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Sustainability Communicator is a quarterly publication about population, consumption, and conservation issues. Its purpose is to promote dialogue and action among League members and others interested in building a sustainable future.

SUSTAINABILITY COMMUNICATOR

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coastal management

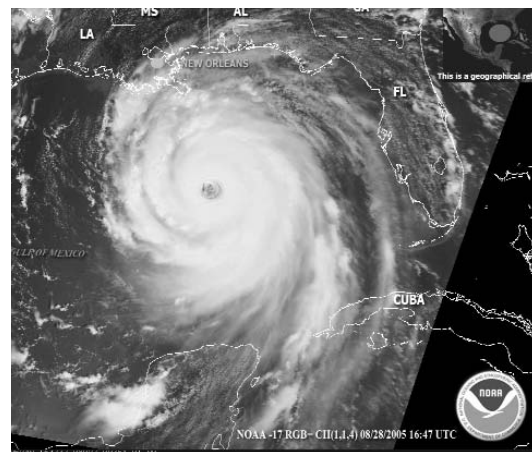
What is “Natural” About Disaster?

By Suzanne Zanelli and Jim Baird

As of this writing, the extent of Hurricane Katrina's devastation and costs of rebuilding continue to be revealed. The loss of lives and livelihoods seems beyond comprehension. But even as New Orleans and other coastal communities struggle to come to terms with the tragedy, questions are being raised about just how “natural” the damage caused by Hurricane Katrina actually was. Could human actions that led to coastal wetland loss be a major factor in why the hurricane's impact was so severe?

Wetlands, coral reefs, mangrove forests, peat swamps, and other coastal ecosystems provide an astonishing amount of protection from the waves, high winds, and rain brought by hurricanes and other severe storms. When healthy, they act as barriers, windbreaks, and sponges that can absorb the energy of storms, protecting coastal communities and preventing shore lands from being washed out to sea. When damaged, their protective power can be lost.

On December 26, 2004, half a world away from the Gulf Coast, a natural experiment occurred when a large tsunami crashed into the coastlines of Southeast Asia. Post-tsunami research conducted by the United Nations Environment Program determined that intact coastal ecosystems helped buffer aggressive waves along a broad stretch of the Sri Lankan coastline, leaving Yala and Bundala National Parks virtually unscathed. Additionally, the province of Phang Nga in Thailand was spared the fate of some of its neighboring communities due to a protective barrier of mangroves and seagrass beds. A study by the Mangrove Action Project showed that in Banda Aceh, the Indonesian city that bore the brunt of the tsunami's devastation, the mangrove cover has been reduced by more than 80



percent in the last 40 years. Had these coastal forests been left intact, geophysicists say, many thousands of lives could have been spared.

In the United States, Scientists have said for years that wetland loss has left the Gulf Coast more vulnerable to hurricanes. In February 9, 2005, National Geographic News interviewed Mark Schexnayder, a marine biologist with the Louisiana State University Sea Grant Program who was deeply troubled by the extent of Louisiana's wetland loss. “Down here when we speak of wetlands loss, it's actual physical loss,” he said. “You can't stand on the land anymore. It's gone.” He then continued, “I hate to think what would happen if a Category 5 hurricane would hit directly anywhere near here.”

On August 29, as Hurricane Katrina made land-fall, MSNBC interviewed Sidney Coffee, executive assistant to Louisiana's governor for coastal activities. Coffee pointed out that about 1,900 square miles of wetlands have disappeared along Louisiana's coastline since the 1930s, and the receding continues at a rate of about 24

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What is “Natural” About Disaster?

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square miles per year. The erosion of these wetland ecosystems, Coffee said, had a direct impact on New Orleans' ability to absorb the blow of a storm like Katrina. She went on to explain that for every 2.7 miles of wetlands, storm surges are reduced by about one foot. “We’ve tried and tried and tried to tell people this is real, this is happening.”

Joel Born of National Geographic echoed those concerns in an interview on California's KCRW Radio. “If we don't restore the marshlands ... and mitigate the disaster that's associated with coastal erosion,” he said, “that will absolutely make these hurricanes much more serious, much more deadly and much more devastating.”

Storms like Katrina and seismic events

that triggered the tsunami will come again. They are part of the natural forces of the earth. But humans and the way we alter our environment are also a part of nature. When we prepare for a natural disaster without addressing our man-made impacts, we make a false distinction and put ourselves in jeopardy. Coastal development in South Asia and the Gulf states disrupted nature to the extent that communities lost the protection that reefs, wetlands, and mangroves provided. But treating the environment in this way is not our only alternative. We have the knowledge and tools to protect and restore the living systems that sustain us. We have choices about how we build and rebuild that incorporate natural amenities rather than replace them. Accepting that we are part of, not master of, nature is the first step. With 40 percent of all people now living

within 60 miles of a coast, the stakes could not be higher.

For the past 10 years, the Izaak Walton League's American Wetlands Program has led community-based efforts to protect and restore local wetlands. By equipping volunteers and professionals across the nation with the information and tools necessary to conserve these valuable ecosystems, the League is demonstrating that individuals have the capacity to make a difference. The League helps community members become more effective wetland advocates by making its outreach materials and training available online at <http://www.iwla.org/sos/awm/>. To find out about wetland protection, conservation, and restoration projects in your community, please contact the League by calling toll-free (800) BUG-IWLA or sending an e-mail to awm@iwla.org.

oil dependency

Designing Our Way Out of the Oil End Game

By Suzanne Zanelli

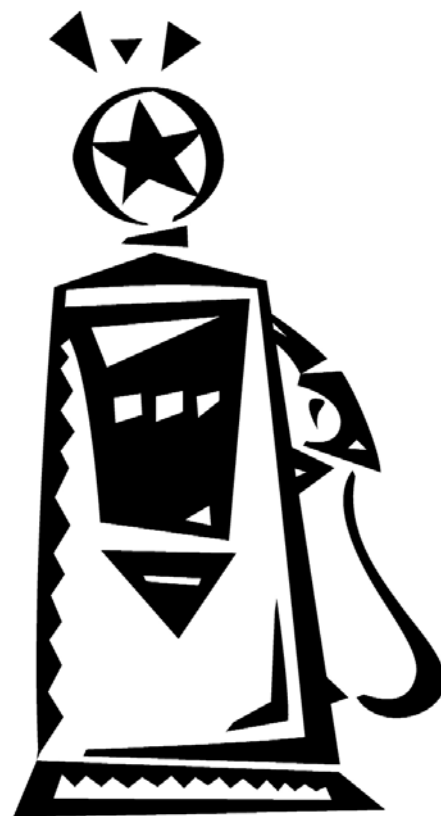
With prices at the pump passing \$3 a gallon these days, Dr. Amory Lovins' new book, *The Oil End Game*, could move from the environmental rack to the bestseller list. Named by the *Wall Street Journal* in the 1990s as one of 28 people worldwide “most likely to change the course of business,” Lovins doesn't buy into a slow, incremental transition away from a petroleum-based economy. “While the United States of America has the world's mightiest economy and most mobile society,” he argues, “the oil that fueled its strength has become its greatest weakness.”

Lovins presents a well-documented strategy for weaning ourselves from oil within one generation. By following his roadmap, the United States would permanently displace oil as a direct fuel by 2025 and set the stage for the transition to a hydrogen economy. His four-step approach (*see inset*) involves an integrated strategy to drastically increase the effi-

ciency of using oil, while simultaneously stepping up the production of modern bio-fuels and other alternative energy sources.

America's dependence on foreign oil has risen to an all-time high. The latest Energy Outlook Report of the U.S. Energy Information Administration predicts that we will be importing from 15 to 18.4 million barrels of crude a day by 2020. In that 15-year span, commercially viable oil reserves will become concentrated in the hands of fewer and fewer nations, a situation that will almost certainly result in more conflict.

Many experts advocate waiting for technological improvements that improve the efficiency of the petroleum extraction process in order to increase available supplies. However, Lovins has a different perspective. He argues that the demand for oil itself will tumble due to the accelerating pace of energy efficiency and alternative energy development long before the actual supplies run dry. Lovins uses history to support his prediction,



pointing out the similarities between today's oil industry and the whaling industry of the 1800s. "When oil was discovered," he says, "the whalers ran out of markets before they ran out of whales."

Lovins isn't alone in his convictions. Some of the biggest names in the petroleum business are already investing in a future that they see as being increasingly oil-free. Shell Oil, for example, has invested \$1 billion in renewable energy.

In an October 2004 interview with *Business Week*, Robert Kleiburg, vice president for strategy and planning for renewable sources of energy and hydrogen at Shell in The Hague, Netherlands, sees huge business opportunities for greener oil companies. "We see that [alternative energy] technologies are on a very fast trajectory," says "They'll soon be an order of magnitude or more important than they are today."

The oil companies aren't the only ones

facing potential obsolescence. U.S. car manufacturers have been slow to abandon oil dependency. In this big stakes game, Japanese car manufacturers are far ahead, with Toyota already announcing plans to unveil 10 new hybrid-electric vehicles by early 2020. Lovins warns that the U.S. auto industry will be squeezed out of the market if it doesn't start producing less-wasteful vehicles.

What will it take to nudge the United

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Four Steps to Ending Oil Dependency

Adapted from www.oilendgame.com

Double the efficiency of using oil.

The United States today wrings twice as much work from each barrel of oil as it did in 1975. With on-the-shelf efficiency technologies that are proven, we can double oil efficiency all over again.

Advanced composite or lightweight-steel materials can nearly double the efficiency of today's vehicles while improving safety and performance. Through emerging manufacturing techniques, such vehicles are becoming practical and profitable. The factories to produce them will also be cheaper and smaller.

Apply creative business models and public policies to speed the profitable adoption of super-efficient technolo-

gies. Modest, market-oriented policy innovations can discourage consumers from purchasing inefficient vehicles while rewarding the use of efficient ones.

Innovation-friendly policies like temporary federal loan guarantees can help auto and aircraft manufacturers to reorient their production toward advanced-technology models. In the meantime, we must revise incentives that reward utilities for selling more energy and penalize them for cutting customers' bills.

Meet another one-fourth of U.S. oil needs by developing a domestic bio-fuels industry. Replacing fossil-fuel hydrocarbons with plant-derived carbohydrates would strengthen rural America, boost net farm income by tens of billions

of dollars a year, and create more than 750,000 new jobs. Many new classes of biomaterials that can replace petrochemicals would emerge as energy, chemical, and agricultural industries begin to interact and complement one another.

Save half the projected 2025 use of natural gas with well established, highly profitable efficiency techniques, making it again abundant and affordable. The saved gas could then serve as a cleaner substitute for oil. If desired, the leftover saved natural gas could be used even more profitably and effectively by converting it to hydrogen, displacing most of the remaining oil use—and all of the oil use if modestly augmented by competitive renewable energy.

stormwater management

Webcast Announcement

From December 2005 through April 2006, the League will be collaborating with the Center for Transportation and the Environment, the Federal Highway Administration, the U.S. Environmental Protection Agency, the Bureau of Land Management, and the U.S. Fish and Wildlife Service to launch two series of live Webcasts that address land management techniques that promote wetland conservation.

The first series will be aimed at commercial and municipal land managers, including state and local highway officials. The second will be geared toward landowners.

The entire Webcast series will be broadcast live on the Internet through streaming video, and participants will be able to interact with the presenters through opinion surveys, Q&A sessions, and live chats.

This December, the League will launch Treating Highway Runoff with Low Impact Development Techniques. The four-part Webcast series will outline the latest techniques available to help transportation agencies save money, comply with new regulations, and improve water quality. The following series, Conserving Wetlands Through Land Management, debuts in March and describes ways that

homeowners can reduce stormwater runoff from their properties, limit chemical pesticide use, and generally improve backyard wildlife habitat. This two-part series will be broadcast on cable and satellite television stations as part of a weekly program by the Agency for Public Telecommunications of North Carolina.

All sessions will be archived on our Web site and made available on DVD for future use. Bookmark <http://www.iwla.org/sos/sosweb.htm> to keep updated with the latest information regarding our maiden voyage into high-tech outreach.

Designing Our Way Out of the Oil End Game

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States away from oil dependency and toward more secure and sustainable sources of energy? With an infrastructure built around the use of petroleum, an enormous restructuring of our design principles is in order. Yet, Lovins sees the obstacles as being less important than the opportunities. The savings in oil production costs we would gain by acting now, he says, would amount to \$130 billion gross, or \$70 billion net, every year by 2025. Compare these numbers with the \$10 billion we spend every month in oil imports. And

instead of being siphoned to oil-rich nations overseas, these financial rewards would be reaped directly by our own communities and businesses.

As long as we “replace ignorance with insight, inattention with foresight, and inaction with mobilization,” Lovins says, “American business can lead the nation and the world in to the post-petroleum era, a vibrant economy, and lasting security—if we just realize that we are the people we have been waiting for.”

E-Communicator

You can now receive your Sustainability Communicator via email in a PDF file. Contact us at sustain@iwla.org. If you still want the printed version but would like the ease of a PDF file for sharing with others, you can download recent issues from the IWLA website: www.iwla.org.

Founded in 1922, the Izaak Walton League of America is dedicated to common sense conservation that protects America's hunting, fishing, and outdoor heritage relying on solution-oriented conservation, education, and the promotion of outdoor recreation for the benefit of our citizens. The League has more than 40,000 members and supporters in 21 state divisions and more than 300 local chapters in 32 states.

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