Spheres of Influence

No More Muddy Waters: Cleaning Up the Clean Water Act

On its return to Washington after summer recess, Congress continued deliberating the reauthorization of a cornerstone of U.S. environmental policy, the Clean Water Act, originally enacted in 1972 to protect water sources from pollution. Although its sister legislation, the Safe Drinking Water Act, is specifically geared to the protection of public health, the Clean Water Act also has enormous environmental and public health consequences.

Reauthorization is traditionally a time when Congress decides not only whether to renew a piece of legislation but how that legislation ought to be changed. Thanks to vigorous support from senators and congressmen of both parties, it appears that the first big piece of environmental legislation in this session of Congress will be to reauthorize, strengthen, and extend this landmark law.

Opponents will have the consolation that the same tight limits that apply to all federal appropriations for the next five years will limit enforcement of the updated act—which, in fact, has never fully been implemented.

This summer, the Senate Committee on Environment and Public Works began hearings on the Water Pollution Prevention and Control Act of 1993 (S-1114), introduced by the committee's chairman, Senator Max Baucus (D-Montana) and its ranking Republican member, Senator John H. Chafee (R-Rhode Island). The bill would widen the powers of the EPA, expand the focus of federal water policy from individual sources of pollution to comprehensive, watershed-wide planning, and begin to address land-use policy.

With bipartisan sponsorship from the committee's two ranking senators, it's expected that the committee will approve a bill encompassing most of their proposals. During the summer, Congressman Norman Y. Mineta (D-California), chair of the House of Representatives Committee on Public Works and Transportation, introduced a roughly similar measure, also expected to be approved after hearings scheduled to begin soon. By the end of the year, an updated and robust reauthorization bill should be ready for the signature of President Clinton.

Leadership on the legislation has come almost exclusively from Congress. Five months into President Clinton's term, the administration had neither formulated a water policy nor appointed the nation's top official responsible for administering it. In the first round of testimony before the Senate committee, EPA Administrator Carol Browner could speak only in the most general terms, cautioning that any new legislation must be "realistic in light of the resources we can reasonably expect to be available." While the administration concentrated on passing the 1994 budget, the clean water initiative remained with Baucus, a dedicated Montana outdoorsman, and Chafee, who, like other Rhode Islanders, takes pride in the cleaned-up waters of Narragansett Bay.

Additional impetus came from the lobbying efforts of the Clean Water Network, a coalition of more than 400 national, regional, and grass-roots organizations, including the National Resources Defense Council, the U.S. Public Interest Group, Friends of the Earth, National Toxics Campaign Fund, Physicians for Social Responsibility, Greenpeace, the Garden Club of America, and the Surfrider Foundation.

U.S. Public Interest Group released a report critical of the Environmental Protection Agency's record of enforcing clean water regulations at the same time committee member Frank Lautenberg (D-New Jersey) introduced a more stringent water bill of his own. The Lautenberg bill calls for stricter enforcement of clean water regulations, mandatory minimum penalties for violations, and expansion of citizens' right-to-know provisions.

By midsummer, as the battle of the budget waned, the administration could bring itself up to speed on water issues. In late July, EPA announced the reorganization of its enforcement staff, which had been divided among regional and program offices and sometimes worked at cross-purposes. Soon afterward, the White House nominated Robert Perciasepe, head of Maryland's Department of Environmental Conservation, as EPA's assistant administrator for water, subject to Senate approval.

Although EPA's reorganization was an in-house decision, unrelated to the impending changes in the Clean Water Act, the change should end some of the contradictions between EPA's dual roles of educator and policeman.

"On the one hand, EPA is expected to be the environmental leader, supporting and assisting industry and municipalities, often in a confidential way, in avoiding violations," said Steve Bagwell, spokesperson for the Water Environment Federation, a professional organization of scientists, engineers, and water management professionals. "On the other hand, they're responsible for enforcing regulations, and, if they discovered violations by those they were helping, EPA had to crack down." What Bagwell describes as "kind of a schizophrenic setup" will be streamlined with enforcement more clearly separated from other programs.

The Baucus-Chafee bill would retain existing revolving loan funds for communities to construct sewer plants. These funds were instituted by the Reagan administration in 1987 as a step in phasing out a system of grants provided in the original law. Initially funded by the federal government, but administered by the states, the funds have proven so cost-effective that even those who opposed the program at first now want it to continue.

But the Clean Water Network fears that encouraging the construction of new sewage treatment plants will add to the woes of the watersheds they're intended to improve. "A new central sewer plant in a community makes the area attractive to developers, stimulating further urban sprawl," says Robyn Roberts, an analyst for the organization.

That's not to say the needs of small towns should be neglected. A community too small to get a loan for a treatment plant may be just the right size for low-cost, low-tech approaches to sewage treatment, such as natural decomposition, flow-through wetlands, and reclaiming sludge to be used as fertilizer, Roberts says. Nonstandard approaches compatible with the best land-use for the watershed may be more appropriate and cost-effective for some communities, and the Clean Water Network wants these localities to be assisted in exploring all their options.

If the Clean Water Act isn't reauthorized in this session, the loan program will expire in the coming fiscal year. Because nobody wants the remaining funds to disappear into the Treasury, reauthorization is likely, and whatever revisions the committee's Democrats and Republicans can agree on are virtually assured of success.

Perhaps the most successful provision of the Clean Water Act has been its impact on the most clear-cut problems: discharge from factories and pollution from municipal sewage. These are known as "point-sources" of pollution and account for about

half of the water-quality problems in the United States. Generally, these sources are the most easily identified and most amenable to resolution.

A major provision of the original act required every facility that directly or indirectly discharges waste into surface waterways to obtain a specific permit from EPA and the U.S. Army Corps of Engineers, who regulate what the effluent may contain. Since the law's enactment, the amount of potentially harmful constituents entering the waters has, on the whole, decreased.

Although, as the U.S. Public Interest Group report points out, 40% of the nation's industrial, municipal, and federal facilities violated the act in one way or another during the year between October 1991 and September 1992, the consensus is that, on the whole, point-source pollution has been controlled significantly in the past 21 years. Scientists, interest groups, and policy makers regard the program as a success. Criticisms have to do with EPA's performance as enforcer, with shortcomings blamed on lack of personnel and resources.

Under the proposed revisions, EPA would compile a list of toxic substances to be eliminated and set a timetable for their phase out. The agency would be granted new authority to require source reductions and changes in production processes.

But the Water Environment Federation points out that many pollutants now exist at levels so low that they're hard to quantify and increasingly difficult to eliminate. "It would probably cost as much to eliminate the last 5% of a contaminant as to eliminate the other 95%," says Bagwell. "Our philosophy is to move toward smaller amounts of pollutants and analyze the cost of eliminating decreasing quantities versus the benefit of the environmental gain."

The Baucus-Chafee bill would extend the scope of the act to cover nonpoint sources or polluted runoff—the 50% of water pollution that doesn't originate from specific sources. Polluted runoff is the sum of countless small contributions, including household septic tanks, agricultural runoff, drainage from roads and parking lots, and municipal storm sewer systems, and it has become a complex, subtle, and pervasive problem that environmentalists blame on the lack of land-use policies.

"The most important single thing that can be done for pollution prevention is managing our land resources properly," says water-resource authority Daniel H. Okun, professor emeritus of environmental engineering at the University of North Carolina. "We have very little control over land usage, and it's one of our major problems in controlling water pollution."

The proposed bill moves toward regulating land use to protect watersheds. It seeks to bring the government's own land-use activities, including highway construction and Department of Agriculture activities, under the supervision of the EPA, and requires each state to specify how each of its bodies of water may be used. The states must also devise plans for land use and development across each watershed.

Reflecting recent changes in philosophy at EPA, the Baucus–Chafee bill puts new emphasis on anticipating pollution and changing the process to avoid producing the pollutant or allowing its escape into the environment. "This requires people concerned about the water supply to educate and assist industries, municipalities, and farmers to follow best management practices to prevent pollution," says Okun. "For example, the pollution caused by agriculture depends on a lot of variables, including the use of pesticides and fertilizers and whether or not the land is irrigated. Some agricultural practices, such as contour plowing, reduce runoff substantially. Free-roaming cattle cause more pollution than cattle that are penned."

In some parts of the country, smaller farms have yielded to industrial-scale agriculture, which employs huge amounts of pesticides and fertilizers. Industrial farms, where a plot of soybeans may measure a mile on each side, rely on extensive drainage, creating large amounts of runoff. Many of these farms are owned by investors outside the United States who may be indifferent to any local or regional water-quality problems they cause. Because of their size and wealth, industrial farms can wield considerable political influence, locally and in Congress.

"Large industry has been doing better than anybody else in protecting water quality," declares Okun. "There's good evidence that industry has moved faster than communities, or the public in general. Firms with a name to protect have become very responsible, doing a lot of recycling, cutting down on the amount of water they use, and in some cases, going to zero discharge. Not all big industries have mended their ways, but if you look at all the people who are polluting, we have to give major industry the highest marks."

That's not true, however, for smaller companies that can't pay for capital improvements to cut pollution. "The worst offenders are the marginal operations. A company that's making do with a 30- or 40-year-old plant and hardly getting by isn't going to excel at preventing pollution," says Okun.

"Technology can address pollutants at the end of the pipe, but it's more efficient to change industrial processes to keep toxic substances from being formed at all," says Roberts, pointing out, for example, that when paper mills start using hydrogen peroxide as a bleaching agent, rather than chlorine, they don't have to worry about dioxins from their waste water.

From the Water Environment Federation's point of view, the role of overseeing production is not feasible for EPA because it is already burdened by more responsibilities than it has staff to enforce. "Industry stringently objects to giving EPA the authority to require changes in production processes," says Bagwell. "While manufacturers now concede that government has a right to decree what may or may not come out of the pipe, they recoil at the prospect of bureaucrats snooping around inside plants dictating how products should be manufactured."

Who should be in charge of pollution prevention efforts? The developing consensus is that while guidelines and standards should be developed by EPA, federal programs to reduce nonpoint runoff would be best run locally. Even if EPA had the resources to administer such programs, it's improbable that agency personnel would understand local problems in detail.

But Okun has doubts about giving complete control to local people. "A county environmental commission, made up of local farmers, their friends, and local business owners, would hardly be the ideal group to oversee compliance with EPA standards," Okun said.

In North Carolina, where a new state law imposes regulations on watersheds that supply drinking water, Okun says he knows of a powerful legislator who managed to get his own area exempted from the law. "It's an example of the individual's interests at war with the public good," he says. "People think, if I have decent land, nobody's going to tell me what to do about it."

By giving new authority to EPA and enlarging the states' responsibilities, the Baucus–Chafee bill seeks to take the shaping of land-use policy away from those who stand to gain at the cost of water quality.

"Nonpoint-source polluted runoff is one of the big loopholes in water policy," says Deborah DeYoung, spokesperson for the Senate committee. "The committee believes the problem should be addressed through watershed planning, rather than leaving decisions up to little local fiefdoms across the watershed."

In the last session of Congress, efforts to strengthen the act foundered on the question of what to do about wetlands. Under the existing act, no one's allowed to dump materials, such as dredge spoils, into these biologically vulnerable areas. Owners of wetlands, however, are allowed to excavate, flood, and drain the areas almost at

will, and are eager to develop land once it's dried out. Building on former wetlands substitutes environmental liabilities, such as pavements and septic tanks, for what had been a filtration area for surface water.

Wetlands are supposed to be protected by earthen structures called mitigation banks. "When they're built right, mitigation banks work, but the law as it stands hasn't been implemented," says DeYoung.

In the last session's debate on wetlands, opponents of reform sought to exclude thousands of acres from the jurisdiction of the act by changing the definition. In the ensuing stalemate, Congress decided to get a clear scientific definition of wetlands, turning the question over to an expert panel from the National Academy of Sciences. Their conclusions will be aired at this fall's committee hearings on wetlands.

Perhaps the most worrisome question for lawmakers is what to do about the 50% or more of water pollution attributable to nonpoint-source runoff. It is agreed that the problem is important, but the interests involved aren't eager to make the sacrifices needed to reduce the amount of pesticide and fertilizer residue, animal waste, sewage, and industrial effluent accumulating in lakes and rivers and seeping into groundwater.

The recent waterborne outbreak of cryptosporidia in Milwaukee is believed to have been caused by runoff from a dairy farm upstream of the city (see Forum). But not only is it impossible to trace the diarrhea-causing parasite to a specific source, say investigators, the runoff containing the organism could well have come from urban sources or even from Lake Michigan, where the city gets its water.

"Nonpoint-source runoff comes from millions of sites. They're not like factories or municipal treatment plants sitting in plain sight, where you can identify them and monitor what they're putting in the water," says Bagwell.

Any attempt to control polluted runoff inevitably runs afoul of the American tradition of deciding locally how land is to be used. The farmers, developers, and businesses that would be affected by regulations to prevent nonpoint source pollution are represented in Washington by large, skillful, and well-funded lobbies like the American Farm Bureau, the National Association of Home Builders, and the National Association of Manufacturers.

It's possible, however, that the country is ready for pollution runoff regulations. The cryptosporidia epidemic in Milwaukee revealed that neighborly concern can extend across watersheds. "A number of dairy farms, large and small, have voluntarily built barriers to protect surface waters from runoff," said Paul Biatriski, public information officer for the city's department of health. However, Biatriski added, "Nothing like this had ever happened before, and the farmers had no reason to think that agricultural practices they'd been following for years could harm anyone. The city doesn't blame the rural people, and most of the farmers are genuinely anxious to do what they can to keep it from happening again. There are no bad guys in this story."

Partly because militant enforcement is more expensive than government can afford, the toxic-busting tone of early environmental regulation is evolving into a more cooperative, less confrontational style, and the Baucus–Chafee bill echoes the change.

"The Senate bill is more palatable than the one introduced in the last Congress," says Bagwell. "This one is less prescriptive and more focused." By requiring the federal government to set a good environmental example, and by providing for national water-quality education and information programs, guidance for volunteer citizen water-monitoring groups, and a program of awards for water pollution prevention and control, the Baucus–Chafee bill seeks to reward and encourage good practices as well as to identify and punish those who pollute America's waters.

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MEETING ANNOUNCEMENT

Particulate Air Pollution: Associations With, and Mechanisms For, Human Mortality and Morbidity

January 24–25, 1994

Arnold and Mabel Beckman Center of the
National Academies of Sciences and Engineering
Irvine, California

Colloquium topics will include the following: associations among air pollutant particles and human mortality and morbidity; potential mechanisms of toxicity; methodological approaches for assessing exposures; sources and characteristics of particulate air pollutants; and associated air pollutants. Sponsored by the California Air Resources Board.

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