

Everything about microscopic life is terribly upsetting.
How can things so small be so important?

Isaac Asimov

Forum

Surfers Against Sewage

A ground swell of public concern about water pollution has undulated through Britain, thanks to Surfers Against Sewage (SAS). The organization, founded in 1990 by a group of Cornish surfers to protest local water pollution, now has over 20,000 members, including windsurfers, swimmers, and beach users, who lobby in protest of the 300 million gallons of sewage that are dumped daily and the 2 million tons of toxic waste that are dumped annually into the seas around Britain. Over half of the sewage dumped into the ocean is either raw or has received only preliminary treatment. Many beaches are littered with human excrement, tampons, condoms, and other sewage debris.

Not only is the pollution visually unpleasant, it also poses health risks to water users. High levels of pathogenic viruses and bacteria are contained within the sewage. SAS has developed a medical database that contains over 800 cases of individuals who have experienced adverse health effects stemming from activities in the ocean. The most common illnesses include gastrointestinal problems and infections of the ear, nose, throat, eye, and skin. However, more serious

illnesses such as hepatitis have also been attributed to water pollution. Over 68% of these cases have occurred at "Government Passed Beaches," says SAS. A study entitled *Health Risks Associated with Bathing in Sea Water*, which was commissioned by the Department of the Environment and published in the *British Medical Journal* in December 1991, found that there are increased health risks for those who enter British sea water. Surfers are 80% more likely to experience health problems than non-swimmers, while the risks for swimmers and waders are 31% and 25% higher, respectively, than for nonswimmers.

SAS has gained respect as a political pressure group from the organization's ability to blend the use of sound science, legal work, and media attention. The group has been described by the BBC as "some of government's most sophisticated environmental critics."

"Surfers Against Sewage is waging an effective and important campaign against senseless pollution of the seas. In their campaigns, SAS makes science accessible and relevant to people's experiences and, therefore, makes it matter," said Sue Mayer in the 1996 SAS annual report. Mayer is the former director of science at Greenpeace UK and currently works as a consultant on environmental science and policy issues. "By challenging the questionable assumptions in standard-setting, SAS makes politicians and institutions face up to their abuse of science in legalizing pollution," she said.

SAS is urging the reform of water quality regulations. The European Bathing Water Directive currently provides water quality

standards for Europe. However, according to SAS, the United Kingdom enforces only the minimum legal standard, which meets only two out of 19 criteria set by the directive.

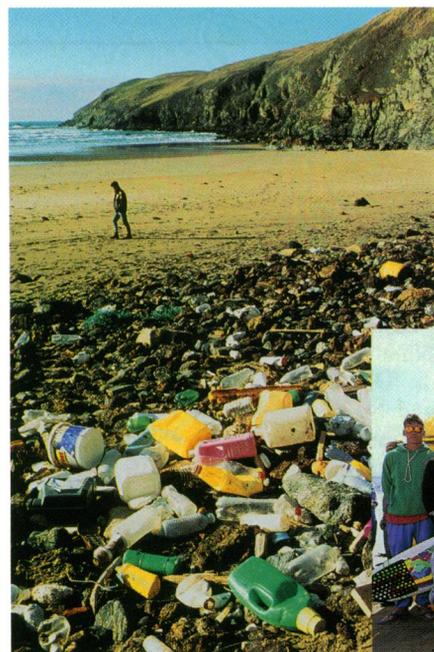
Standard practice for treating sewage involves administering a primary treatment and then sending the sewage through a long pipe out to sea. The idea is that harmful microorganisms will die as the sewage disperses throughout the water, and the sewage will not be harmful by the time it reaches shore. However, according to SAS, the current government system for measuring pathogens in the water is inadequate. And water users such as surfers and windsurfers, who venture farther from the shore, encounter sewage at the point of outfall, where it is most harmful.

SAS also pressures industry to change sewage treatment methods. The group is working to mandate that all sewage be fully treated before it is discharged into the sea and that both the liquid and sludge content be used as fertilizer. SAS also aims for the complete cessation of dumping of toxic waste into the oceans.

The SAS campaign has involved protesting, demonstrating, lobbying, and publicly pressuring the water industry. Demonstrators wearing wetsuits and gas masks have carried bags of toilet paper and panty liners collected from the beaches to the House of Commons, the European Commission in Brussels, and water industry conventions.

So far, SAS has experienced several major victories. In 1993, Welsh Water, a water company in Wales, agreed to a new policy of fully treating sewage before discharging it into the ocean. Company representatives credit SAS with persuading them to treat sewage with ultraviolet light to kill viruses and bacteria. "One of the things we liked about SAS was that even though they had colorful demonstrations . . . they were quite willing to explain to us what they wanted, like rational human beings," spokeswoman Margaret Abbett told the Associated Press.

This past April, two women won a case against their local council, which failed to require that sewage be removed from the nearby beaches. The women's lawyer argued that the council had failed to protect the community from a statutory nuisance, as required under the 1990 Environmental Protection Act. SAS members are hoping this



Angela Maynard



Chris Power

Trash warriors. A coalition of surfers, windsurfers, and beach users is fighting the dumping of sewage and trash into the seas around Britain.

case will set a precedent for other local governments to enforce sewage cleanup.

Carcinogens in Food

Labeled a “finding sure to appeal to anyone tired of washing vegetables in detergent to remove pesticides” by a *New York Times* health columnist, the National Academy of Sciences National Research Council’s February report, *Carcinogens and Anticarcinogens in the Human Diet*, found little to be alarmed about concerning links between chemicals in food and cancer. “I’ve really been surprised at the great interest that has resulted from the study, and from the message that if you use common sense when you eat, you’re alright,” says Ronald Estabrook, a biochemistry professor at Southwestern Medical Center in Dallas who headed the 20-member panel that issued the report.

Specifically, the report found that, based on existing data, the great majority of naturally occurring and synthetic chemicals in the diet appear to be present at levels below which “any significant adverse biologic effect is likely, and [are] so low that they are unlikely to pose an appreciable cancer risk.” Conversely, the varied and balanced diet needed for good nutrition “also provides significant protection from natural toxicants,” the report says. The real cancer culprits in diet, the committee suggests—as other NRC reports have concluded—are excess fat and calories.

But others say there is much more to the story than appears beneath the “sigh-of-relief” headlines. Although the NRC committee made much of the fact that little scientific evidence exists on which to base their conclusions, this point was not adequately communicated to the public, according to committee member Bernard Weinstein, director of the Columbia-Presbyterian Cancer Center in New York. “I would have started the report emphasizing that we need much more intensive research in this area. There are a lot of open questions here and I wouldn’t give a clean bill of health to these trace amounts of chemicals yet.” As an example, Weinstein cited findings made public in April, after the report’s release, that a gene known as *Shinga* can be transferred into bacteria and spread a toxin to humans from ground meat. “This is a minor compound, a natural chemical in beef. We should not be lulled into false security,” he said.

There is also criticism of the committee’s composition. According to Samuel Epstein, a professor of occupational and environmental medicine at the University of Illinois at Chicago, the group is “dispro-

portionately weighted with industry consultants and others who trivialize the significance of avoidable exposures to industrial carcinogens in air, water, food, and the workplace, and who exaggerate the role of lifestyle risk factors and of naturally occurring carcinogens, particularly ‘natural pesticides’ in food.” Epstein voiced such concerns to the NAS as far back as 1993 in his role as chairman of the Cancer Prevention Coalition, Inc., which bills itself as a coalition of independent experts in public health and cancer prevention. Al Meyerhoff, senior attorney with

the Natural Resources Defense Council, agrees, saying that the conclusions suffer from “serious data gaps on toxins and exposures that make the report a dubious exercise. Increasingly, when dealing with cancer risk, ‘science’ is in the eye of the beholder,” he says. “Different scientists reach fundamentally different conclusions.”

Estabrook argues that the committee was unbiased and unanimous in its conclusions. But he concedes that the “database is shallow. We looked at what exposure data was available and we put it all into perspective. This is by no means the final word.”

New Laws on Landfills

New environmental rules for landfills seem to be moving in opposite directions: more stringent for larger landfills and less burdensome for smaller ones. On one hand, the EPA has determined that landfills are a source of air pollution and has issued a new rule requiring large municipal solid waste landfills to control their emissions of certain gases. On the other hand, President Clinton has signed into law legislation allowing states to ease certain environmental requirements for small landfills, as long as human health and the environment remain protected.

The new EPA rule, promulgated under the Clean Air Act, aims to reduce landfill emissions of smog-creating volatile organic compounds (VOCs), some of which are also known or suspected carcinogens such as



Getting tough on dumps? A new EPA rule includes stricter air pollution controls for large landfills, while a new law may exempt smaller dumps from ground water monitoring.

benzene, vinyl chloride, and chloroform. The rule will also cut methane emissions in half which, in terms of reducing greenhouse gases, is the equivalent of taking 20 million cars off the road, according to a statement issued by EPA Administrator Carol Browner. Methane is about 25 times more powerful than carbon dioxide (the primary greenhouse gas) in trapping heat in the earth’s atmosphere, according to the EPA.

The rule applies to landfills for household waste—not hazardous waste—with a capacity of 2.5 million cubic meters or greater. Those landfills that are found to emit more than 50 megagrams per year of VOCs will be required to drill collection wells to contain the gas. In turn, the gas may be routed to either an energy recovery system, where it can be captured for use, or to a combustion device, where it can be safely burned.

Although the rule is an important step in reducing ozone-forming VOCs, its primary benefit will be in methane reduction, said Dan Lashof, a senior scientist for the Natural Resources Defense Council (NRDC). “Landfills are an important, but relatively small, source of ozone-forming compounds,” Lashof said. “But they are one of—if not the—biggest sources of methane.” The process of capturing the VOC emissions will also net significant amounts of methane, Lashof said. In addition, the rule requires landfills to monitor surface methane on a quarterly basis and expand their collection wells if these emissions exceed 500 parts per million.