



You ask me why I do not write something. . . . I think one's feelings waste themselves in words, they ought all to be distilled into actions and into actions which bring results.

Florence Nightingale

LAND USE

The Slippery Slope of Ski Expansion

A new scorecard issued in December 2000 and posted at <http://www.skiareacitizens.com/> has rated 51 ski resorts on how environmentally sound their operations are. Comprising environmentalist groups such as Durango-based Colorado Wild and Utah's Save Our Canyons, the Ski Area Citizen's Coalition said it designed the scorecard to exert economic pressure; by choosing environmentally friendly ski areas, snow sport enthusiasts may encourage ski resorts to improve their environmental grade in the future.

About 11 million Americans skied or snowboarded at more than 500 ski areas in 1999, according to the National Sporting Goods Association. SnowSports Industries America, a trade organization, says the two sports produced \$12.4 billion in direct and indirect revenues in 1999.

Only western resorts were considered for this year's scorecard. They were rated on factors such as pollution, traffic, whether they make artificial snow, and whether they avoid expansion onto undisturbed lands. The list of the 10 most environmentally friendly areas included Sundance, Utah, and Timberline Lodge in Oregon. "Failing" grades went to Colorado's Breckenridge Ski Resort and Telluride Ski and Golf Company, among others.

Expansions account for many of the criteria on the scorecard. Colorado Wild volunteer Jonathan Staufer says that cutting trees for new trails, lifts, and the development of roads, parking, houses, condominiums, stores, and restaurants all reduce wildlife habitat. In addition, says Richard Valdez, a Logan, Utah, fishery ecologist, western ski areas are traditionally situated amidst prime wildlife habitats, and expansion of these areas exacerbates declining wildlife populations.

Furthermore, say opponents, expansions come in the face of static demand. The National Ski Areas Association (NSAA), an industry trade organization, says total skier-days (or one day of skiing for one person) range between 50 million and 54 million per year, a total increase of 2–4% since the

1978–1979 season. Staufer claims expansions are not designed to accommodate new skiers but to increase market share and create settings for expensive real estate developments in the mountains. He says, "There are only two motives for ski area expansion: to facilitate ski area real estate development . . . and as a marketing ploy for 'newer, better, improved' ski areas." Many western ski areas are located inside National Forests, he observes.

Environmentalists are also concerned about the withdrawal of water from streams to make artificial snow. Valdez says removing a large volume of water from streams can be harmful because it stresses aquatic life and decreases the capacity of the stream to dilute



No business like snow business. Environmentalists and ski resort operators continue to be at odds over development.

pollutants. The demand for artificial snow peaks in fall and early winter, when stream flow is typically lowest, and is particularly acute in dry years, when streams are already running low.

But the ski industry claims it is already doing its part to preserve the environment. NSAA communications director Stacy Gardner says that "absolutely no development can occur without meeting rigorous state and federal environmental standards." In addition, she says, to reduce the impact of artificial snow making, some ski areas now store water in ponds, allowing gradual withdrawals during the year. Furthermore,

she says water withdrawals, like ski area expansions themselves, are regulated by local, state, and federal authorities.

As an example of industry good faith, Gardner points to the NSAA's Sustainable Slopes environmental charter, a voluntary program developed in June 2000 to address environmental aspects of resort operation, including planning and design, water and energy use, habitat and forest management, recycling, and waste management. The charter also deals with environmental education for skiers. The press release announcing the charter listed one standard as "Planning and design—to engage surrounding communities and interest groups in a dialog on development plans." The charter was developed with the input of groups including the U.S. Environmental Protection Agency and the Conservation Law Foundation, and ski areas representing about 70% of total skier visits have signed on. "We are very proud of our environmental efforts," says Gardner.

But opponents are not impressed with the charter, saying that it neither sets forth concrete goals for signatories nor includes provisions for monitoring or enforcement. But although the Ski Area Citizen's Coalition calls the environmental charter "greenwashing," Mark Sinclair, senior attorney at the Conservation Law Foundation branch in Montpelier, Vermont, says the charter is a way for the partnering organizations to at least begin working more cooperatively with ski areas and for them to improve their environmental record. Nonetheless, he says, his group will continue to sue ski areas if necessary to protect the environment.

Is the environmental scorecard a publicity stunt for no-growth proponents? Perhaps. Because Colorado Wild has opposed previous expansions, the ski industry says the scorecard is biased. But Staufer says Colorado Wild is not anti-skiing. "Skiing can be a good way of getting people out on public lands to enjoy them," he says. "If done correctly, [snow sports] can be relatively low-impact if you get a lot of people in one place rather than all over the place." Concentrating development is the best way to minimize impacts, he insists, and until the demand for skiing picks up, he says, "Our position is that there should not be a single ski area expansion on public lands." —David J. Tenenbaum

SMOKING

Tobacco in Africa

Africa has public health problems enough, what with malaria, tuberculosis, and the highest rate of HIV of any continent. Average life expectancy is 52 years and falling, largely due to HIV. Public health officials might be excused if they were simply to ignore tobacco, which is estimated to kill only 1 out of every 84 Africans.

But tobacco-related diseases are expected to become Africa's biggest single killer within 20 years, according to Larry Green, acting director of the Office of Smoking and Health at the U.S. Centers for Disease Control and Prevention (CDC). South of the Sahara, average consumption of manufactured cigarettes is just 700 per adult per year, compared to 1,200 for the developing world at large, says Yussuf Saloojee, executive director of the National Council Against Smoking in Johannesburg, South Africa. Consumption is constrained by the region's penurious per capita income of US\$481, says Saloojee. But its sheer size marks the African market as having huge potential, as does the prospect of improving African economies. Observers in many countries report aggressive marketing by companies. "It would be ironic indeed if we were to conquer HIV only to see those spared succumb to the ills of tobacco," says Karen D. Klimowski, a technical officer for the World Health Organization (WHO) Tobacco Free Initiative in Harare, Zimbabwe.

Africa may yet evade that fate. In October 2000, under the auspices of the WHO, 70 parliamentarians, public health officials, tobacco control experts, and activists from 21 African nations gathered in Nairobi, Kenya, to share information on how best to control tobacco. The meeting produced "an extremely strong endorsement from African ministers for a more rigorous approach to tobacco control in Africa," says Derek Yach, executive director of noncommunicable diseases and mental health at the WHO. Participants signed the Nairobi Declaration on Tobacco Control Policy and Programming in the African Region, a series of declarations on measures needed to address the growing tobacco epidemic.

Recommendation number one in the Nairobi Declaration is to develop a way to collect, analyze, and monitor data on tobacco use, economics, and health effects, and disseminate it to policy makers and the general public. Sixty-six percent of African countries have no data on smoking

prevalence, and the rest have little, according to Saloojee. Even data on the manufactured cigarette trade is available from only half of African nations. Attendees also called for enactment of comprehensive legislation and regulations, including stiff tariffs, prohibitions on advertising and sponsorship of cultural and sports events, and establishment of nonsmoking as the norm in public places, as well as support of the Framework Convention on Tobacco Control, a WHO initiative to create a global treaty to enact strict tobacco control legislation.

Although most countries present reported some tobacco control activity—10 have total or partial bans on advertising and promotion, and at least 4 tax cigarettes at more than 50% of retail price, says Saloojee—few have comprehensive strategies. But since the meeting, tobacco control efforts appear to have accelerated in some countries. Botswana, for example, has requested technical support from the WHO to strengthen bans on advertising, sales to children, and smoking in public places, says Laurence Mosweunyane, environmental health officer for the WHO Botswana office, which provides technical support to that country's Ministry of Health. In addition, training meetings on implementing the findings of the Global Youth Tobacco Survey, a study developed by the WHO and the CDC, had been scheduled for February and June 2001 prior to the Nairobi meeting.

For further inspiration, African countries can look to South Africa. From 1994 to 1999, South Africa's cigarette tax quintupled to more than 50¢, a hefty tariff in a land with a US\$3,170 average per capita income. During this time, sales—which had grown steadily since 1963—shrank from 36 billion to 30 billion cigarettes, and the fraction of smokers in the population fell from roughly one-third to one-quarter. As of 1 January 2001, smoking in public spaces in South Africa is proscribed, an edict that has support from 90% of nonsmokers and 70% of smokers. Advertising there will be banned as of April 2001, and a prohibition on sponsorship of sports and cultural events also takes effect in April.

Of course, when you squeeze the balloon on one end, it pops out somewhere else. Mosweunyane reports that representatives from cigarette maker Peter Stuyvesant are negotiating with a certain music promoter to bring popular musicians into Botswana as a way of advertising, since they can no longer do so in South Africa. —David C. Holzman

Full Disclosure in Europe

In October 2000, the UN Economic Commission for Europe (UNECE) started developing a set of regulations that would require corporations to disclose their emissions of certain pollutants and the transport of such substances to treatment or disposal facilities. The regulations are expected to require development of pollutant release and transfer registers, tools that have been in use in the United States for over a decade, during which time emissions reported by companies have declined by half. Kaj Bärnlund, director of the UNECE Environment and Human Settlements Division, says the registries are a powerful, cost-effective means of putting emissions information before the public to help create pressure on companies to voluntarily reduce pollution. The negotiations, established under the Aarhus Convention, involve a number of nongovernmental organizations, industry groups, and intergovernmental agencies.



Toxic Tanneries

The UN Food and Agriculture Organization reported on 9 November 2000 that a half million residents of Dhaka, Bangladesh, are at risk of exposure to harmful emissions from neighboring tanneries. The report says that factories produce 7.7 million liters of liquid waste and 8.8 tons of solid matter daily and discharge it into areas with no treatment or drainage systems, where it is left to accumulate. The toxic emissions, which include chromium, may contribute to a range of ailments in the people living nearby, including dysentery, jaundice, respiratory ailments, and skin diseases. Dhaka environmental officials say numerous studies have been conducted to work toward solving the problem. However, no action has been taken, despite the recommendation two years ago by the UN Industrial Development Organization that a treatment plant be set up as soon as possible.

Farm Team

Three USDA agencies have signed a memorandum of understanding to increase their efforts in conserving natural resources and solving environmental problems in land management. The Agricultural Research Service (ARS), the Cooperative State Research, Education, and Extension Service, and the Natural Resources Conservation Service hope that increased cooperation will allow a more timely transfer of research findings and technology. The agencies will jointly establish partnership management teams to focus on attaining goals and objectives identified by the agreement. ARS administrator Floyd Horn says his agency wants to ensure that its research and technology programs are responsive to present and emerging needs and national priorities.



WASTE DISPOSAL

UN Takes Aim at Small Arms

A United Nations (UN) recommendation for a reference manual detailing methods for destroying small arms and light weapons with minimal environmental impact may soon come to fruition. On 15 November 2000, the report *Methods of Destruction of Small Arms, Light Weapons, Ammunition, and Explosives* was released by UN secretary-general Kofi Annan. The report provides a thorough overview of current practices for destroying arms, including environmental considerations where known. It is intended to guide the creation of a manual on environmentally sound methods for destroying small arms, light weapons, and related ammunition and explosives taken in war or surrendered by citizens.

The report comes in response to a September 2000 request for such a manual by the UN Security Council. The report was prepared with the assistance of a number of government experts and in collaboration with relevant UN bodies through the Coordinating Action on Small Arms mechanism. In addition to detailing methods of destruction, the report also suggests that the

manual provide guidance on safe handling, transport, and storage procedures.

"Small arms" are weapons that are designed for personal use—revolvers, rifles, submachine guns, and light machine guns. "Light weapons" are designed for a crew of people—heavy machine guns, recoilless rifles, and portable anti-aircraft guns. The manual will be used in the field rather than for destruction of stockpiles of weapons. Currently there are 500 million small arms in circulation around the world, according to the UN.

The report examines all current practical destruction methods and outlines the advantages and disadvantages of each. Methods include burning, burying, cutting into pieces, crushing, shredding, and dumping at sea. The report acknowledges that there are no completely ecologically safe procedures. Open-pit burning, for example, can release toxic fumes through the burning of plastics and polymers. Open-pit detonation can result in noise



A farewell to arms. U.S. Army soldiers prepare to destroy confiscated weapons in Kosovo.

pollution and the release of soil pollutants such as white phosphorus ammunition residue. And burial precludes the possibility of recycling. But steps can be taken to minimize the environmental impacts, for instance, by burning or detonating in a containment chamber or by choosing a method of destruction that results in recyclable material.

"When the manual itself is completed, the world community will have at its disposal a practical tool to use in addressing one of the gravest threats to international peace and security in the new millennium," said Annan at the 20 November 2000 presentation of the report. "In a world awash with small arms, that will be no small achievement." —Lindsey A. Greene

OCCUPATIONAL HEALTH

Working around PD

Jobs that involve the use of certain common solvents may put people at risk for developing Parkinson disease at an earlier age and having more severe symptoms throughout the course of the disease, according to a study in the 12 September 2000 issue of *Neurology*. This is the first large clinical study to find evidence of a link between Parkinson disease and hydrocarbon exposure.

Parkinson disease is a progressive disease of the nervous system that can cause trembling or shakiness, rigid muscles, slowed movement, and impaired balance. It usually affects people in their 50s or older, although the National Institute of Neurological Disorders and Stroke has stated that physicians are noticing more cases among younger patients.

The study, conducted at the Parkinson Institute in Milan, Italy, included 188 patients with Parkinson disease who also reported significant past exposure to hydrocarbon solvents, found in many common products such as paints, glues, and petroleum derivatives. These patients were matched by sex and duration of disease with 188 patients who reported no such history of exposure. The researchers found that people in the exposed group were an average of 3.4 years younger than those in the nonexposed group at the time of diagnosis. In addition, the severity of symptoms was shown to be directly related to the degree of hydrocarbon exposure.

Over 90% of people in the exposed group fell into one of nine job classifications: petroleum, plastics, and rubber

workers; painters, lacquerers, and furniture workers; engine mechanics; typographers and lithographers; leather workers; chemists; textile workers and weavers; farmers; or refrigerating system workers. The study authors note that most on-the-job exposures occurred in family-run businesses, where they found safety measures tended to be less stringent and more difficult to enforce.

One possible limitation of the study is that it relied mainly on self-reports of past exposures, which are subject to the vagaries of memory. However, the highly significant correlation between degree of exposure and severity of symptoms would tend to support the accuracy of the patients' self-reports. Also, although many people were already retired by the time of diagnosis, blood and urine samples taken from the 15 patients who said they were still exposed to hydrocarbons invariably yielded high concentrations of the compounds. Another possible weakness is that the study considered all hydrocarbons together, says Robert C. Feldman, a professor of neurology at Boston University. Analyses of products used by the still-exposed patients along with measurements of these substances in their blood and urine revealed mixtures of a wide range of possibly interacting chemicals, which makes it impossible to sort out the individual effects of particular compounds.

According to Feldman, there are insufficient data to indicate whether Parkinson disease was a direct toxic effect or an induced condition in genetically susceptible people. Nevertheless, the study may be an important new piece in the Parkinson puzzle by suggesting that hydrocarbon exposure is one of the contributing environmental factors. —Linda Wasmer Andrews



In the 1995 report *Nursing, Health, and the Environment*, the Institute of Medicine recommended a framework of environmental health knowledge and skills that should be part of any nurse's professional tool kit. In response, the Kellogg Program for Faculty Development in Environmental Health was developed to help integrate environmental health concepts into all levels of nursing education.

As part of this effort, the Kellogg Program has launched the EnviRN Web site, located at <http://envirn.umaryland.edu/>. The site provides scientific information on environmental health and nursing topics for both nurses and the general public. The ultimate goal of the site—and the Kellogg Program—is to prevent environmental disease by increasing the number of nursing professionals who can recognize the risk factors and symptoms of environmentally related disease and who can promote health through risk reduction and control strategies that individuals, families, and communities can implement.

Visitors to EnviRN can click on the Basic Concepts link to read the fundamentals of environmental health that are taught in the three-day faculty development workshop offered by the Kellogg Program. The information presented includes theories on toxicology, epidemiology, and environmental justice. This section provides a good overview of the key concepts and current thinking in the environmental health sciences.

The Resources section on the home page provides links to relevant government and academic Web sites, as well as to professional and advocacy sites including the American Nurses Association, the Children's Environmental Health Network, and Physicians for Social Responsibility. This section also includes links to summaries, primers, and the full text for important legislation such as the Clean Air Act, the Toxic Substances Control Act, the Pollution Prevention Act, and the Food Quality Protection Act.

The Assessment link accesses information on assessing the potential environmental hazards in a particular setting. Options such as Target Area and Media link to directories of pertinent Web sites. For instance, the Home link under Target Area accesses destinations such as the Department of Housing and Urban Development's Healthy Homes for Healthy Children Web site, and users can download publications by the EPA on how to test for and protect against lead in the home. Meanwhile, choosing one of the routes of exposure listed under the Media link—air, for example—leads to resources such as the EPA's AIRNOW Web site, which provides up-to-the-moment information on ozone levels across the United States. —**Lindsey A. Greene**

Feds Warn Against Some Fish

On 12 January 2001, the U.S. FDA and EPA issued related public advisories against certain people eating fish that can contain high concentrations of methylmercury. The advisories warn that women of childbearing age and children should avoid methylmercury, which can impede the development of the nervous system in fetuses, infants, and young children.

The FDA advisory warns against consuming large species of saltwater fish such as shark, swordfish, and king mackerel. The EPA warning concerns fish obtained from noncommercial sources, mainly freshwater fish caught and eaten by subsistence and recreational fishers. Both advisories stress the nutritional benefits of fish intake, and the FDA offers suggestions for fish that women and children can safely include in their diets. The EPA recommends that consumers consult their local or state health departments for advice on the safety of locally caught fish.



Re-PlayStation

In response to criticism from environmental groups for not doing more to stop the flow of electronics into landfills, Sony Electronics has instituted a five-year program to recycle its used electronic products in Minnesota. Minnesotans can bring their outdated Sony devices to designated sites, and Sony will then cover the cost of recycling. The program, to be run with Waste Management, Inc., will relieve stress on landfills, reduce manufacturing costs, conserve raw materials, and keep hazardous materials such as lead, mercury, and acids from entering the environment. Sony vice president Mark Small says the corporation is working with retailers and municipalities to provide more collection points for returning items.

Waste Glut Grows

A report on material flows in industrialized nations announces that waste and pollution output in the United States, Japan, Germany, The Netherlands, and Austria has increased by as much as 28% since 1975. In addition, the report states that 50–75% of these countries' annual resource inputs are returned to the environment as waste within a year. The research, performed by the World Resources Institute with groups from each of the study countries, documented the flow of raw materials including fossil fuels, minerals, timber, and agricultural products through the processes that deliver them to the consumer market and then on to their disposal.

Lead author Emily Matthews stresses that reductions in resource consumption and waste disposal brought about by e-commerce growth and the decline of heavy industry in the countries studied have been counterbalanced by consumer spending that favors high energy and material consumption.

Per Capita Trash Output for Five Nations



Source: Matthews E, et al. Weight of nations: material outflows from industrial economies. Washington, D.C.: World Resources Institute, 2000.

Net glut. Despite some per capita waste drops, more commerce simply means more trash.