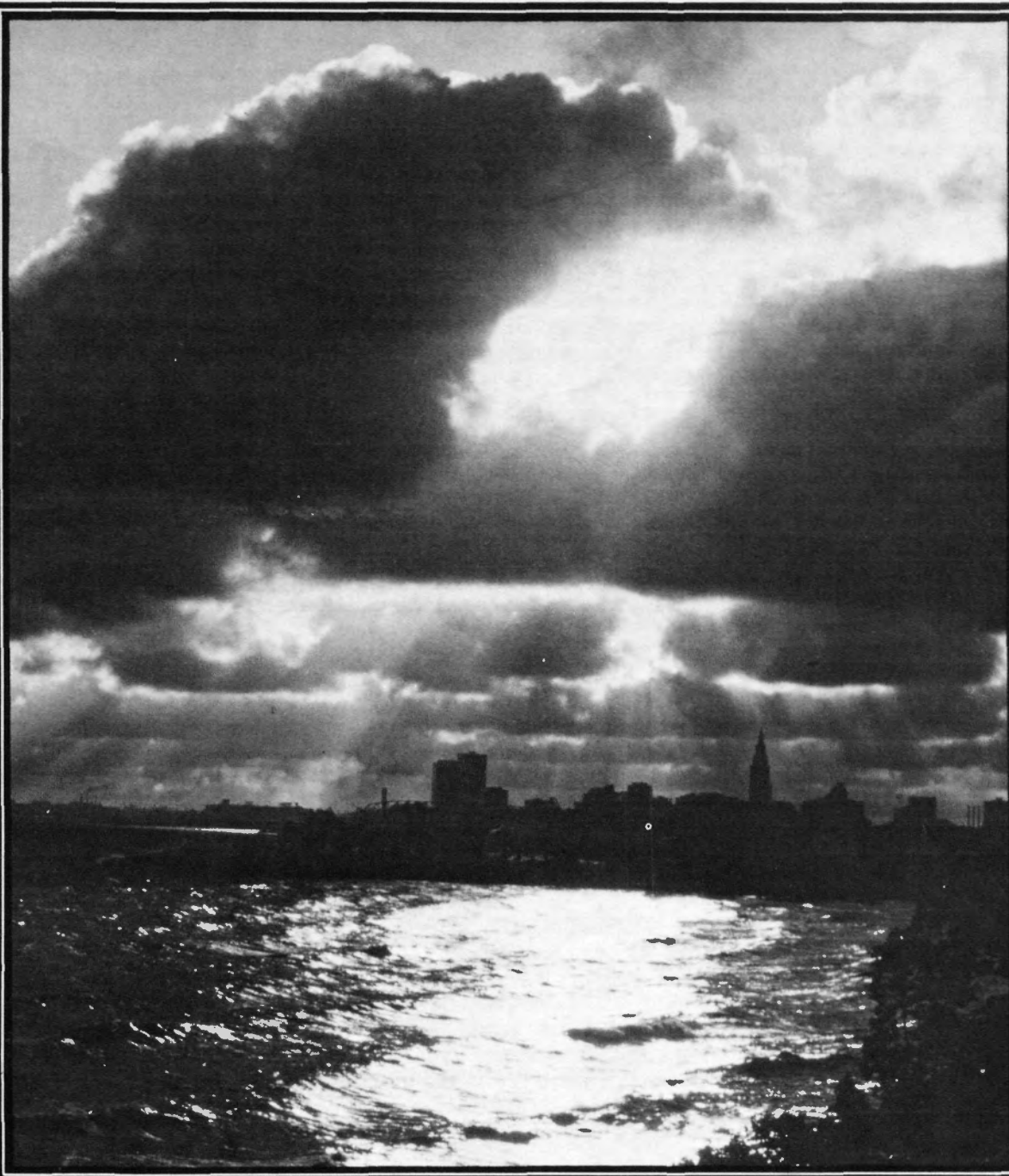


EPA JOURNAL

APRIL 1975

VOL. ONE, NO. FOUR



PROGRESS IN WATER POLLUTION CONTROL:
THE GREAT LAKES, ESCAMBIA, ENFORCING THE PERMITS



U.S. ENVIRONMENTAL PROTECTION AGENCY

THE QUEST FOR CLEAN WATER

Standing on the observation platform of the Terminal Tower in Cleveland, Ohio, a decade ago one could look out on a sunny day 42 stories below at a magnificent blue sea that seemed to spread endlessly.

Even today you can remember how the winds whining past the tower were ruffling the water.

White capped waves slapped a small boat passing through the harbor and hurled foam over the breakwater walls. Gulls wheeled, dived and soared unsteadily in the stiff breezes.

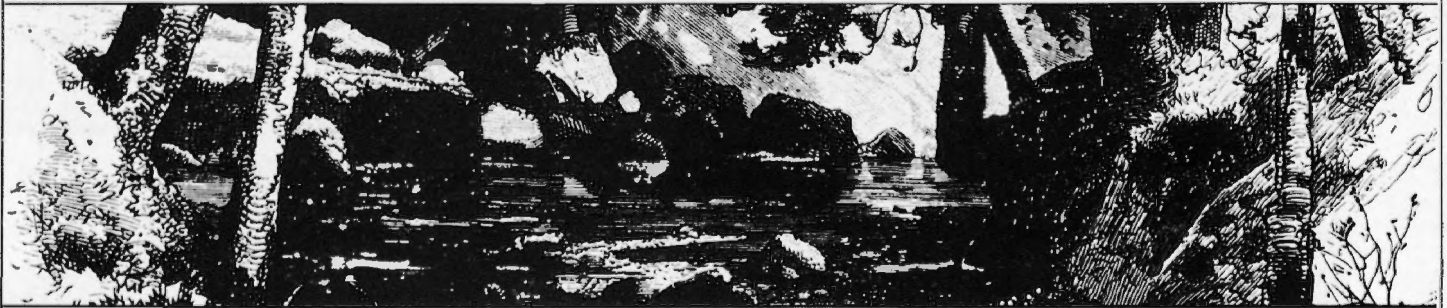
It was difficult to realize that this lovely seascape centered around the notorious Lake Erie, world-famous for its pollution.

And who would believe that the picturesque river twisting its way through the congested city to the harbor was the infamous Cuyahoga River, once so loaded with inflammable wastes that it allegedly was dangerous to toss a lighted match into it.

It is encouraging to know that the illusion of beauty given then by the tower's great height is now closer to reality.

Years of effort and huge expenditures of money are beginning to result in improvements in the condition of Lake Erie and the rivers that flow into it, such as the Cuyahoga and, most significantly, the Detroit River, the main carrier of pollution into the lake.

As the fifth anniversary of the original Earth Week approaches, it is heartening to learn that the long decline of the Great Lakes water quality is finally being checked and that sections of other major waterways are now showing improvement.



All across America streams, rivers and lakes play a major role in enriching the lives of people and providing the beauty which, in Shelley's phrase, gives "grace and truth to life's unquiet dream."

It is also good to know that the dumping of toxic materials in the ocean has been banned and that strict controls through a permit system have been placed on dumping of wastes at sea.

The notorious Santa Barbara Channel oil spill in January, 1969, helped spur the environmental awareness which resulted in the first Earth Day, April 22, 1970.

Many of us will never forget this spill. It seems only yesterday that we were in the Coast Guard station at Santa Barbara waiting to find out whether the escaping oil would be swept to shore or go out to sea.

Preceded by a sickening odor, the black oil tide finally crept into the jewel-like harbor on the evening of February 4, 1969, besmirched the white bottoms of hundreds of boats and captured many sea birds in its sticky and often fatal embrace. A trip to the site of the oil leak was made unforgettable by the appearance of a seal who suddenly surfaced through the heavy slick, looked back in bewilderment at our boat and then, completely smeared with oil, dove to an uncertain fate.

The current concern of citizens, State government officials and EPA about proposed off-shore drilling in the Atlantic reflects a determination, inspired in part by the Santa Barbara experience, to protect our coastlines, giant nurseries for aquatic creatures, refuges for countless birds and other wildlife and playgrounds for millions of people.

Russell E. Train

Administrator

Patricia L. Cahn

Director of Public Affairs

Charles D. Pierce

Editor

Staff:

Van Trumbull

Ruth Hussey

PHOTO CREDITS

Cover: Cleveland skyline as seen from Lake Erie at daybreak.

Cover, Frank Aleksandrowicz*

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Branch, EPA, Las Vegas

Back Page, Don Moran

* DOCUMERICA photos

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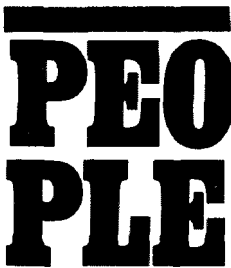
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The EPA Journal will be published monthly, with combined issues for July-August and November-December, for employees of the U.S. Environmental Protection Agency. It does not alter or supersede regulations, operating procedures or manual instructions. Contributions and inquiries should be addressed to the Editor, (A-107) Room 209, West Tower, Waterside Mall, 401 M St., S.W. Washington, D.C. 20460. No permission necessary to reproduce contents except copyrighted photos and other materials.

HOPE FOR THE GREAT LAKES

By William C. Omohundro

Deputy Director, Public Affairs Office, EPA Region V

Jim Foote, a biologist with the Michigan Department of Natural Resources, took a bucketful of water a few years ago from the Detroit River's tributary, the River Rouge, and let it stand there for an hour and a half.

"When I came back," Foote said, "there was no water—the acids had eaten out the bottom completely."

This is an example of how dangerous wastes in tributary waters were fouling the Great Lakes.

The lakes had become a dumping area for raw sewage, bilge waters, oil, chemicals and other wastes carried to them not only by the Rouge and Detroit Rivers but also by such polluted "feeders" as the Calumet in Indiana, the Fox in Wisconsin, the Buffalo in New York, the Cuyahoga and the Maumee in Ohio and the St. Louis in Minnesota.

All of this contamination has threatened to ruin the Great Lakes as a source of food, water and recreation, and, until recently, the future looked dim.

But now concerted efforts by government at all levels, industry, and private citizens appear to have achieved a turnaround.

EPA's Region V Administrator, Francis T. Mayo, said the most dramatic example of cleanup to date in the whole Great Lakes area is the Detroit River, at the head of Lake Erie. Before-and-after pictures show a remarkable improvement in appearance of what was a foul industrial and municipal sewer.

Around 1950 as much as 35,000 gallons of oil were finding their way into the river each day from Detroit-area industries. In addition, thousands of gallons of "pickle liquor," an acid used in steel processing, was being dumped, along with millions of gallons of inadequately treated sewage.

Today, except for an occasional accidental loss, oil is no longer dumped into the Detroit, and an enormous municipal sewage treatment plant has been built to handle Detroit-area sew-

age. Some 60 industries along the shore of the river now have facilities for pre-treatment of their wastes.

At one time as many as 40,000 ducks died oily deaths each year when they landed in polluted marshes along the river. Now such kills are down to only 50 to 100.

FISH ARE RETURNING

Game fish like trout and salmon that can live only in cold, clean water are coming back in the Detroit. Their numbers are burgeoning, and fishermen are surprised at their catches.

Hopeful signs are not limited to the Detroit River. Scientists have detected a 60 percent drop since 1970 in mercury concentrations in rock bass, perch, walleye and catfish from Lake St. Clair, located between Lake Huron and the Detroit River. This decrease is attributed to the elimination of industrial dumping of mercury.

DDT concentrations in Lake Michigan chub have decreased since 1970 by around 60 percent, and concentrations of this pesticide in Lake Michigan salmon have decreased by 50 percent in the same time period.

Chicago officials responsible for treating the city's drinking water report that they now use 40 percent less chemicals than they used in 1970.

Fishing for walleyed-pike in Lake Erie, the most polluted of the lakes, is reported to be better now than it has been in many years.

In the past several years there has been a significant reduction in the amount of phosphorus that flows into Lake Erie to give nourishment to slimy, smelly algae growths which reduce oxygen levels. In just two years, 1972 and 1973, the amount of phosphorus going into the lake was reduced by about 46 million pounds.

EPA officials in Region V say there has been a "tremendous improvement" in the Calumet River, a Lake Michigan tributary near Gary and Hammond, Ind., which used to be "grossly pol-

luted." Oil film, they say, is still occasionally visible, but no longer does the river have big chunks of grease and oil from factories along the shore.

"Now badgers go down to drink from it," said Dale Bryson, deputy director of enforcement. "Four years ago, no self-respecting badger would go near it."

The Cuyahoga River, a Lake Erie feeder, was so oil-laden back in 1969 that it caught fire, destroying a bridge. Action by government and industry has resulted in a significant cleanup of the Cuyahoga.

Mr. Mayo points out that you can tell the future of a body of water by looking at its feeders. "The Great Lakes feeders are getting better all the time," he says.

BACTERIA LEVELS DROPPING

Cleveland officials say that high bacteria levels in Lake Erie from inadequately treated sewage have dropped significantly and that beaches which were once routinely closed are "generally well within the limits established by the Ohio Department of Health."

The job of cleaning up the lakes is enormous. They have received mind-boggling amounts of wastes, and, unlike rivers which have a relatively rapid "flushing" rate, the waters from the Great Lakes move at a snail's pace toward the Atlantic via the St. Lawrence River.

Some scientists have estimated, for instance, that it takes almost 200 years for Lake Superior to completely flush itself.

This means that marked improvement in overall lake water quality cannot be expected in the near future. In fact, if all dumping of pollutants into the lakes ceased immediately, notable improvement in overall water quality could be expected to take years.

Nevertheless, experts agree that if it had not been for the substantial efforts already made by government, industry

and private citizens, Great Lakes water quality would be far worse than it is at present. And recent developments indicate even further cleanup in the coming years.

Probably the most hopeful sign for long-range Great Lakes cleanup is the concerted efforts of both the United States and Canada to establish strong legal and administrative machinery, and to provide sufficient resources for pollution control.

In April, 1972, both countries signed the Great Lakes Water Quality Agreement committing them to adopt programs and other measures to control a number of different kinds and sources of pollution. Control efforts on the lakes are coordinated by the International Joint Commission, made up of representatives of both countries and established under the U.S.-Canadian Boundary Waters Treaty of 1909.

TIMETABLE FOR CLEANUP

The Federal Water Pollution Control Act of 1972 set a timetable for cleanup of water pollution, and EPA is moving swiftly to achieve these goals on the Great Lakes.

All sewage treatment plants in the Great Lakes Basin must have secondary treatment by July 1, 1977, Region V Administrator Mayo pointed out. In secondary treatment, bacterial action plus primary treatment by screening, sedimentation and flotation is used to clean up waste water.

"In addition," Mr. Mayo said, "the states have adopted the further requirement of phosphorus removal in accordance with the Great Lakes Water Quality Agreement."

He noted that Michigan, New York, and Indiana have limited the phosphorus content of household detergents sold in those states.

"In the next two or three years, the remainder of the \$18 billion authorized by Congress and not yet distributed to municipalities for construction of sewage treatment plants will be a major thrust of our efforts to clean up the lakes," he said.

Carlyle Pemberton, EPA's Great Lakes coordinator, said that since the U.S.-Canadian Agreement was concluded in 1972, \$860 million had been granted to build 250 projects in the Great Lakes Basin as of Dec. 1, 1974, representing a total construction cost of \$1.3 billion.

"We expect that 60 percent of the population served by sewers on the U.S. side will be provided secondary



treatment by the end of 1975, and that 95 percent will be so served by 1978," he added.

Five of the eight Great Lakes States—Indiana, Michigan, Minnesota, Ohio and Wisconsin—have been authorized to take over the discharge permit program. Almost all major wastewater dischargers on the lakes have been issued permits limiting their effluents and placing them on compliance schedules to meet future deadlines.

"This is significant because EPA and the States can now take enforcement action against those dischargers who are not taking steps to comply with the law," Mr. Pemberton pointed out.

One notable exception to the major dischargers issued permits is the Reserve Mining Company of Silver Bay, Minn., which dumps 67,000 tons of taconite tailings into Lake Superior each day. This company has been ordered by the U.S. Court of Appeals to clean up its water pollution within a "reasonable time."

RESEARCH UNDERWAY

EPA is actively participating in a number of large scale research projects in the Great Lakes Basin under the Great Lakes Water Quality Agreement.

These include a joint study with Canada to determine the baseline water quality conditions of Lakes Superior and Huron, to identify pollution sources, and to develop recommended control programs.

"Because we don't know how to solve some of the pollution problems we've encountered in the Great Lakes,

our research efforts are almost as important as our actual control program," said Mr. Pemberton. "We're learning a lot more about these big lakes."

The Agency's research vessel, the 122-foot Roger R. Simons, will be taking part this year in the collection of water quality data on Georgian Bay and Lake Huron in conjunction with similar efforts by the Canadian government.

Some major watersheds on the lakes have been selected for study of pollution problems caused by drainage from land disturbed by agriculture and construction.

EPA will spend \$11.8 million for studies of the Maumee River, Indiana and Ohio, draining to Lake Erie; the Menominee River, Wisconsin, draining to Lake Michigan; the Nemadji River, Minnesota and Wisconsin, draining to Lake Superior; and the Genesee River, New York and Pennsylvania, draining to Lake Ontario.

The results of these studies are expected to result in improved methods of controlling pollution from "non-point sources" in the Great Lakes Basin and elsewhere.

EPA officials are optimistic that these efforts and the efforts by all levels of government, industry and the private citizen are beginning to bear fruit.

EPA Administrator Russell E. Train has said: "Both the United States and Canada can be proud. We have mounted the most concentrated water pollution control program in the world on the Great Lakes and we have high hopes for its success." □

FLORIDA BAY IMPROVING

By Charles Pou

Region IV Public Affairs Director

Southern pride even extends to adversity. If something is bad in the region, Southerners figure it might as well be known as the worst. Natives of Tupelo, Miss., and Gainesville, Ga., for instance, have argued for decades over which town lost the most people to killer tornadoes which roared through the Southland on April 5 and 6, 1936.* So recorders of fish kills for EPA should not have been surprised when the Pensacola chapter of the Bream Fishermen Association complained bitterly that the Pensacola area (notably Escambia Bay) had been omitted from a 1970 report. Their statement added:

"Local information from the Florida Department of Pollution Control indicates more than 50 million were killed. This is more than twice the (reported) U.S. total."

This wasn't just perverse pride speaking. Like commercial fishermen, the association wanted all to know the plight of Pensacola and the Escambia Bay ecosystem. The bream spokesman was operating under the ancient maxim that things have to get worse before they get better.

Now, nearly everybody admits, some cautiously, things are better. Items:

—There were no major fish kills in Escambia Bay in 1974. Some suggested cynically that this was probably because there were no more fish to kill. But this wasn't true.

—Fish species in Escambia Bay now compare favorably with those caught in similar Gulf of Mexico estuaries in Mobile Bay, Ala., and Biloxi Bay, Miss. "The similarity in the catches," said an EPA report, "indicated that Escambia Bay is functioning as a productive estuarine nursery for young fishes."

—An optimistic preliminary report on a feasibility study by EPA on stocking striped bass in Escambia Bay.

REPORT LISTS IMPROVEMENTS

There are encouraging words in the preliminary report, soon to be released, of the massive survey Region IV scientists under the leadership of Lawrence Ollinger are making of Escambia Bay and its watershed.

Others working with Mr. Ollinger on the Escambia Bay survey and monitoring program include Ted Bisterfeld, biologist; Reginald Rogers, aquatic biologist; Dr. Russell Todd, microbiologist; Dr. Paul Pore, fishery biologist; Bullard Mullins, chemist; Lloyd Wise, engineering technician; and Donald Lawhorn, general mechanic.

For the past three years, the Region has had a small, fulltime station on the Bay to monitor enforcement actions initiated in 1970 and 1971 by Federal, Florida, and Alabama conferees.

The preliminary report says: "In the five-year period from 1970 through 1974, there has been a gradual reduction in the frequency, as well as in the magnitude of (fish) kills . . . Overall, the number of kills has declined from a high of 56 in 1970 to 14 in 1974, a decrease of 75 percent. In addition, there were no major kills in the Escambia-Pensacola Bay area in 1974."

For those who recall the dramatic photographs of acres and acres of dead Escambia menhaden which frequently were flashed across the nation in the late sixties and early seventies, this is a cheery note. There are other good omens in the report. Efforts at revegetating the estuary through transplanting marine sea grass so far have been at least 50 percent successful. All of the marine-to-brackish species had been eliminated.

The report details notable progress in eliminating some of the pollution that

had reduced Escambia Bay from one of the finest fishing spots on the Gulf coast to a 37-square-mile body of murky, shallow water with a zero shrimp population. The zero figure on shrimp is a comedown from catches of 700,000 pounds for 1968.

Although the shrimp apparently haven't responded yet, life-sapping loads of waste from beach-front industries have come way down, too. The three major industrial dischargers are American Cyanamid, Air Products & Chemicals, Inc., and Monsanto Corp. The report said: "All three industries were within their effluent limitations, with the exception of Air Products & Chemicals, Inc., which exceeded the BOD effluent limit by 12 percent . . . In the five-year period between September 1969, and September 1974, BOD, nitrogen and phosphorus loads discharged have decreased by 57, 73 and 92 percent, respectively. By January 1977, when all the final effluent limits will be in effect, BOD, nitrogen and phosphorus should be reduced by at least 88, 88, and 89 percent, respectively." Additionally, the report continued, "American Cyanamid discharged 100 milligrams per liter of acrylonitrile, a highly toxic substance, in September 1969. At the present time, no acrylonitrile is being discharged."

THE WAY THINGS WERE

The desire to have things the way they once were along the shorelines of historic Escambia Bay was one of the chief motivating forces behind the cleanup. In the sixties, residents began to notice a gradual clouding of the bay, runs of bad luck at fishing, and occasional small fish kills. By the early seventies, Escambia Bay had assumed its champion role in the fish-kill-total game. The biggest kill came one Sep-

tember day in 1971 when the deaths had to be measured in miles: one square mile of dead fish in Mulatto Bayou, a finger of the bay, and a 10-mile stretch of dead menhaden and some game fish along the eastern shore.

Mrs. Ray Geiger, a 60-year resident of Escambia Bay, said in a letter to the Federal Water Pollution Control Agency, one of EPA's predecessor agencies: "Once my whole family enjoyed swimming in the clear water with sandy bottom and sandy beaches, where now you would wade in sludge. We tonged oysters midway across the channel. We caught in half an hour enough speckled trout for a supper on the beach. Now there is no clean water to swim in. I cannot let my dog wade in the shallows, for his ankles develop a skin eruption.

"There are no oysters! There are no speckled trout in our area. After one of these fish kills, a rookery, near my home, of about 25 egrets, little blue herons and great blues, were wiped out from eating these fish. It is rather heart breaking to see the old lovely bay become a death trap."

INDUSTRIES WORST OFFENDERS

The industries which rimmed the Bay at the end of World War II were the worst, but not the only, pollution offenders. Industrial waste water con-

taining nitrogen, phosphorus and potassium was flushed into the waters, in several spots directly into Escambia Bay. Chemicals—some of them the same as those farmers use to make crops grow—over-enriched the waters, causing explosive algae blooms. Oxygen was depleted in the process, bringing toxic conditions, and death would run like wildfire through the entire chain of marine life. The bay developed a thick gray mat of sludge, seven feet deep in places. Tightly spaced pilings for the Louisville and Nashville Railroad trestle, which stretched across the upper end of the bay, reduced the flow of the already sluggish waters. An order to remove those pilings, the suggestion of former Florida Gov. Claude Kirk, was one early get-tough mandate in the opening rounds of the belated war against pollution.

It was not the only we-mean-business directive against industry. One large paper mill, on neighboring Perdido Bay and the Escambia River, was instructed to reduce pollution or reduce production. Although local industry by and large has been cooperative in the struggle, there were occasional veiled threats that a firm just might pull up its plant and pollution and go elsewhere.

Nor would sinners always admit they were sinners. A spokesman for one firm, whose discharge point was suspiciously close to a high-kill area, suggested that the real culprit was an

underground "phantom river" which was sneakily spewing its toxin into the bay.

Recently, though, industry has been getting praise from some of its strongest critics of the early seventies. Charles Lowery, a president of the Bream Fishermen Association, spoke glowingly of pollution abatement efforts by industry during the past five years.

In an interview with the Pensacola News-Journal, a newspaper which has campaigned ceaselessly for cleanup, Mr. Lowery said, "I think we are making some strides forward. Data on the area waters is entirely different from just a few years ago. Escambia Bay has definitely improved. Fish kills last year were negligible."

But the battle has not been won. As this was being written, one large industry was seeking a cutback in its discharge limitations. Bottom silting in the bays and bayous remains a problem.

Still there is the great fall-off in fish kills, and some species, absent from the bays for several years, are returning. "There are speckled trout and red fish that were almost completely wiped out, being found now," said Mr. Lowery.

Back, too, is the sardine-like menhaden, a little fish often used for fertilizer. But for the present, the menhaden of Escambia aren't making the front pages as they once did. □



Several years ago Escambia Bay frequently looked like this, with menhaden and other fish strewn on the open water and clogging the bayous.

CURBING WATER POLLUTION

EPA Enforcement of the Permit System

By Richard H. Johnson

Acting Assistant Administrator for Enforcement

The Environmental Protection Agency has started to use a major new weapon in its effort to provide the Nation with clean water.

It is cracking down on violators of the permits granted to industries and municipalities to reduce the discharge of pollutants into waterways.

Discharge permits setting limits on the kinds and amounts of pollutants that may be poured into the Nation's waterways are meaningless if they are not enforced.

Such enforcement is provided for in the law (the Federal Water Pollution Control Act Amendments of 1972), in EPA regulations, and in the laws of States that have received approval by EPA to administer the permit program. As of Jan. 1, 20 States had done so, and we expect that by the end of June an additional ten States will qualify to issue permits and police discharges within their borders.

We have developed working agreements with these and other States for joint drafting of permits, joint public notice and hearing procedures, and joint visits and surveys to check on compliance. Thus we encourage maximum participation by States in our enforcement activities.

There are approximately 35,000 "point source" dischargers of waste water into navigable waterways in the United States. A point source is any

single waste outlet—as from an industrial plant or sewer system. Navigable waterways are the waters of the United States including the territorial seas.

The issuing of discharge permits has been an enormous task, since each is tailor-made for that discharger. The permit specifies the maximum amounts of different kinds of pollution—biochemical oxygen demand, total suspended solids, certain chemical compounds, and so on—which may be discharged into that waterway.

MAJOR DISCHARGERS FIRST

Permit processing has concentrated on the "major" dischargers, those with the largest amounts and most damaging kinds of water pollution. At the end of last year 94 percent of the major industrial permits and 85 percent of the major municipal permits had been issued, by EPA and the States, as well as approximately 50 percent of the minor industrial and municipal permits.

We estimate that by the end of fiscal 1975 (June 30), permits will have been issued for 2,900 major industrial sources, 2,500 major municipal sources, and 20,000 minor sources, mostly industrial. This total of nearly 26,000 permits will represent nearly three-fourths of all point sources in the Nation and more than 90 percent of the volume of waste water from such sources. How are all these discharges to be monitored by EPA and the States? How can the dischargers be made to comply with their permit requirements? What sanctions are invoked if they fail to do so?

The answers to these questions can be found in the Act itself and in the regulations adopted by EPA to carry out the law.

ENFORCEMENT PROCEDURE

Enforcement of discharge permit requirements is analogous to the Federal income tax. The discharger, like the

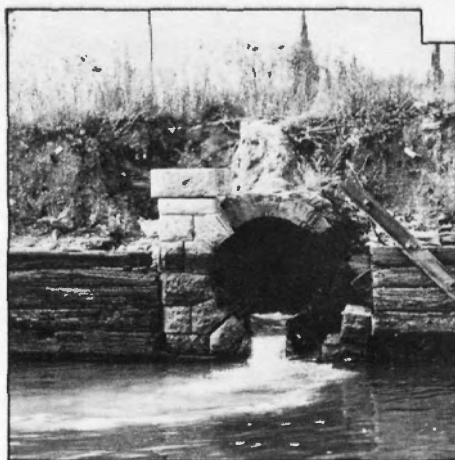
taxpayer, fills out his own forms and attests to their legality and accuracy. As a condition of his permit, each discharger must keep track of the amount and composition of his waste water effluent and report these figures periodically to the EPA Regional Office (or to the State if the State has taken over administration of the permit program).

Many permits also require dischargers to report on their progress in installing equipment and making process changes to enable them to comply with effluent limits not yet possible for them to meet. These compliance schedules, with specific deadlines, are also self-monitored and reported.

For EPA or the State, checking up on the self-monitoring reports is done in three steps: 1. Has the discharger filed the reports required? 2. Do the reported facts comply with the permit's effluent limits and the discharger's upgrading schedule? 3. Does the inspection of the discharger's premises confirm the facts reported?

Here again there is a similarity to the way the Internal Revenue Service checks up on taxpayers: first insuring that all returns are filed; then checking the returns themselves, using sampling techniques and concentrating on the major filers; and finally, conducting full audits (inspections).

Reviewing the self-monitoring reports



is a formidable task, but one that is essential to the success of the discharge permit program. The Regions are aware of what reports are due for any given period, and they make sure that all required reports are submitted. Reports from major dischargers receive greater attention than those from minor dischargers. The nature of the wastes and the potential impact on the receiving waters are considered also. Setting such priorities helps to speed the elimination of pollutants.

"TICKLER FILE"

We have developed a simple, semi-automated system to help Regions and States keep track of when reports are due from permit holders. It is a computerized "tickler file" to help identify permit violations and enable us to respond quickly. This system was developed and tested in Region V and is now available to all States and Regions to assist in their enforcement efforts.

Field inspections are made selectively, concentrating on dischargers who have the greatest potential for environmental damage, and on leads provided by missing reports and reports indicating possible violations.

Each State and Regional Office issues quarterly reports on non-compliance with plant improvement schedules. These reports are available for public inspection.

When non-compliance is detected and confirmed, the Agency tries to abate the violation as quickly as possible. Minor violations of a permit condition usually can be resolved informally through correspondence or conference with the permit holder. More significant violations are subject to formal action such as: administrative orders to abate the violation; injunctive relief in a Federal or State court; and court action seeking civil or criminal penalties.

So far we have issued more than 500 administrative orders, two-thirds of which were issued since July 1974, reflecting the increasing number of permit holders subject to reporting requirements and compliance monitoring. About a third of the orders were issued to municipalities and the rest to industrial dischargers.

The most common citations were: failure to apply for a permit, violation of effluent limits, improper monitoring of wastes, failure to report, and improper reporting. Relatively few permit holders have been cited for failing to meet construction and improvement schedules.

At the end of 1974, EPA had referred 22 civil cases and 15 criminal cases to the Department of Justice for court action.

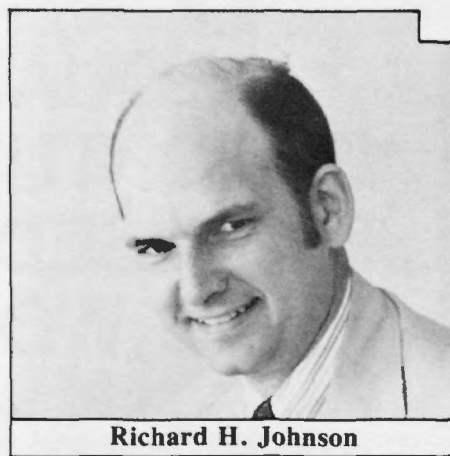
An example of a completed civil case is that against the Great Western Sugar Co., Eaton, Colo. This sugar beet processing firm allowed a large amount of water, containing high BOD and high suspended solids, to drain from a holding pond into the Eaton Draw which discharges into the Cashela Poudre River in violation of its permit. The company settled in March 1974, for a civil penalty of \$3,500.

TWO CASES IN ONE

Two companies are being charged with violating the same discharge permit at a plant in Ashtabula, Ohio. EPA says the first firm had 78 violations up to May last year when it sold the plant to another company which took over the permit. The second firm is charged with 71 violations. At \$10,000 maximum civil penalty for each, the U.S. Attorney for the Northern District of Ohio is claiming nearly \$1.5 million from the two companies. Acid-alkali level, chlorine, mercury, and suspended-solid violations are alleged. The two firms are Detrex Chemical Industries and Sobin Chemicals Co.

The most significant case of all was that against the Reserve Mining Co., charged with polluting Lake Superior with taconite ore tailings and hazardous asbestos-like fibers. The Minnesota Pollution Control Agency joined EPA in this civil action in U.S. District Court for the District of Minnesota. The States of Michigan and Wisconsin joined as plaintiffs-intervenors.

Trial began in District Court on August 1, 1973, culminating in Judge Miles W. Lord's order to close down the plant.



Richard H. Johnson

On June 4, 1974, the Eighth Circuit Court of Appeals, having initially stayed Judge Lord's injunction until a hearing could be held, did hold a hearing and extended its stay of the District Court's Order for a period of 70 days. During this time an on-land disposal plan was to be prepared by the Company and commented upon by the plaintiffs. Following a series of legal moves and counter-moves, the U.S. Government filed a petition with the Supreme Court to dissolve the stay of the Appeals Court in October of 1974. In denying the petition, the Supreme Court indicated it would reconsider if the Appeals Court did not resolve the case.

On March 14 the Appeals Court ruled that Reserve Mining's discharges constitute "a potential threat to the public health," but it refused to close the plant. The company must take immediate steps to clean up its air pollution and will be given a "reasonable" time to halt its water pollution, the decision said. If the parties cannot agree on an abatement schedule, which will be subject to U.S. District Court review, the company will have one year in which to close down the offending plant. □

MORE WATERWAYS ON THE MEND

Other waterways where EPA has found improvement in water quality or expects improvement soon from discharge permit controls include:

Middle West:

Calumet, Cuyahoga, Detroit, and Maumee Rivers, and the upper Mississippi River.

Northwest:

Boise, Snake, Cour d'Alene, Spokane, and Willamette Rivers; and St. Paul Harbor, Kodiak, Alaska.

Great Plains:

Missouri and North Platte Rivers.

Middle Atlantic:

Hudson and Delaware Rivers, Raritan River and Bay.

New England:

Androscoggin, Aroostook and Kennebec Rivers; Belfast Bay; Salt Pond and Portland Harbor (Me.); Little River (Mass.); Providence River and Narragansett Bay, R.I.

EQUAL OPPORTUNITY PROMISED FOR EPA'S WOMEN

Administrator Russell E. Train and other top officials of the Agency pledged support to providing equal opportunity for women at EPA at the Third Annual EPA Conference on Women held in Washington last month.

The Conference was sponsored by the Office of Planning and Management and the Federal Women's Program Committee.

Mr. Train said at the conference "every person should endeavor to develop his or her potential to the utmost. All of our training and other employee programs should have as their goal the providing of opportunity for development. The fact that over 80% of the women in EPA are in Grades 8 and below indicates that our efforts have not been good enough.

"We must increase our recruitment of women and get more of them into the Executive Development Program. I have instructed the Regional Administrators and the Assistant Administrators that they must do better to accomplish this end.

"I have asked Carol M. Thomas, Director, Office of Civil Rights, to report to me regularly on the success of the women's program."

In opening remarks to the conference, John R. Quarles, Deputy Administrator, reaffirmed this Agency's commitment to the achievement of equal rights for all its employees and the ending of all discrimination—whether based on race, place or national origin, or sex. "Discrimination is an ugly word in America," he said, "for the cardinal principle of our country is the full recognition of the dignity and importance of each individual."

Mr. Quarles went on to say that the most complicated problem facing women is finding a balance between the demands of career success and the other values that constitute the quality of life. This is especially difficult, he said, in a commercial society, such as ours, with its heavy emphasis upon financial success. He said that he had no quick or easy answer to the conflicting pressures upon women, but thought the best hope lay in the evolution of greater flexibility in the roles played by men and women.

Mr. Quarles saw promotion as the major concern of women in EPA. "Women must be assured of the opportunity to move ahead. On this score I assure you that you do not have to do battle with me, with Administrator Train, or anyone else in high position in EPA."

A highlight of the conference was the presentation of an award to Congresswoman Barbara Jordan of Texas, as the Outstanding Woman in Government in 1974. The award was presented by the Federal Women's Program

Committee at a dinner held at the Pier 7 Restaurant.

The conference included a career development workshop open to all employees, a personnel management workshop for EPA Federal Women's Program Coordinators and special sessions for EPA managers.

The Washington Women's Legal Defense Fund presented a panel on Women and the Law which covered sex discrimination suits and new legislation affecting women.

In a joint statement submitted to EPA Journal as the conference opened, Kathy Libby and Rosanne Light, two members of the Federal Women's Program Committee, noted that in 1973 women constituted approximately 35 percent of the Agency work force, with most of them at Grade 7 or below.

They said that although the Agency had agreed to meet certain goals by February 1974, for increasing the number of women at upper grade levels in EPA, these goals generally were not met, and 83 percent of the Agency's women employees are now GS-8 or below.

"... Except for the GS-9 and 11 levels, the goals have not been met by EPA managers," the statement said. "Women at EPA still remain at about 35 percent of the permanent full-time work force. In percentages EPA women are: 66 percent of the GS-1s, 79 percent of the GS-2s, 87 percent of the GS-3s, 87 percent of the GS-4s, 76 percent of the GS-5s, 87 percent of the GS-6s, 53 percent of the GS-7s, and 67 percent of the GS-8s."

However, Charlie K. Swift, Director of the EPA Federal Women's Program, said that statistics do not tell the full story and that "there is now discernable concern expressed by our top managers that we seek new ways to bring balance, make right, this untenable situation."

Ms. Swift also said "Women have moved from a stance of hopelessness to one of serving notice: we shall not have our employee rights denied nor abridged. I see the Women's Program as a vital part of our Agency's implementation of P.L. 92-261, which is the statutory base for the program. I also see the Women's Program as part of EPA's commitment to simple justice."

Ms. Swift said that EPA has taken steps in the last year to help career advancement for women, such as the opening of a new employee training center and the beginning of upward mobility training programs.



Rep. Barbara Jordan

WOMEN AT WORK IN EPA

In conjunction with the EPA Conference on Women, EPA Journal conducted random interviews with women who are working in various Agency posts about their jobs.

DR. HELEN McCAMMON,
DIRECTOR
OFFICE OF RESEARCH AND
DEVELOPMENT
REGION I, BOSTON, MASS.



I like the challenge of my job, and the freedom I have had in developing a program to relate the Agency's research and development mission to regional problems. I work closely with state and local personnel to learn what their problems are and then acquaint them with what we are doing that can apply to their specialized environmental needs — whether in the field of health effects or new pollution control techniques.

In two and a half years, I have come to know the northeastern states well through many on-site visits to EPA projects. I keep abreast of new research in the earth sciences and environmental engineering by frequently attending seminars at the Massachusetts Institute of Technology and the University of Massachusetts.

JOYCE GRABSCH,
ADMINISTRATIVE
STAFF ASSISTANT
OFFICE OF

AIR AND WASTE MANAGEMENT



As administrative staff assistant I screen all incoming correspondence for the Assistant Administrator and ensure that it receives a prompt response. I also act as an information contact between the Assistant Administrator and his staff. This gives me a view of the activities of a key part of the Agency, but I would like a broader view of the overall Agency effort.

It's my feeling that women employees should be informed of the mission of their respective offices so that they would have some feeling of participation in the activities and overall objectives of the Agency. If there

were some way women could gain a better understanding of the Agency programs, this would generate more enthusiasm and better esprit de corps.

I believe in what we are doing here — I know it is very important. But sometimes I feel like the "flea on the elephant." The elephant is so big that the flea can't possibly see the whole animal. In the same way, a lot of women, and men too, for that matter, cannot understand the overall Agency programs.

What can be done to correct this problem? I realize that not everyone shares this concern, but many of us would like to feel that we are real participants in the Agency objectives. We want to know what EPA is doing and why. We need to be kept informed. I feel the Agency would really gain if some way could be found to give us a greater sense of being part of the team.

ANN JOSEPH,
STAFF ATTORNEY,
LEGAL BRANCH,
ENFORCEMENT DIVISION,
REGION III, PHILADELPHIA, PA.



A great deal of my work has been in the "National Pollutant Discharge Elimination System" program. I have been involved in important cases (as well as some that were dogs), adjudicatory hearings, and compliance and enforcement actions under the program.

At times there is frustration because we prepare the cases for enforcement action, but the Department of Justice argues the cases in court. On occasion Justice will not accept a case for prosecution, and then you feel as if a great deal of your time and effort has been wasted.

JOAN ODELL,
ASSOCIATE GENERAL COUNSEL,
OFFICE OF THE
GENERAL COUNSEL



Personally, I feel very fortunate to have the opportunity to make my contribution as a lawyer to EPA's programs and policies. The 14 years of legal experience I had in local government have been very useful to me and, I hope, to the Agency. I make decisions and offer advice based upon my legal training and experience. I believe those with whom I work recognize this, and we work together well, both men and women, as legal partners.

I see no difference between the role of women and the role of men in this Agency. We have a common role — that of governmental officers and employees — and a

common mission — to clean up our environment. This is a substantial challenge to us all, and no useful purpose would be served by excluding persons on the basis of sex, if they can enhance the Agency's capabilities.

EPA has recognized this fact from its inception, and women have served, and are serving in positions where, through their education and skills, they can make a substantial impact on decisions. A real effort is being made to train women, side by side with men, for more responsible jobs within EPA.



*ELOUISE AGEE,
SPECIAL ASSISTANT TO
THE ASSISTANT
ADMINISTRATOR FOR
PLANNING AND MANAGEMENT*

My job requires attendance at the daily staff meetings held with the Deputy Assistant Administrators, where assignments are made, and I then follow up on them to assure that the Assistant Administrator's requests are met and on schedule. I do a preliminary reading of the mail, routing it to proper staff for review and recommendation for action. I handle special requests from the Administrator's Office that may involve the White House, the Congress, other Federal agencies and the regions.

This is an action under pressure job. A typical day runs from 8 a.m. through 6:30 p.m. A lunch away from my desk is an occasion.



*GENEVA DOUGLAS,
PUBLIC AFFAIRS DIRECTOR
NATIONAL ENVIRONMENTAL
RESEARCH CENTER,
LAS VEGAS, NEV.*

With the help of a staff of six, I try to inform the public of the research and monitoring activities of the Center and thus create public awareness and support of its programs. I supervise the writing of news releases and newsletters, make arrangements for meetings, exhibits, and the briefing of visitors. Also, I oversee the editorial review of research reports, and process them for printing and distribution.

I particularly like the diversity and visibility of the research programs. We have some unique stories to tell—about EPA's special monitoring aircraft; about Big Sam, our famous steer with a hole (fistula) in its side; about our photo-interpreters at Las Vegas and in Warrenton, Va., who can tell amazing things about the sources and environmental effects of pollutants by

looking at aerial photos and infrared scans; and about our cowboys and dairymen who manage a herd of 100 beef cattle and an experimental dairy farm at the Nevada Atomic Test Site.



*CAROLYN OFFUTT,
CHEMIST,
MARINE PROTECTION BRANCH,
OIL AND SPECIAL MATERIALS
CONTROL DIVISION*

I have been engaged in significant work and have met many interesting and dedicated people. For example, I spent two weeks as a member of the scientific crew of a ship monitoring the marine environmental effects of the incineration of chemical waste materials in the Gulf of Mexico.

In the year and a half I have been with EPA I have been impressed with the excellent opportunities which have come, I realize, from the willingness of my supervisors to use my talents.

Probably because I work in a technical field, I think of myself primarily as a chemist in EPA rather than as a woman in EPA. I chose EPA as a place to work because of my long-standing interest in and concern for the environment, and with the hope that my work could influence national environmental policy.



*DOLORES GREGORY,
DIRECTOR
DIVISION OF VISITORS
AND INFORMATION EXCHANGE,
OFFICE OF
INTERNATIONAL ACTIVITIES*

Since joining EPA, in 1971, I have been responsible for international exchanges of information and officials with other environmental agencies around the world. To create communication linkages between EPA and its counterpart agencies abroad I have developed, with the help of many EPA colleagues, a program for sharing environmental information resources.

Starting with documents exchanges — now in effect with 50 foreign countries and international organizations — we are extending the exchange with selected countries to include close collaboration in information systems design and pooling specialized data bases to avoid unneeded duplication.

In a related effort I recently spent three weeks at the United Nations Environment Program (UNEP) Headquarters, Nairobi, Kenya, working with a team of UNEP staff and consultants on plans for the International Referral System for Sources of Environmental Information.

Continued on page 15



sludge dumping

Region II anticipates late April will bring requests for renewal of some or all of the current permits for disposal of sewage sludge at the Region's present dump site 12 miles off the Atlantic coast. This site receives 70 percent of all sewage sludge — 6 million cubic yards per year — dumped into the oceans by U.S. cities.

The permit review will include comments from an April 1 public hearing. Previous hearings and meetings have been jammed since a Brooklyn College professor forecast that the sludge would move from the site onto Long Island beaches. EPA and the National Oceanic and Atmospheric Administration disputed that assertion.

Plans are already under way to move the site by 1976 some 65 miles out in the Atlantic to accommodate the anticipated three-fold increase in sludge resulting from better sewage processing as more EPA-funded treatment plants come on line. Region II Administrator Gerald Hansler is seeking public comment on EPA's environmental impact statement on the plan to move the site.



dumping

Safety Projects & Engineering, Inc., Quincy, Mass., recently paid a civil penalty of \$1,500 for violating its ocean dumping permit. The penalty is the first in Region I and one of the first in the country to be levied under the 1972 ocean dumping law.

The company violated a provision of its permit requiring explosive materials to be encased in concrete inside a metal container.

The violation was discovered last November when one of the rusted drums washed up on a beach and local children found it and removed some of the explosives. The company has assured EPA it will make good-faith efforts to comply with the permit.

lead in water

Final results of an EPA-sponsored study of lead in the drinking water supplies of several Boston communities will be announced this month. Preliminary results showed 20 percent of the households sampled in Brighton, Somerville, and Beacon Hill with lead levels in excess of the 50 parts per billion standard established by the U.S. Public Health Service.

In the control community of Cambridge, only 5 percent of the households sampled showed lead levels exceeding the standard. Cambridge adds an agent to its water supply that halts the corrosion of the lead pipes. On the basis of the preliminary results, EPA has urged the Metropolitan District Commission to add the anti-corrosive agent to Boston water supplies.



d.c. sewage change

In view of rising costs, shortages of energy and other resources, and new technical information, Region III has proposed several changes in the water quality management programs for the Washington, D.C., metropolitan area. These programs were first developed in 1969 by the Potomac River Enforcement Conference.

The proposed changes would defer the removal of nitrogen at the Blue Plains sewage treatment plant and would reconsider using incineration to dispose of sludge.

The Virginia State Water Control Board and the District of Columbia, in addition to EPA, have recently questioned the need for nitrogen removal at Blue Plains. The equipment would cost \$104 million to build, and \$14.1 million a year to operate. It would use large amounts of electricity, methanol, and other resources.

Nitrogen removal was originally considered necessary to reach dissolved oxygen goals and control algae growth in the Potomac River. However, it is felt that phosphorus removal facilities, scheduled to go into operation at Blue Plains Jan. 1, 1976, may be able to hold algae growth to an acceptable level.

Incineration of Blue Plains sludge would consume nearly 14 million gallons of petroleum products and 45 million kilowatt-hours of electricity per year. Incineration and handling facilities would cost about \$56.4 million.

Sewage sludge contains nutrients potentially valuable for agriculture. It can partially replace commercial fertilizer, which has tripled in price since early 1973 and which is in short supply worldwide. It also contains organic materials which can improve the structure and fertility of marginal soils.

However, land disposal alternatives are difficult to implement on the large scale required, there are unanswered scientific questions, and various jurisdictions need to cooperate in selecting suitable sites. To help solve these problems, EPA intends to provide over \$1.7 million to develop a large-scale composting process for raw sludge at Beltsville, Md. EPA will also provide technical assistance to State and local parties who will have to select the appropriate alternative to incineration.



atlanta transit

Construction has begun on the Metropolitan Atlanta Rapid Transit Authority (MARTA) system, with a groundbreaking ceremony in suburban DeKalb County. MARTA plans call for laying 60.9 miles of rail lines, with feeder busway routes, at a cost of \$2.1 billion.

Target completion date is 1980. Most of the bus service is already in operation.

When MARTA was sanctioned by a vote of citizens in 1970 the semi-public agency purchased the privately owned Atlanta Transit System. In 1971 fares were slashed from 40 to 15 cents and riders increased by more than 25 percent.

concerned citizens

In Fort Lauderdale, Fla., the Coalition of Concerned Citizens meets monthly to review actions by the local Pollution Control Board. The same group also regularly monitors County Commission and land use planning meetings.



sulfur dioxide

Levels of sulfur dioxide in Chicago's air have dropped substantially since the 1960's, Region V air pollution control officials report. This improvement in air quality is attributed to Chicago's regulations limiting the sulfur content of coal burned and requiring the conversion of most residential heating plants to natural gas. Annual averages of sulfur dioxide levels were 50 percent lower in 1970 than in 1964, and current levels are well within the Federal Ambient Air Quality Standards for 1975.

convention exhibit

Region V will have an exhibit at the 10th annual convention of the National Utility Contractors Association April 10-13 in Indianapolis, Ind.

The display will be business-oriented, with handout materials from the Construction Grants and Technology transfer programs. Region V's participation is designed to improve communication between the Agency and business and industrial leaders. Some 3,000 industry leaders from throughout the country are expected to attend.



dumping reduced

The scenic Gulf of Mexico is the Nation's biggest sink, draining two-thirds of the country. Before the ocean dumping law (the Marine Protection, Research, and Sanctuaries Act) took effect two years ago this month, the Gulf also may have been the Nation's biggest dump, though no one could be sure how much solid and liquid waste was jettisoned there.

In 1973, the first year of EPA ocean dumping regulation, 1.4 million tons of waste were dumped in the Gulf. In 1974, after Region VI had denied a permit for any dumping by one company and banned the chlorinated hydrocarbon portion of another firm's waste, the total dropped to 950,000 tons.

This year the total is expected to be 140,000 tons, since only two renewal applications have been received, instead of last year's seven. The companies are Ethyl Corp., Baton Rouge, La., and Shell Chemical Co., Deer Park, Texas.

After public hearings, the permits were granted by Deputy Regional Administrator George J. Putnicki. Ethyl was permitted to dump sodium-calcium sludge and Shell biological sludge at specific areas far from shore, but each firm must continue research to find better disposal methods.

uranium survey

Region VI people took part in a recent month-long survey to determine the effects of uranium mining on surface and ground water in New Mexico's Grants-Ambrosia Lake area, about 1,000 square miles containing nearly half the Nation's uranium reserves.

The study was a cooperative effort with the State's Environmental Improvement Agency, and it involved other EPA people from the National Field Investigations Center, Denver, Colo., and the National Environmental Research Center, Las Vegas, Nev.

Results of the survey will be used to set priorities for additional monitoring and environmental control activities in case uranium production in the area increases.



oil spill plans

Out of 93 field inspections of oil storage and handling facilities, Region VII enforcement officers uncovered 63 violations of rules concerning oil spill contingency planning. Notices of violation have been or will be issued in all cases, and penalties already assessed total \$52,750.

Regional Administrator Jerome Svore said compliance "will save oil jobbers, service station operators, and storage facility operators time and expense." He estimated that more than 10,000 facilities in the four-State Region are required, under the Federal Water Pollution Control Act, to prepare and implement specific plans to prevent oil spills and contain them if they occur. Each plan must be certified by a professional engineer and kept available for EPA inspectors. Under the regulations, the plans should have been developed by last July and implemented — including construction of dikes, holding ponds, etc. — by Jan. 10 this year. Failure to comply can result in a fine of up to \$5,000 per day.

\$6.2-million grant

Approval of an EPA grant of \$6,184,140 to Council Bluffs, Iowa, for pumping and treatment facilities will help provide secondary treatment of the City's sewage and improve capacity and efficiency. Total cost of the project is \$11.4 million.



plutonium

Thirty minutes northwest of Denver, Dow Chemical Co. manufactures nuclear weapons components for the Energy Research and Development Administration (formerly the Atomic Energy Commission).

Plutonium is involved in the manufacturing process, and over the

past several years, measurable amounts of this man-made radioactive element have entered the environment through accidental releases at the Rocky Flats plant.

State and EPA officials seem to agree that amounts found so far in soil and water in the vicinity do not constitute dangers to public health, provided precautions are followed.

(Region VIII recently completed an investigation of plutonium levels in bottom sediments in nearby water impoundments used for irrigation and domestic water supply).

However, health officials also agree the long half-life and extreme toxicity of plutonium warrant close scrutiny of any discharge or accumulation in the environment.

Region VIII is currently negotiating with the Colorado Health Dept. and the University of Colorado Medical Center to study, through autopsies, plutonium levels in the organs of people who lived at least four years in the Rocky Flats vicinity. Results will be compared to autopsies performed on bodies of people with no history of possible plutonium exposure.



whither l.a.?

A series of seven informal workshops is under way on how and where Los Angeles County's wastewater will be disposed of for the remainder of this century. The first session was scheduled in Long Beach April 9; the last will be in South Gate June 26. EPA is a joint sponsor with the Los Angeles County Sanitation Districts.

In brief, the issue comes down to whether to spend EPA grants on ocean disposal or land disposal. These grants could amount to as much as \$500 million. But the implications are much broader. The decision could affect the area's land use policies and patterns of development and growth for decades to come.

The public is invited to attend and participate. In addition to Long Beach and South Gate, workshops will be held in Bellflower April 17, Monterey Park May 2, Pomona May 15, La Puente May 29, and Redondo Beach June 17.



water seminar

The Pacific Northwest Section of the American Water Works Association will conduct one of the first technical programs on the Safe Drinking Water Act in Spokane, Wash., April 23-25.

Regional Administrator Clifford V. Smith, Jr., and the regional water supply section will participate in the program, which will acquaint State, local, and public utility officials with the Act's requirements. The AWWA will conduct one-day seminars on the same subject throughout the country later in the year.

paper mill fined

The Oregon Department of Environmental Quality has assessed a \$5,000 fine against the Georgia-Pacific Corp. for violations of the discharge permit of its paper mill at Toledo, Ore. The fine was assessed after monitoring reports showed that limits for suspended solids and oil were exceeded on 22 days during December and January. Georgia-Pacific had been notified in November of similar violations and informed that the civil penalty would be assessed if the conditions persisted.

meetings

Oregonians will have an opportunity to help shape their State's environmental strategies at upcoming public meetings of the Environmental Quality Commission. The commission advises the State on pollution control policies. Meetings are scheduled for Klamath Falls on April 25 and Salem on May 23.



Myron Knudson, 35, formerly Chief, Surveillance Branch, Surveillance and Analysis Division in Region I, has been appointed Director of the Surveillance and Analysis Division for Region VI in Dallas. Mr. Knudson, who had been stationed at Region I's laboratory in Needham, Mass., has been with EPA since its inception and formerly was with the Federal Water Pollution Control Administration.

Charles Corkin II, formerly an EPA hearing judge stationed in Boston, has accepted a position as Assistant Attorney General for the Commonwealth of Massachusetts. He accepted the two-year appointment under the Intergovernmental Personnel Act exchange program.



Don Mausshardt, formerly of Region IX, San Francisco, has joined the Headquarters' staff as chief of implementation for hazardous wastes, Solid Waste Management Programs.

Under EPA's career executive and management development program, he served during the past 17 months as a Presidential Interchange Executive at Bechtel Corporation. On this assignment Mr. Mausshardt set up a department of environmental services and managed a major study on the industrialization of Saudi Arabia. As the principal manager of this project, he worked closely with the Council of Ministers of that country.

Earlier work assignments involved the direction of technical investigations of pollution problems in the Southwest, and the development of pollution control plans for Guam, the Trust Territories of the Pacific, and American Samoa. Mr. Mausshardt holds degrees in Civil Engineering and Sanitary-Hydraulics from Oregon State University.

PEOPLE



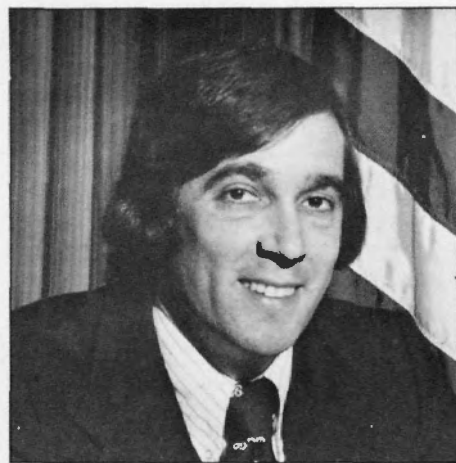
Tamzen C. Krueger, a former chairman of the Seattle Federal Executive Board's Equal Opportunity Committee, has been appointed personnel officer for Region X.

Clifford V. Smith, EPA's Northwest Regional Administrator, said Ms. Krueger will be responsible for recruitment and placement, training and development, employee relations and position management for more than 280 persons employed by EPA's Northwest regional headquarters and environmental laboratory in Seattle, and at EPA operations offices within Washington, Oregon, Idaho, and Alaska.

Ms. Krueger's personnel experience includes work from 1969 to 1974 with the 13th Naval District, the U.S. Department of Housing and Urban Development, the U.S. Civil Service Commission and the Federal Aviation Administration, all in Seattle.

Last year, Ms. Krueger moved to Billings, Montana, to assume duties as the Affirmative Action Program Coordinator at Eastern Montana College. She was responsible for equal opportunity for faculty, staff and students involving employment, employment practices, admissions, housing, financial assistance and discrimination complaints.

A native of Prince Rupert, British Columbia, Ms. Krueger is a 1962 graduate of Holy Names Academy in Seattle. She holds bachelor's and master's degrees from the University of Washington where her graduate work was in the fields of political science and public administration.



George Marienthal resigned as director of the Office of Regional Liaison Feb. 14, to become Deputy Assistant Secretary of Defense for Environmental Quality.

Mr. Marienthal, with EPA since 1971, had headed the Office of Federal Activities and had served in both the New York and San Francisco regional offices as acting deputy regional administrator.

The Office of Regional Liaison is now part of the new Office of Regional and Intergovernmental Operations.

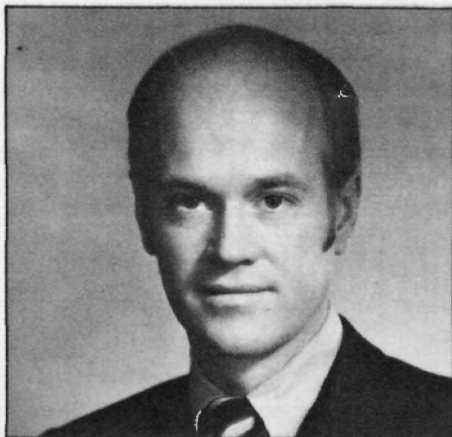


Robert W. Zeller is the new director of the Municipal Permits and Operations Division, Office of Water Program Operations. He succeeds Kenneth L. Johnson, recently shifted to Boston as deputy administrator of Region I.

Dr. Zeller, 38, had been director of surveillance and analysis for Region V, Chicago, and he has worked for nearly 13 years with EPA and its predecessor agencies in water pollution control.

A native of Rochester, Minn., and graduate of the University of Minnesota with a B.S. and M.S. in civil engineering, he earned his Ph.D. in the same field at the University of Wisconsin.

Dr. Zeller, his wife, the former Donna Weber of Rochester; and their three children are living in Potomac, Md.



Robert C. Thompson has been appointed General Counsel for Region I, succeeding Thomas B. Bracken. Mr. Thompson had served as Assistant General Counsel since 1973. Before joining EPA he was an associate of the Boston law firm of Choate, Hall and Stewart. A magna cum laude graduate from Harvard College, with a B.A. degree in political science, Mr. Thompson also received his law degree from Harvard.

Paul Keough, Director of Public Affairs for Region I, has received the Massachusetts Conservation Council's annual award for "most valuable service to conservation through the field of public relations." The Council is an umbrella institution with 27 conservation-oriented member organizations.

CIVIL SERVICE DIRECTOR COMMENDS EPA POSITION

The executive director of the U.S. Civil Service Commission has commended EPA's leadership for its position on personnel management as expressed in a recent EPA Journal article.

Bernard Rosen said in a letter to Alvin L. Alm, Assistant Administrator for Planning and Management, that he had received a copy of the February issue of the magazine containing an interview with Mr. Alm titled "Does the Merit System Have a Future at EPA?"

"I think the informal approach is a very effective means of communicating top management's views on topics of interest to EPA employees," Mr. Rosen said. "I especially noted your replies to questions concerning personnel management and your indication of support for the merit system."

"EPA has come a long way in its effort to provide form and substance to its personnel management program. This turnaround could only have come about through the support and insistence of top management."



**ROSALIE MICHELSON,
GRANTS SPECIALIST,
REGION VII, KANSAS CITY, MO.**

My job entails the administrative processing and coordination of grants projects and I provide advice on the program to grantees, State agencies, engineers, and others.

Because of the complexity of the program my work is varied. It calls for a lot of decisions, attendance at many meetings, and some speech-making. I also like to think that one of my functions is to "humanize" the rather confusing bureaucratic network for our sometimes confused grant recipients.



**SUSAN WYATT,
CIVIL ENGINEER
OFFICE OF AIR QUALITY
AND STANDARDS,
RESEARCH TRIANGLE PARK, N.C.**

Our group gathers the background information needed to set emission standards, the limits EPA sets on point-source air pollution. Right now we are working on standards for vinyl chloride and are trying to get the background document completed on schedule.

I am primarily responsible for writing the environmental impact statement and to some degree coordinating several people who are working on different aspects of the vinyl chloride problem: health effects, engineering methods for control, and costs. All this has to be put together in one reliable and authoritative report before EPA can decide what the standards should be.



**EVELYN THORNTON,
CHIEF,
POLICY AND
PROCEDURES BRANCH
GRANTS
ADMINISTRATION DIVISION**

In my current position, I have substantial responsibility in a rather complicated grants area. My job is very interesting and challenging, and I feel it is very important to the Agency as a whole. There is still much more to be done, for there are always new statutory requirements, executive orders, OMB directives, and so on, that affect grants policy and procedures.

My EPA work experience convinces me there is more acceptance now of women in executive positions, but prejudice is still with us. Generally, a woman must work doubly hard, compared to her male counterpart, in order to advance. In staff meetings and conferences, for instance, the higher the level of the people involved, the fewer the women. I think women constitute a massive resource that is still not fully utilized.



*WHAT DO YOU DO IN YOUR SPARE TIME
TO HELP THE ENVIRONMENTAL CAUSE?*



Bettie A. Botts



Betty McDonald



Elaine Cole



Carol Lantz



Dwain Winters



Jerry A. Moore



Emma Abbot

Bettie A. Botts, Communication Specialist, Facilities and Support Services: "The ecology of the world today requires constant consideration in order to avoid waste and deterioration. In my day-to-day life I try to avoid this waste by keeping my thermostat at 69 degrees and washing clothes in cold water to help conserve energy. I use a bio-degradable detergent when washing my clothes to help eliminate pollution of our streams."

Betty McDonald, Secretary, Fiscal Policies and Procedures: "My contribution to helping the environment is very simple: daily do's and don'ts. I ride in a car pool to save time and money as well as conserve fuel. I don't use my gas stove as often as before, because the price of food has gone up and I can't afford big meals any more. My thermostat is always five or six degrees below what it used to be. If your gas bill doubled you would turn your heat down too!

"I also save all my newspapers for my nephew, whose Boy Scout troop collects them for recycling.

"At first I didn't think I was contributing much to cleaning up the environment, but with inflation and the fuel shortage, maybe we are all doing more than we realize."

Elaine Cole, Secretary, Cincinnati, Ohio: "I don't do anything very structured, since I don't have much time to be involved in community affairs. During the summer I coach a girls' baseball team, and not only do I enjoy that, but I believe it is a useful contribution to young people.

"EPA programs receive a good bit of criticism in Cincinnati, so I spend time explaining our programs and defending EPA's good name to family, friends, and neighbors."

Carol Lantz, Secretary, Corvallis, Oregon: "Oregon has a land use plan under which each county has the responsibility of helping to develop a comprehensive land use plan for its own area. My husband and I worked as members of a citizens advisory committee preparing a plan for our county. We live in a very beautiful rural area and we hope the plan will control growth and prevent everything from being spoiled. We recycle all our cans and bottles and try to practice conservation because we are very interested in it."

Dwain Winters, Special Assistant, Office of the Administrator: "Environmental considerations influence my life style. I consciously chose to live within walking distance of my work, so I live about three blocks from Waterside Mall. In general, I am a low consumer of goods.

"I am a member of the Audubon Society, the American Museum of Natural History, and the Smithsonian Associates."

Jerry A. Moore, Wildlife Biologist, Office of Pesticide Programs: "Environmental improvement is my hobby as well as my work. This past year I received the Virginia Wildlife Federation's educator of the year award. As the Virginia Jaycees' program manager for energy and environment, I work and guide 14 environmental programming areas and was named the outstanding state chairman for environment by the U.S. Jaycees last year.

"As president of the Northern Virginia chapter of the Wildlife Society I edit and publish a nationwide student newsletter. In lecturing on fish and wildlife management for the past five years at Northern Virginia Community College I have developed a text for a book I am writing on the subject. My Ph.D program at American University in environmental systems management also indicates my willingness to broaden my existing environmental awareness."

Emma Abbot, environmental protection specialist, Office of Enforcement: "I use phosphate-free detergents because they do not stimulate undesirable growth of algae in our waterways. I'm a member of a car pool. I've done a lot of planting of flowers and trees in my yard. I had it landscaped in an effort to provide a little beauty for the neighborhood.

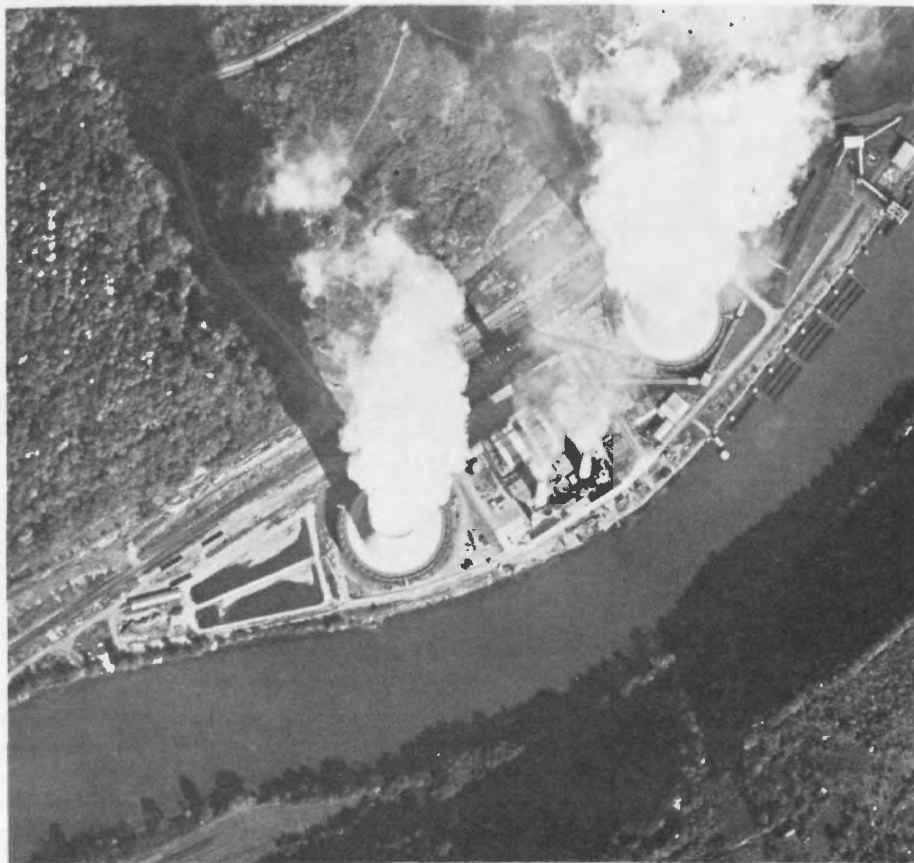
"I save newspapers for the county's recycling program, I avoid using spray cans because of the danger of reducing the ozone in the upper atmosphere and I've managed to plant a live Christmas tree yearly so far.

"I find that if you're an employee of EPA you can be an emissary of environmental good will. When people find out you work for EPA they are curious because our work touches their lives. Almost invariably they ask how the environmental movement is doing and it is a great chance to tell them what we are doing, how vital it is for our survival, and how they, too, can pitch in."

WATCHERS IN THE SKY DETECT POLLUTION

EPA uses cameras and other instruments — both in high-flying aircraft and in earth satellites — to detect and document air and water pollution and other environmental damage. This work is done both for research and as technical backup for the Agency's program operations and enforcement efforts. Photo interpretation facilities are located at Las Vegas, Nev., and Warrenton, Va., and are available to all Agency units and Regional Offices. The following aerial photographs are typical of the kind of reconnaissance that can be provided for routine or emergency monitoring anywhere in the country on short notice. When EPA planes and pilots based at Las Vegas are busy, contractors' aircraft and pilots are used.

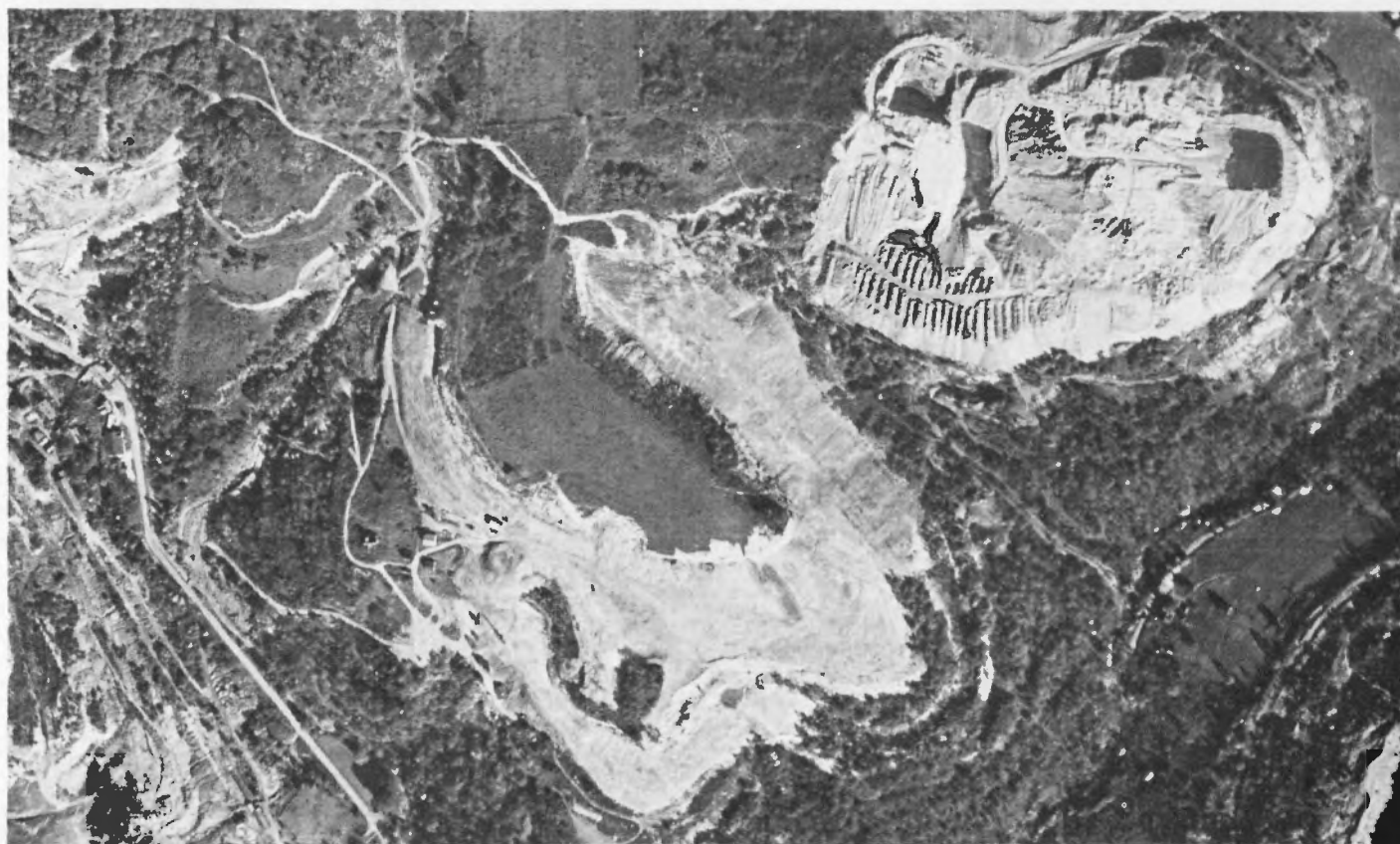
Smoke plumes from two tall electric utility stacks are recorded at Pt. Marion, Pa., the West Virginia border.



High-altitude view of Clairton, Pa., shows air pollution from coke plants blotting out portions of the Monongahela River.



All's well for the moment at this cluster of oil refineries and tank farms beside the Atchafalaya River near Baton Rouge, La.



Strip mining for coal scars these Appalachian hills near Madsville, W.Va.

EPA AIDS OIL SPILL EFFORTS

BY LESLYE ARSHT
EPA PRESS OFFICE



Oil tanker burns at refinery dock at Marcus Hook, Pa., after collision with another ship Jan. 31. Millions of gallons of crude oil spilled into Delaware Bay, and 11 crewmen were killed. White area is fire-quenching foam.

Last January 30, a total of 34,000 barrels of crude oil seeped from the ruptured hull of an oil barge which collided with a freighter in the Mississippi River below New Orleans.

One day after this collision, a tanker unloading 350,000 barrels of crude oil at a Delaware River refinery was rammed by a ship loaded with chemicals. The collision set off a dozen explosions as flames shot 400 feet into the air.

Six weeks after this double spill occurred, clean-up operations were still continuing. And before the Mississippi spill had been cleaned up, another collision occurred 300 miles away on the same river. More than one million barrels of oil oozed into the waterway after two of four barges being pushed by a towboat struck a bridge pier.

In these accidents a total of 12 crewmen were killed, 16 were missing and presumed dead and 22 others were injured. Vast quantities of waterways and shoreline were smeared with oil.

Soon after each of these spills, planes under contract to EPA and directed by the EPA remote sensing team at Las Vegas, were sent to take aerial photographs.

After a rapid processing and analysis by EPA experts in Las Vegas, the aerial photographs were distributed to on-the-scene EPA Regional and U.S. Coast Guard officials. They, in turn, used the data to assess the impact of the spills, plan and direct clean-up operations and evaluate the effectiveness of the clean-up. The aerial surveillance planes were soon back in the air providing continuous photographic support to the clean-up exercise.

The U.S. Coast Guard provides an "on-scene" commander if the spill occurs on coastal waters; an EPA official serves as his principal advisor with final responsibility for ecological matters.

If the spill occurs on inland waters the EPA official serves as the "on-scene" commander, with the assistance of EPA's Oil and Special Materials Control Division in Washington, headed by Kenneth Biglane.

To assist officials at the scene, the Remote Sensing Branch of the Monitoring Applications Laboratory located at the National Environmental Research Center in Las Vegas, Nevada, processes color and black and white and infrared photographs of the spills.

Examination of these photos can help determine the size and location of the oil spill at frequent intervals around the clock.

The pictures also indicate the thickness, or amount of the oil so the floating layer can be categorized as a "slick" "sheen" or "rainbow." A "slick" appears as a heavy, dark, sinuous mass while a "sheen" is a light surface coating and a "rainbow" is a very light film.

The photographs are printed using high-speed automated machines and rigid quality control is emphasized. Film data are compiled in an elaborate photo-interpretation laboratory and a computer center.

The data from the analysis is then returned to the field to be passed on to the clean-up coordinators. This process is repeated continuously throughout the emergency.

Every spill is different and the end of the emergency or the decision to deactivate the surveillance team is determined by the EPA and Coast Guard officials at the scene. The special teams are kept on stand-by until the clean-up operation is completed and all danger has passed. A ship could spring a new leak during the cleanup operation, in which case the skills of the special teams would again be required.

This expertise in controlling oil spills is a significant breakthrough for protection of the Nation's waterways. Prior to 1969 oil spill control technology was not widely known. Since then EPA has been conducting bi-annual oil spill control training sessions around the country and in Puerto Rico.

EPA officials state that since 1969 there have been fewer spills from stationary sources which they attribute, in part, to EPA's spill prevention program.

This program, stipulated in the Federal Water Pollution Control Act of 1972, requires people who store or process oil to have spill prevention control and countermeasure plans.

Failure to do so can result in a civil penalty up to \$5,000 per day. Under this program 290 notices of violation have been issued by EPA; civil penalties have been assessed on 244 facilities as a result of those violations.

The best prevention plans will not prevent all spills. But these plans in conjunction with the expert surveillance and clean-up operations carried out by EPA and the Coast Guard can diminish the environmental harm resulting from the spills which do occur.

news briefs

TASK FORCE TO CHECK RESERVE MINING CLEANUP

Administrator Russell E. Train has directed that an interagency task force be formed to monitor the cleanup work by the Reserve Mining Company ordered by the Eighth Circuit Court of Appeals. Train said that the task force will be composed of experts in air and water pollution, geology, economics, law and other fields. He explained that this group will also cooperate with the State of Minnesota in determining the progress being made on arranging for the disposal of Reserve Mining's taconite wastes on a land site rather than into Lake Superior as at present.

FEDERAL DRINKING WATER STANDARDS TO BE ADOPTED SOON

National health standards for public water supplies are expected to be adopted by EPA in June, following public hearings this month in Boston, Chicago, San Francisco, and Washington and consideration of public comments received through May 16. The proposals would set maximum levels for 10 inorganic chemicals, 9 pesticides, turbidity (murkiness), bacterial contamination, and residual chlorine. They would also specify methods and frequency of water testing by State and local agencies and require water supply authorities to inform the public of any non-compliance with the standards.

LOUISIANA'S DDT REQUEST REJECTED

The State of Louisiana's request to use DDT on its cotton crop this spring has been turned down by Administrator Russell E. Train. The amount proposed -- 2.25 million pounds -- is about one-fifth of the total quantity of DDT used in the United States before the pesticide was banned for most uses by EPA, Mr. Train said, and "environmental and public health risks...outweigh the potential benefits." Other methods are available to control the tobacco budworm on cotton plants, he said.

ADMINISTRATOR TESTIFIES ON AUTO DECISION

Administrator Train told the Senate Public Works Committee recently that his decision to suspend the 1977 automobile emission standards for one year "should not be interpreted to mean that the national effort to control automotive-related pollutants should be deemphasized. The suspension decision was based solely on the need to protect public health from the effects of an unforeseen by-product of the technology used by industry to meet the emissions standards, sulfuric acid from catalysts."



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TRAIN NAMED "CONSERVATIONIST OF THE YEAR"

Administrator Russell E. Train received the "Conservationist of the Year" award from the National Wildlife Federation at the organization's 39th annual meeting in Pittsburgh

March 15. The award was presented to Mr. Train for his "determined effort to protect the Nation's environment in the face of strong opposition."

FIREFLIES LIGHT UP SOIL SAMPLES FOR SCIENTISTS

Tail lights from the firefly are illuminating scientific efforts to measure the amounts of living material in soil samples and thus providing important evidence of pollutant effects on the soil.

To increase understanding of soil ecosystem reactions to pollutants, scientists at the National Ecological Research Laboratory in Corvallis,

Oregon, are conducting a comprehensive study to measure the effects of ozone, sulfur dioxide, acid mist, and heavy metals on certain organisms in soil test plots.

And firefly tails furnish a critical enzyme used in the analysis of the soil samples.

Pollutant effects on soil ecosystems have received little attention,

according to Dr. Allan Lefohn, Chief of the laboratory's Animal Ecology Branch. But he notes, scientists now suspect that continued exposure to pollutants interferes with the life-supporting processes that take place in the soil. To determine just how the ecosystem is changed, current research is evaluating the biomass (dry weight of living matter) of soil samples after exposure to various pollutants.

The researchers bring soil plots from a Douglas fir forest to the laboratories and expose them to different concentrations of pollutants. Soil samples are then analyzed to determine carbon dioxide evolution, oxygen uptake, and populations of arthropods, nematodes, bacteria, fungi, algae, and protozoa.

Scientists identify the species and measure both the total biomass and the amounts of individual living organisms. To do this, they extract from the soil sample, ATP, a chemical substance found only in living cells which is an important indicator of living material. The extracted ATP is clarified into a liquid and mixed with the enzyme which is responsible for the firefly's light.

Once the ATP is combined with the extract of firefly tail, the mixture is placed in a photometer to measure the intensity of the emitted light. It is this light reading that indicates the amount of living matter in each sample. Thus, firefly lights give scientists a reliable indicator of the effects of pollutants on a critical segment of the environment.