far has gone to the San Bruno Mountain Watch, which is helping to preserve more than 20 threatened and endangered species that make their home on San Bruno Mountain. AndEarth.com is also supporting the nonprofit Save Our Shores group which is putting together a year-long statewide coastal cleanup project. Funds from the dot.com will provide the trash bags and gloves used by the volunteers.

Gill says they hope to raise funds for six to twelve projects within the next year. The email newsletter is free and anyone can sign up at the www.andearth.com Web site.

—Environmental News Network

ABOVE AND BEYOND

The state of Oregon has recognized several companies for environmentally superior operations that have exceeded regulatory standards. The companies received "green permits," which entitle them to special treatment from state regulators. For example, the number of inspections by the state could be reduced, or required reports to the state could be filed in a more flexible manner. However, the companies are not the only beneficiaries. The state can tally up considerable savings too by not having to devote as many resources to policing activities.

Louisiana Pacific Corp. reduced toxic-air emissions at its wood-products facility in Hines, Ore., to less than 10 percent of the total annual levels allowed by Oregon law. It is also selling left-over wood shavings to recyclers for $100,000 annually, which previously cost the company $100,000 to dispose of properly.

LSI Logic Corp. was recognized for a cleanup program at its chip-fabrication factory in Gresham, Ore. During the past two years, the company reduced the use of toxic chemicals by 25,000 gallons, recycled another 51,000 gallons, and saved 5 million kilowatt hours of electricity. The company is also experimenting with a new water recycling system that could save as much as 180 millions gallons of water a year.

With the greater flexibility that comes with the "green permits," qualifying companies can save money by not having to spend so much time on regulatory matters. Other businesses around the country have recently begun following similar environmental management programs to avoid run-ins with regulatory agencies and maximize savings. Green permits are being issued in 14 other states and the Environmental Protection Agency is implementing a similar program at the national level.

—Wall Street Journal

THE PROS AND CONS OF MODERN FARMING

By Indur M. Goklany

Technology, and in particular agricultural technology, is the environmentalists' *bête noire*. Agricultural technology, more than anything else, raises the dreaded specter of a silent spring.

Worldwide, agriculture accounts for 38 percent of land use, 66 percent of water withdrawals, and 85 percent of water consumption (Food and Agriculture Organization [FAO] 2001; Shiklomanov 2000). It is responsible for most of the habitat loss and fragmentation that threaten the world's forests, biodiversity, and terrestrial carbon stores and sinks. Water diversions for agriculture combined with agriculture-related water quality problems—oxygen depletion, pesticide and fertilizer runoff, and soil erosion—are the major threats to aquatic and avian species not only inland but, possibly, also in coastal and nearshore areas. In addition, land clearance and other agricultural practices contribute to greenhouse gas emissions.

But, paradoxically, agricultural technology is also responsible for forestalling any silent springs—at least, so far. Had technology—and therefore yields—been frozen at 1961 levels, then producing as much food as was actually produced in 1998 would have required more than a doubling of land devoted to agriculture. Such land would have increased from 12.2 billion acres to at least 26.3 billion acres, that is, from 38 to 82 percent of global land area. (And this optimistically assumes that productivity in the added acreage would be as high as in the other areas). Cropland alone would have had to more than double, from 3.7 to 7.9 billion acres.[1] An additional area the size of South America minus Chile would have to be plowed under.

Those figures assume that this much unused cropland would be available. Potential cropland is estimated at about 8.5 billion acres worldwide.[2] But since the best agricultural land is probably already being cultivated, new cropland is unlikely to be as productive. Moreover, at least 45 percent of this cultivable-but-uncultivated area is forested, and 12 percent is protected. In sum, there simply isn't enough productive land worldwide to support today's world population using yesterday's technology.

There simply isn't enough productive land worldwide to support today's world population using yesterday's technology.

Imagine the devastation that would have occurred had agricultural technology been frozen at 1961 levels, while mortality rates continued to drop, pushing up population. Massive deforestation, soil erosion, greenhouse gas emissions, and losses of biodiversity would occur with the more-than-doubling of land and water diverted to agriculture, but hunger and starvation would not decline. The additional pressure on the land would have increased land prices, making it more difficult to reserve land for conservation (except, possibly, in the deserts, the frozen polar regions, and the peaks of mountain ranges).

Such tragic results did not happen, thanks to improvements in productivity at each step of the food and agricultural system. To begin with, science-based varieties of seeds helped increase global yields for all cereals, the grains that are grown on 45 percent of the world's cropland. Cereal yields went up by 126 percent between 1961 and 1998 (FAO 2001). To more fully exploit these high-yielding crop varieties, farmers implemented a set of complementary technologies. Yes, these caused environmental problems. Yet they also increased productivity, reducing the amount of land devoted to agriculture.

- *Irrigation.* Water diversions for agriculture are a major problem for many aquatic species. But irrigating the land, on average, triples its productivity (Goklany 1998). Currently, 18 percent of

global cropland is irrigated (FAO 2001). If all irrigation were halted, then at least an extra 1.31 billion acres of land would be needed to compensate for the lost production.

- *Fertilizers.* The use—and abuse—of fertilizers is the major source of nutrient loading in the world's waters. But fertilizer use has, in some cases, doubled yields.

- *Mechanization.* Tractor usage increased 2.3-fold between 1961 and 1998 (FAO 2001). While increasing society's dependence on fossil fuels, it reduced the need for human and animal labor on the farm. This helped reduce food costs and lessened the need to cultivate additional land to feed work animals. In 1910 about one-third of all U.S. cropland was used to feed working horses and mules (Goklany and Sprague 1991). Mechanization also reduced an incentive for a higher birth rate.

- *Pest Control Systems.* In the absence of pesticides and other pest controls, an estimated 70 percent of the world's crop might be lost, instead of the current 42 percent (Oerke et al. 1994, 750). Thus, without them, at least 90 percent more cropland would be required to offset the loss in production. It is true that as much as 99(+) percent of pesticides are wasted and end up in the environment (Goklany 1998). Even so, a number of cost-benefit analyses indicate that aggregate economic, public health, and environmental benefits of pesticide use may outweigh the aggregate costs (Pimentel 1997; Pimentel and Greiner 1997). These studies do not take into account the environmental benefits that come from reduced habitat conversion.

Other factors also contributed to farm productivity. These include (a) innovations in animal husbandry, (b) technologies for storage, handling and processing (e.g., plastic bags, refrigeration, canning and preservation), and (c) a wider—largely fossil fuel driven—global infrastructure for the efficient transportation, storage, distribution and trade of agricultural inputs and outputs (which also helped reduce wastage and spoilage) (Goklany and Sprague 1991).

Recognizing the benefits of these technologies does not mean that we should ignore the tendency to overuse inputs such as water, fertilizers, pesticides and energy, in part because of subsidies and, in the case of water, lack of property rights. So although total benefits of various technologies probably exceed total costs, marginal costs may not always exceed marginal benefits.

To put a long-term focus on the environmental pros and cons of agricultural technologies, many effects of agricultural pollutants seem reversible, although not always rapidly and sometimes at substantial cost. In the richer nations, new laws and large investments in new and clean technologies have helped many freshwater systems and aquatic and avian species recover from decades, if not generations, of abuse (Goklany 1996).

Agricultural technology, by reducing starvation and hunger, helped reduce maternal and infant mortality rates.

Soil erosion has declined; the Rhine, Thames, and Hudson Rivers are cleaner—and support more species—now than in past decades; and DDT and other pesticide residues in freshwater fish and human adipose tissue have dropped by an order of magnitude or more in North America and Europe. Thus, the direct effects of agricultural pollutants seem no more long-lived or irreversible than the indirect ecological and biodiversity effects of additional land clearance that would have occurred without those technologies.

Some have argued that agricultural technology, by making more food available, merely postponed the Malthusian day of reckoning, leading to a larger population which, in turn, increased net conversion of wildlife habitat. In response to this claim, I would first argue that agricultural technology, by reducing starvation and hunger, helped reduce maternal and infant mortality rates. Not only has this reduced misery worldwide, but it has also directly improved human well-being.

Second, failure to produce enough food would not necessarily have led to protection of habitat for the rest of nature. Consider the statistics about India. In 1961, daily food supplies per capita in India were 2,073 Calories (2,073 kilocalories, more accurately). At that time, 398 million acres of India's total land area of 734 million acres (or 54 percent) was devoted to crop production.

Between 1961 and 1998, population increased by

117 percent, food supplies per capita grew 19 percent, and India became, at least temporarily, a net grain exporter. Yet cropland increased by only 5 percent (to 420 million acres). Forest and woodland area expanded 21 percent between 1961 and 1994 (from 141 to 170 million acres) (FAO 2001).

Assuming no improvement in agricultural production since 1961 or any change in the 1998 population level, available daily food supplies per capita would have slid to 955 Calories—well below even the minimum energy an adult needs to keep basic metabolic activities functioning at rest in a supine position! The Food and Agricultural Organization (1996) estimates that minimal level of existence as requiring 1,300 to 1,700 Calories/day. Mass starvation and death would have been inevitable.

Would that have translated into more wildlife habitat? Not likely. Faced with such hunger, it seems unlikely that India's population and policy makers would have been more willing to set land aside for conservation. India would have been fortunate not to have lost much of its remaining forests, let alone "reserve" as much as the 35 million acres currently in partially or fully protected areas (World Resources Institute 2000).

By reducing hunger, agricultural technology has not only improved human welfare and reduced habitat loss but has made it easier to view the rest of nature as a source of wonder and not merely as one's next meal or the fire to cook it with. It also decreased the socioeconomic cost of conservation.

These factors helped create the conditions necessary for support of conservation within the body politic. Finally, in the absence of technological progress, would the World Conservation Union's Red List, which classifies about a quarter of all mammalian species as threatened (World Conservation Union 2000), been larger, because more species would be threatened—or smaller, because more species were extinct?

Notes

1. These calculations assume that the increase in food production between 1961 and 1998 is equivalent to the increase in global population times the increase in globally averaged food supplies per capita, using data from FAO (2001).

2. Goklany (1998). Assumes 0.3 billion acres of potential cropland in China.

References

Food and Agriculture Organization. 1996. *Assessment of Feasible Progress in Food Security*. Technical Background Documents 12-15, vol. 3. Rome, Italy.

———. 2001. FAOSTAT database. Available http://apps.fao.org. Cited February 9, 2001.

Goklany, Indur M. 1996. Factors Affecting Environmental Impacts: The Effects of Technology on Long-Term Trends in Cropland, Air Pollution and Water-related Diseases. *Ambio* 25, 497–503.

———.1998. Saving Habitat and Conserving Biodiversity on a Crowded Planet. *BioScience* 48: 941–53.

Goklany, Indur M., and Merritt W. Sprague. 1991. *A Different Approach to Sustainable Development: Conserving Forests, Habitat, and Biological Diversity by Increasing the Efficiency and Productivity of Land Utilization*. Washington, DC: Office of Program Analysis, Department of the Interior, December.

Oerke E.-C., A. Weber, H.-W. Dehne, F. Schonbeck. 1994. Conclusion and Perspectives. In *Crop Production and Crop Protection: Estimated Losses in Food and Cash Crops*, ed. E.-C. Oerke, H.-W. Dehne, F. Schonbeck, A. Weber. Amsterdam: Elsevier, 742–70.

Pimentel, D., and A. Greiner. 1997. Economic and Socio-Economic Costs of Pesticide Use. In *Techniques for Reducing Pesticide Use: Economic and Environmental Benefits*, ed. D. Pimentel. Chichester, UK: John Wiley, 51–78.

Pimentel, D., ed. 1997. *Techniques for Reducing Pesticide Use Economic and Environmental Benefits*. Chichester, UK: John Wiley.

Shiklomanov, Igor A. 2000. Appraisal and Assessment of World Water Resources. *Water International* 25(1): 11–32.

World Conservation Union. 2000. *2000 IUCN Red List of Threatened Species—Confirming the Global Extinction Crisis*. Available http://www.iucn.org/redlist/2000/news.html. Cited February 13, 2001.

World Resources Institute. 2000. *World Resources 2000–2001*. Washington, DC.

Indur M. Goklany was a PERC Julian Simon Fellow in 2000. He is the author of Clearing the Air *(Cato Institute) and many studies of the links between technology and environmental and human well-being.*

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

Fisheries provide the classic example of the tragedy of the commons, which occurs when property rights are incomplete and access to a resource is open. The migratory nature of most fish species makes it difficult to establish and protect rights to fish in the sea, so the rule of capture prevails. The result is often overexploitation of the resource. Economists long have argued that the waste associated with this problem could be reduced if we "privatized the commons," that is, created individual private property rights for common-pool resources. That process is beginning to happen.

According to recent research on the British Columbia halibut fishery, where the commons has been at least partly privatized, substantial ecological and economic benefits have resulted. There is less damage to fish stocks, the fishing is safer, and fewer resources are needed to achieve a given harvest (Grafton, Squires, and Fox 2000).

Where the commons has been at least partly privatized, there is less damage to fish stocks, the fishing is safer, and fewer resources are needed to achieve a given harvest.

Since 1923 management of the Pacific halibut fishery has been regulated jointly by the United States and Canada. Even so, for many years this fishery was on the decline, which eventually prompted stringent controls. Beginning in 1979, the harvesting of halibut in Canadian waters was restricted to Canadian fishers, and the number of vessels limited to 435, which was the number of licenses then in existence. A total allowable catch was set each season to limit harvests. Despite these regulations, fishing intensity increased during the 1980s. By 1988 the harvest had risen by 125 percent, even though the length of the fishing season had been cut from 65 days per year to a mere 14. Over the next two years, harvests dropped sharply, as the halibut stock showed signs of collapse.

Joint efforts by fishers and the Canadian Department of Fisheries and Oceans led to the creation of a system of individual vessel quotas (IVQs) in 1991. Under the terms of this program, existing license holders received without charge a percentage of the total allowable catch. Thus, each vessel holder had secure property rights to a specified poundage of fish. These rights were not, for the most part, transferable, although the limits were eased some in 1993.

The improvements resulting from the IVQ system have come in part from the mere creation of the individual quotas and in part from their transferability. The allocation of individual harvest rights for each vessel eliminated the need for a short fishing season, originally created in a futile effort to halt overfishing. Prior to IVQs, the short season forced the fishers into the same prime areas at the same time, resulting in damaged and lost fishing gear and "ghost fishing," in which lost fishing gear continued to catch fish.

From six days in 1990, the season has been lengthened to 245 days. With the longer season, vessels no longer conflict with one another, thereby preventing substantial losses of gear and fish each season. Moreover, before the individual quotas, vessels had lots of crew on board to ensure the most rapid possible

harvesting of fish. Under IVQs, the total number of crew members in the fleet quickly dropped by about 20 percent.

Under the old system, vessel owners felt compelled to fish regardless of weather conditions, because the loss of even a day of fishing could make the difference between profit and loss for the season. Now that pressure has been eliminated, greatly enhancing the safety of the fishers.

The longer fishing season has enabled fishers to sell higher quality and fresher fish. Prior to IVQs, only about half the catch could be sold as fresh fish, which are more valuable; now nearly all of it is sold fresh. The result has been better product for consumers and higher profits for producers.

The partial transferability of the IVQs added to the benefits of the system. For example, the number of vessels has been reduced, because smaller, less efficient fishers have sold or leased their licenses to more efficient operators. This has decreased capital costs and reduced total crew in the fleet. Similarly, average vessel size has risen, increasing the safety of the crews. Perhaps most importantly, transferability gets the quotas into the hands of the "highliners," the skippers who are best at finding the fish and harvesting them in the lowest-cost manner.

Despite the important improvements brought about by the IVQ system, there are still deficiencies. For example, permanent transfers of quotas can only be made to vessels that are no more than 10 feet longer than the transferring vessel, while temporary (season-long) transfers are limited so that a vessel can fish no more than two IVQs. Fishers also cannot always move to the size vessel they would like because the same vessels are commonly used for salmon as for halibut fishing, and salmon fisheries are still governed by rules that limit vessel sizes. And finally, further improvements could surely be made if the total allowable catch reflected ongoing changes in economic factors, rather than being arbitrarily set by the Canadian Department of Fisheries and Oceans.

So, although the move to IVQs has made a bad system considerably better, there is still much to be done to eliminate the tragedy of the commons.

Reference

Grafton, R. Quentin, Dale Squires, and Kevin J. Fox. 2000. Private Property and Economic Efficiency: A Study of A Common-Pool Resource. *Journal of Law & Economics* 43(October): 679–713.

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

The year 2001 began with a flurry of activity, thanks to the nomination of Gale Norton as Interior Secretary. Norton spent a month at PERC in 1984 and shares some of PERC's views about the environment. Add to that the fact that Terry Anderson worked with Norton as a member of the environmental team that advised George W. Bush while he was a candidate, and PERC became the focus of intense scrutiny and interest.

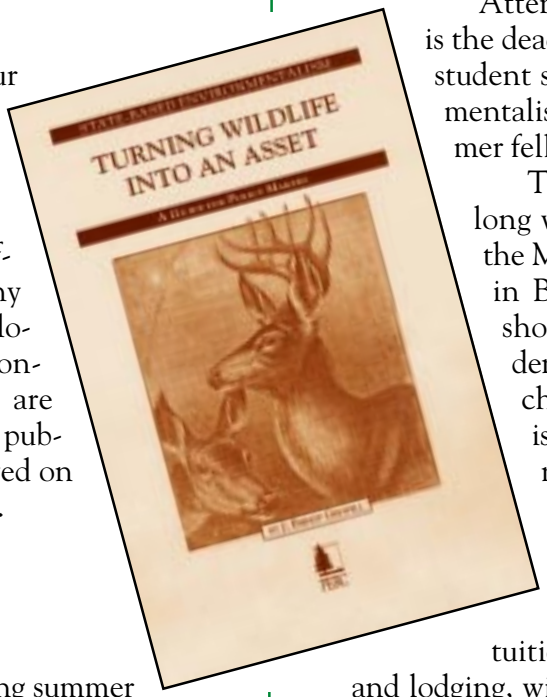
The new attention led **Terry Anderson** to appear on the Jim Lehrer News Hour, participate in a lively debate with a representative of the Natural Resources Defense Council on National Public Radio's "Talk of the Nation," and to conduct numerous interviews with the press. Calls came from the *New York Times*, *Outside*, the *Washington Post*, the *National Journal*, *National Review*, *Business Week*, the *Christian Science Monitor*, and others, including a number of regional papers. Other PERC associates, including **Richard Stroup**, **Don Leal**, and **Jane Shaw**, were also interviewed. *The Village Voice* described Leal as a "statesman" but was skeptical about whether free-

market approaches could live up to the claims.

Most of the published articles introduced free market environmentalism. For example, the article in *U.S. News & World Report* began: "Gale Norton's nomination as secretary of the interior marks the ascendancy of a little-known movement that is barely 20 years old: free-market environmentalism." The *Rocky Mountain News* cited, with credit, three proposals for the Interior Department proposed by Terry Anderson. These included allowing ranchers to sell grazing permits, expanding fees on federal lands, and rewarding private landowners for improving endangered species habitat.

■

PERC has published four booklets in its "State-Based Environmentalism" project directed by **Matthew Brown**. These short papers, designed primarily for legislators and other officials in western states, offer pithy advice for advancing market and locally-tailored solutions to environmental problems. The topics are wildlife, urban sprawl, water, and public lands. The papers can be viewed on PERC's Web site (www.perc.org).



■

PERC will hold a month-long summer institute, the **Kinship Conservation Institute**. This is a unique educational seminar that will bring together fifteen conservation leaders in the early stages of their careers—leaders who want to learn more about using market approaches to solve environmental problems. It will be held June 3–30, 2001, in Bozeman, Montana.

During the program, experts from around the country will lead discussions on topics such as property rights, contracting, finance, and statistics. Case studies of environmental entrepreneurs will allow participants to study innovative approaches to environmental problems. Field trips, projects, discussions with professors and other participants will give everyone a chance to learn from one anther. Participants will receive a generous stipend and will be expected to develop a business plan or case study applicable to their work. The Kinship Conservation Institute assumes that participants have minimal exposure to economic and business principles but will have ample opportunities to apply these principles in their everyday conservation work.

The institute, directed by **Terry Anderson** and PERC Senior Associate **Bruce Yandle** is sponsored by the Kinship Foundation, a family-managed operating foundation that supports nonprofit organizations working in the areas of conservation, community renewal, and education. For more details, consult PERC's Web site (www.perc.org) or the PERC office.

■

Attention students: **March 21, 2001** is the deadline to apply for PERC's annual student seminar on free market environmentalism and for PERC's graduate summer fellowships.

The student seminar is a week-long workshop conducted in June on the Montana State University campus in Bozeman, Montana. This workshop is designed to introduce students to a property rights and public choice approach to environmental issues. While the seminar's content requires that participants be familiar with basic economic principles, non-economics majors are encouraged to apply. A full scholarship, covering seminar tuition, reading materials, and meals and lodging, will be awarded to each successful candidate, as well as transportation costs up to $300.

Graduate students who wish to spend three months at PERC researching and writing on a topic of interest to PERC are encouraged to apply for PERC fellowships.

Application forms for both programs may be found on the PERC Web site at www.perc.org.

■

"A Critique of Free Market Environmentalism" is the topic of PERC's Political Economy Forum this spring. Directed by **Terry Anderson**, the forum will present papers by **Carl Ronald Carroll** of the University of Georgia, **James E. Krier** of the University of Michigan Law School, **John Loomis** of Colorado State University, **Michael Lyons** of Utah State University, and **Charles Rubin** of Duquesne University.

The Lone Mountain Compact

Principles for Preserving Freedom and Livability in America's Cities and Suburbs

Recently a number of scholars and writers, gathered at a PERC conference at Lone Mountain Ranch in Big Sky, Montana, decided to distill their conclusions about urban growth into a brief statement of principles. The authors called this statement the "Lone Mountain Compact," and invited other writers and scholars to join in endorsing its principles. About 100 people signed the compact.

Preamble:

The unprecedented increase in prosperity over the last 25 years has created a large and growing upper middle class in America. New modes of work and leisure combined with population growth have fueled successive waves of suburban expansion in the 20th century. Technological progress is likely to increase housing choice and community diversity even further in the 21st century, enabling more people to live and work outside the conventional urban forms of our time. These choices will likely include low-density, medium-density, and high-density urban forms. This growth brings rapid change to our communities, often with negative side effects, such as traffic congestion, crowded public schools, and the loss of familiar open space. All of these factors are bound up in the controversy that goes by the term "sprawl." The heightened public concern over the character of our cities and suburbs is a healthy expression of citizen demand for solutions that are responsive to our changing needs and wants. Yet trade-offs between different policy options for addressing these concerns are poorly understood. Productive solutions to public concerns will adhere to the following fundamental principles.

Principles for Livable Cities:

1. The most fundamental principle is that, absent a material threat to other individuals or the community, people should be allowed to live and work where and how they like.
2. Prescriptive, centralized plans that attempt to determine the detailed outcome of community form and function should be avoided.
3. Densities and land uses should be market driven, not plan driven.
4. Communities should allow a diversity in neighborhood design, as desired by the market.
5. Decisions about neighborhood development should be decentralized as far as possible.
6. Local planning procedures and tools should incorporate private property rights as a fundamental element of development control.
7. All growth management policies should be evaluated according to their cost of living and "burden-shifting" effects.
8. Market-oriented transportation strategies should be employed, such as peak period road pricing, HOT lanes, toll roads, and de-monopolized mass transit.
9. The rights of present residents should not supersede those of future residents.
10. Planning decisions should be based upon facts, not perceptions.

This is an abbreviated version. The complete Lone Mountain Compact is available at PERC's Web site (www.perc.org). For more information and background on these principles, see A Guide to Smart Growth: Shattering Myths, Providing Solutions, *edited by Jane S. Shaw and Ronald D. Utt (PERC/Heritage Foundation, 2000).*

letters to the editor

REACTIONS

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

Going Too Far in Houston

James Edwards goes too far (Letter, "Why Zoning?" December 2000) when he asserts that Houston, Texas, is living proof that a city works without zoning. Houston may be an interesting model because of its liberal allocation of power to those who own and use urban space, but this city is hardly a resounding triumph for those who desire an end to any form of government regulation of land.

Houston's lack of zoning requirements makes much of its cityscape ugly and even intolerable. The very real situation there of topless bars and transvestite clubs next door to elementary schools that are in turn next door to chemical processing facilities may symbolize an "efficient determination of land use" in the abstract, but there is no quality of city living that comes out of it.

Burr Anderson
Anderson & Franklin
Chicago, IL

Perverse Incentives

Regarding "EPA Hinders Urban Cleanups" (December 2000): In the 1930s, Joe Wilner came to Norway, Maine, and started a shoe heel factory. He built it into the largest manufacturer of heels in the world in the 1940s and 1950s. As that business declined, other lines of wood manufacturing were tried, all to no avail, and in the 1990s the business closed.

All the time this business was in operation, it dumped its industrial waste "out back" on the large property. After the plant closed, it was offered as an intact industrial site, but had no takers, even after several years. The reason told to me was that the liability for site cleanup was the purchaser's responsibility, and who would assume such a potential liability? As it turned out, no one.

Eventually the machinery was auctioned off, and the buildings razed, the site bulldozed, grass planted, and a fence built around it. I do not know if the pollution was ever cleaned up or if it was simply buried. What I do know is that the site is a children's playground for the town of Norway today.

Donald Bradley
Wholesale Forest Products LLP
Plainfield NH

A Land Disposal Flaw

In July 2000, Congress created a "Federal Land Disposal Account" similar to the proposal for easing land exchanges made by Tim Fitzgerald (*PERC Policy Series* PS-18). My biggest issue with his proposal, and with the legislation, is the idea of retaining local agency control over the account.

For example, Nevada has a fair amount of land designated for disposal by the Bureau of Land Management but not a lot of land worth acquiring by the federal government. (It is 85% federal already.) The new Federal Land Disposal Account allows revenues from land sales to be dedicated for future land purchases by the Secretary of Agriculture or Interior. But 80% of the money must be spent in the state in which the revenues were generated. Is more federal land in Nevada really what we want? There may be land of much higher public value in upstate New York or coastal South Carolina, but they have no federal land with which to conduct an intrastate exchange.

And why should that money necessarily be dedicated just to land acquisition? We constantly hear about the federal maintenance backlog. The Federal Land Disposal Account is a step in the right direction, but it doesn't go far enough.

Molly Espey
Department of Agricultural and Applied Economics
Clemson University

OF NOTE

ENDANGERED ARTIFACTS

By Matthew Brown

About two years ago a friend from Miami called to tell me about a local controversy. The commotion centered on a stone formation—possibly the foundation of an ancient temple—discovered during the construction of a high-rise development. As word spread that the site could be the remnants of an ancient Indian civilization, preserving it at any cost became the cause *du jour* of archaeologists, environmentalists, Indian activists, and even self-described UFO experts.

The reaction to what became known as the "Miami Circle" reminded me of the actions many environmentalists demand to protect endangered species—have the government take control of the land, dismiss the goals of the landowner, and stick the landowner or the public with the bill. This approach, embodied in the Endangered Species Act, is as likely to fail with archaeological preservation as it has on the endangered species front.

Richard Stroup and I decided to explore archaeology in the light of what we already knew about endangered species. Our findings and recommendations were published in a study by the James Madison Institute and in articles in the *New York Times*, *Regulation*, *Archaeology Odyssey*, and others. Clearly, we hit a nerve. Archaeologists need the funds that markets could provide, yet many professional archaeologists still labeled our proposal as "simple" and "naive."

Yes, our approach is simple: Allow landowners secure property rights to the treasures they find and allow an international market in such artifacts to flourish without legal and professional harassments. PERC's research over the years has shown that such policies can create the incentives to protect elephants in Africa, salmon in the Northwest, instream flows in western rivers, and other natural resources the world over.

Such policies will also protect archaeological artifacts. For more details about our proposal, see www.perc.org.

Matthew Brown is a Research Associate at PERC.

Non-Profit
Organization
U.S. POSTAGE
PAID
Bozeman, MT
59715
Permit No. 433

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

ADDRESS SERVICE REQUESTED