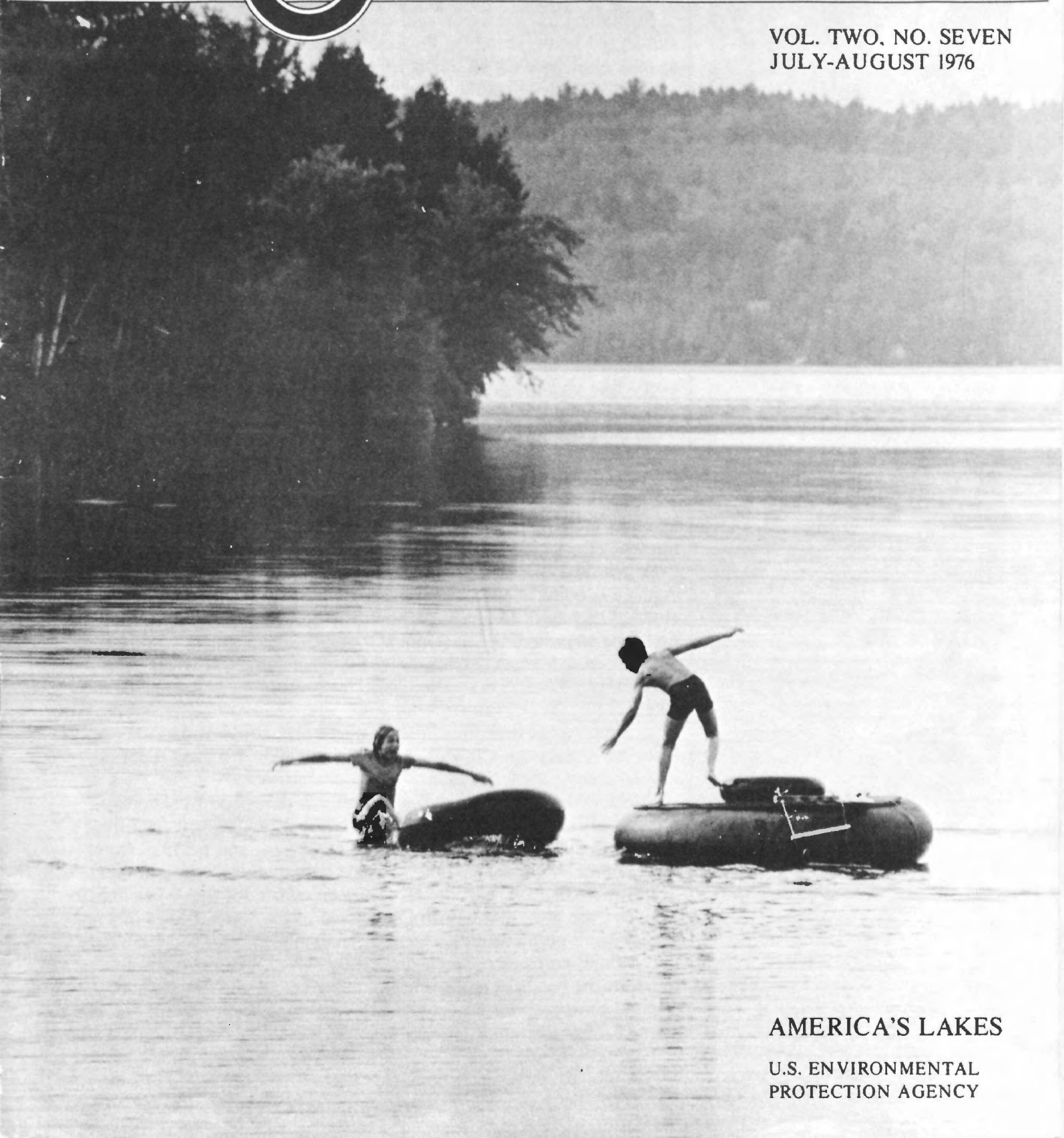


EPA JOURNAL

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AMERICA'S LAKES

U.S. ENVIRONMENTAL
PROTECTION AGENCY

LAKES



Floating on your back in a country lake you can watch clouds drift across the blue sky and hear the faint laughter and squeals of children pushing each other off a distant wooden platform.

Swimming toward a tree- and rock-lined shore, you can see a stilt-legged heron searching for food before he suddenly flails his wings to look elsewhere for an unwary frog.

Painted turtles basking in the sun on a fallen tree at the water's edge silently slip into the lake as a swimmer approaches.

A sudden cool tingle lets you know that you're crossing through a current from an underground spring feeding the lake.

Blue darning needles zig-zag back and forth and swallows skim low. From shore a small boy skips a rock along the lake surface in a series of diminishing dimples.

In the distance a fish leaps in one bright flash and plummets back with a splash into the lake.

This diversity of sights, sounds and feelings is one of the great attractions of swimming in a natural setting—an appeal which no millionaire's artificial pool could duplicate.

Each lake, of course, has a setting and personality of its own. And every lake changes greatly not only from season to season but between dawn and dusk.

Helping to preserve the enchantment of lakes is one of EPA's functions, although Congress may not have phrased it exactly so.

On Lake Shagawa in northern Minnesota a distant splash heard at sunrise announces the launching of a canoe from a faraway shore by an eager fisherman. The eerie cry at night echoing across this lake is the wail of a loon.

A year ago, EPA Journal carried an article about the work the Agency is doing at Lake Shagawa to help bring this lovely island-studded lake back to life. EPA scientists have reported that for the first time anywhere in this country they are showing how to restore a lake suffering from excessive algae, the plant cancer of water pollution, by removing phosphorus, a fertilizer, from wastewater flowing to the lake.

Although expensive, this process might help some of the other aging lakes EPA has been studying in a massive national survey reported on in this issue of the Journal.

Some of the satisfaction lakes can offer is described by Thoreau, who recalls in *Walden*, spending "the hours of midnight fishing from a boat by moonlight, serenaded by owls and foxes, and hearing, from time to time, the creaking note of some unknown bird close at hand."

In his chapter on *The Ponds*, Thoreau concludes that lakes like *Walden* "are great crystals on the surface of the earth, Lakes of Light. If they were permanently congealed, and small enough to be clutched, they would, perchance, be carried off by slaves, like precious stones, to adorn the heads of emperors; but being liquid, and ample, and secured to us and our successors forever, we disregard them, and run after" foreign diamonds.

EPA JOURNAL



U.S.
ENVIRONMENTAL
PROTECTION
AGENCY

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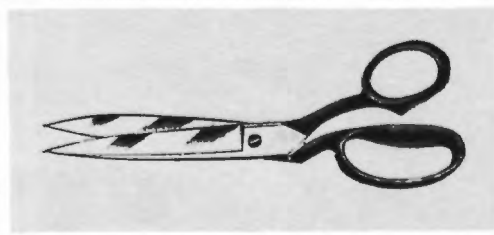
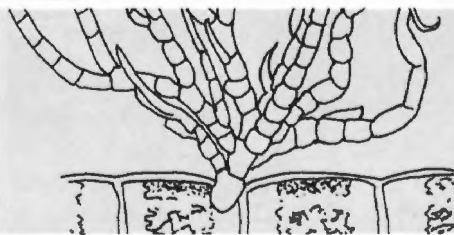
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Youngsters frolicking on Shagawa Lake in northern Minnesota.

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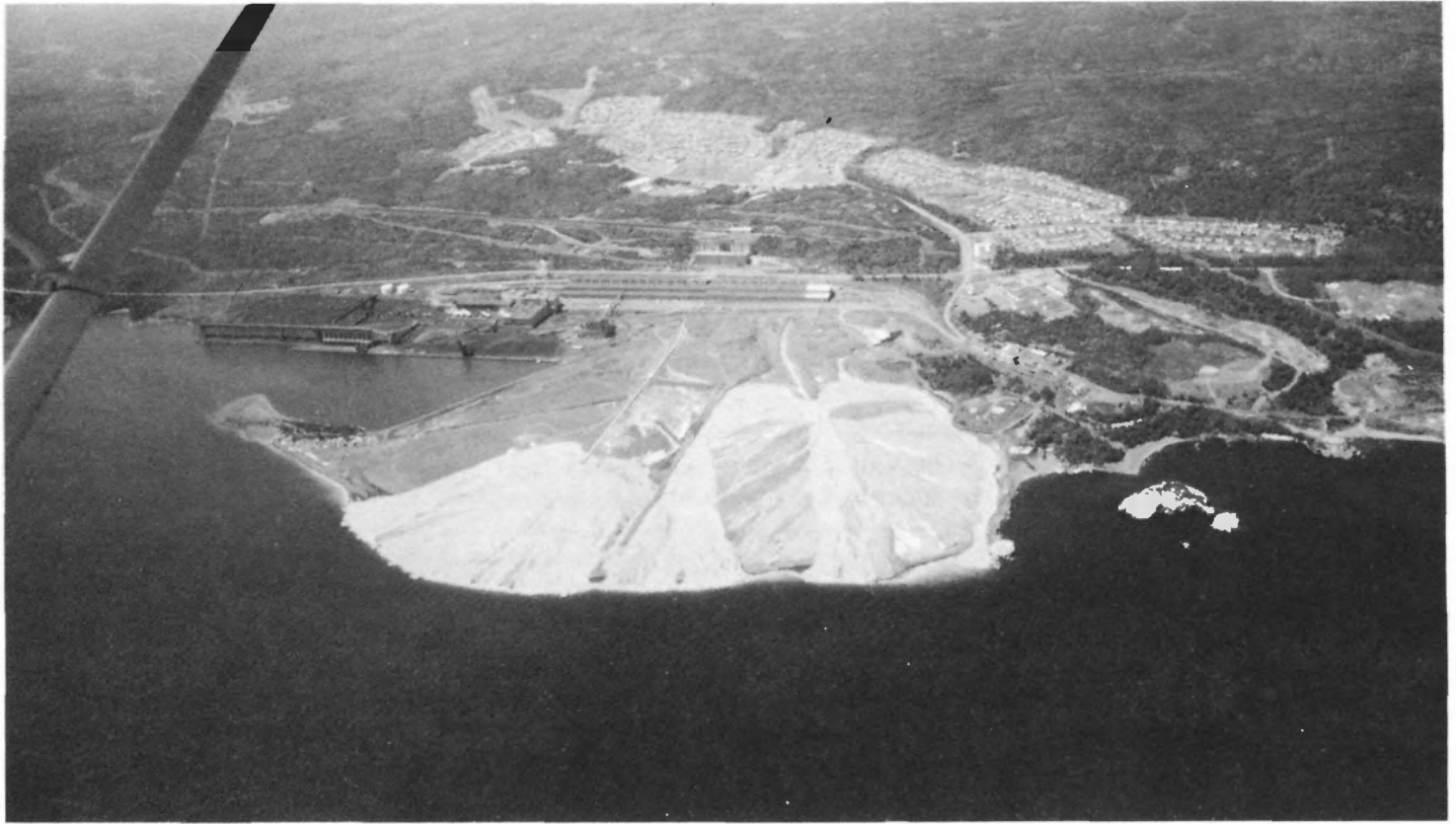
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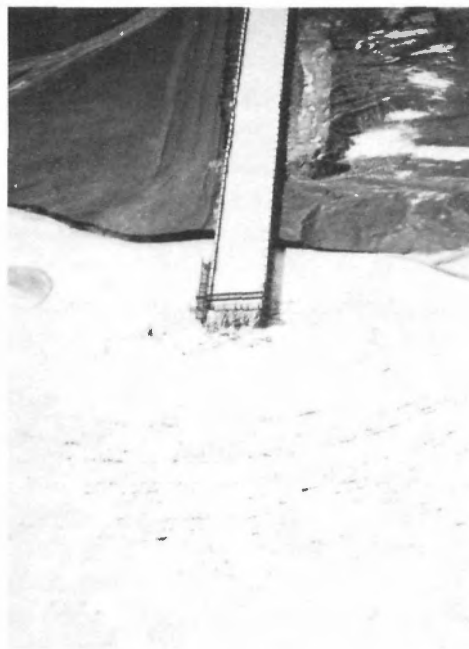
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Overall aerial view of discharge of taconite tailings by Reserve Mining Company into Lake Superior. This photo and the others in this series were taken in 1973, but the discharge is continuing.



South conveyor chute pouring wastes from Reserve Mining.



Close-up of discharge of mine tailings.



Vapors rise from the discharge site in Lake Superior.

THE PENALTY

Pending before the Eighth U.S. Court of Appeals is a landmark environmental case which is regarded as an epic struggle between environmental and economic values.

It is an appeal by the Reserve Mining Company and its parent firms from a U.S. District Court decision which assessed them with fines and penalties totaling more than \$1 million for polluting Lake Superior with pulverized rock wastes in violation of State permits.

The decision in what is already the longest and most expensive environmental trial ever prosecuted by the Federal Government was rendered by Edward J. Devitt, Chief Judge for the U.S. District Court in Minnesota. The lawsuit by the Justice Department against Reserve began in 1972 at the request of former EPA Administrator William D. Ruckelshaus. Plaintiffs in addition to EPA included the States of Minnesota, Wisconsin, and Michigan and several environmental groups.

The case became significant from the standpoint of public health when EPA reported in June 1973, that high concentrations of asbestos fibers, which have been linked to some forms of cancer, had been found in western Lake Superior where the taconite wastes from Reserve are discharged. The city of Duluth and a number of smaller communities draw their drinking water from this area of the lake.

In 1974, Miles W. Lord, the original U.S. District Court judge in this case, ordered the discharge into the lake halted after he found that the daily disposal by Reserve of up to 67,000 tons of taconite tailings, or fine rock waste, from its iron ore processing plant, was a health threat.

Judge Lord's ruling was overturned by a three-judge panel of the Eighth U.S. Circuit Court of Appeals which found that pollution from Reserve created some health risk but that since the danger was not imminent, closure of Reserve's operations would not be justified. The Appeals Court ordered Reserve to take immediate steps to curb its fiber discharges into the air and gave the company a "reasonable time" for switching to an on-land system for

disposal of its tailings.

Efforts by the State of Minnesota to persuade the U.S. Supreme Court to reinstate Judge Lord's order to halt the tailings discharge into the lake were unsuccessful.

An interagency task force was named by Administrator Russell E. Train to work with Minnesota in monitoring the progress made in complying with the court order for changing to a land disposal site.

LAND DISPOSAL

Reserve indicated that it would consider depositing its taconite wastes on a land site three miles from the lake known as Milepost 7. However, a Minnesota state hearing examiner rejected the Milepost 7 site and recommended that the taconite wastes be deposited at another site known as Milepost 20 in the Superior National Forest.

The recommendation got a mixed reception from State officials who were still reviewing the matter when EPA Journal went to press.

Before the State examiner's recommendation, Reserve and its parent companies, Armco Steel Corp. and Republic Steel Corp., said that any site other than the Milepost 7 would not be economically feasible and would require closing of its mining operation.

Reserve, with more than 3,000 employees at its huge lakeside plant at Silver Bay, and an annual payroll of about \$55 million, is the largest employer in northern Minnesota.

The Federal interagency task force, headed by Dr. Robert Zeller of EPA, is considering what position it should take on the land disposal site question.

Last January, the Eighth Circuit Court of Appeals had removed Judge Lord from the case after finding that he was biased against Reserve.

After Judge Lord's removal, Judge Devitt took over the case. Judge Devitt found that Reserve and its parent companies violated State discharge permits and assessed penalties totaling \$837,500.

The judge also found that Reserve had violated court rules and orders by not providing information requested and

fining Reserve \$200,000 for this offense.

In addition, the judge decided that the city of Duluth should be reimbursed \$22,920 for funds spent to filter drinking water for its residents.

Discussing the penalty for violation of the State discharge permits, Judge Devitt noted that "the court is aware that, as a result of these discharges, defendants are liable for the costs, expected to be approximately six million dollars, of supplying clean water to the affected communities."

"In addition, the injunction resulting from this litigation will compel Reserve to either cease operations or expend substantial sums, estimated at over three hundred million dollars, to develop an alternative means of disposing of production wastes."

HELPED ECONOMY

The judge also commented that "it is not disputed that Reserve, by supplying needed jobs and services, has revitalized the economy of northeastern Minnesota and, by adding to the supply of domestically produced raw iron, has contributed to the economy of the entire country. But similar contributions have been made by other corporations while complying with applicable pollution control laws and regulations."

The court also noted that "it should be appreciated that Reserve did not set out to spoil the air and water or cause inconvenience to or apprehension among residents of the area."

"It launched its business venture with the encouragement, even the importuning of all segments of government and society. But in this business venture, the record shows it returned very substantial profits to its corporate owner-parents, Republic and Armco. . . . It is reasonable to conclude that some of those profits are attributed to operations made less costly by discharging tailings in Lake Superior rather than on land as is done by its competitors. . . . And . . . the record shows that Reserve, particularly through its Vice President Haley, frustrated the court rules and orders and thus prolonged the status quo.

Continued on page 4

HELP FOR OUR

Continued from page 3

"While the discharge of 67,000 tons of tailings into Lake Superior is shocking in these days of improved environmental awareness, those discharges were expressly authorized in 1947 by the State of Minnesota. Hindsight tells us that was a mistake, but the gravity of it has not yet been determined. The Court of Appeals held that Reserve's discharges have not yet been found to be harmful to the public health and that the danger is potential, not imminent."

"BAD FAITH"

Discussing what it called "bad faith conduct" by Reserve, the court said that "one of the primary issues in this lawsuit was whether Reserve would be forced out of business if ordered to modify its discharge methods. It was plaintiffs' position from the beginning that Reserve had the ability to implement an on-land disposal system while Reserve maintained that this was economically and technologically impossible. The trial court determined that Reserve's position was taken in bad faith and made extensive findings concerning Reserve's misconduct during this phase of the lawsuit . . ." summarized as follows:

"1. Reserve Mining Company represented to this court that its underwater disposal system was a feasible alternative to the present mode of discharge when in fact the plan had been rejected as technically and economically infeasible.

"2. Reserve Mining Company represented to this court that it was technologically and economically infeasible for them to dispose of their tailings on land, when in fact their own documents indicated that such was not the case.

"3. Reserve Mining Company withheld existing documents as to their plans and concepts for on-land disposal system in violation of plaintiffs' discovery requests and this court's order."

Judge Devitt said that "the trial court found that these actions were taken for the purpose of delaying final resolution of the dispute and resulted in substantial delay, waste of time and unnecessary expense to plaintiffs." ■

Many of the Nation's lakes found to be deteriorating can be helped, a massive national EPA study is finding.

The "eutrophication," or aging, can be halted in many cases, or even reversed, by controlling the phosphorus that drains into a lake from sewage treatment plants, agricultural lands and urban areas.

Phosphorus and nitrogen are two of the main nutrients that nourish algae and other water plants which are the main cause of eutrophication. However, the discharge of nitrogen is often more difficult to control.

These findings are included in EPA's massive study of 812 selected American lakes which found that about three-fourths of them are deteriorating from too much phosphorus or too much nitrogen, or both.

The survey covered only large lakes and reservoirs, including many suspected of accelerated aging and many that receive polluted water from cities and farms. Thousands of other lakes, including most of those in wilderness areas, were not surveyed.

In early stages of eutrophication, a lake may provide good fishing, swimming, and boating. But as algae and aquatic weeds proliferate the desirable fish disappear and recreational attractions decline; sediments and organic debris accumulate, and the lake becomes a swamp. This natural progression normally takes thousands of years. Man's activities can greatly speed up the process.

The survey found wide variations in nutrient levels. As a result of these differences some lakes are aging faster than others. And the amounts of nutrients washing into the lakes from their watersheds also vary widely.

Lake sampling in the four-year, \$12-million National Eutrophication Survey ended last fall, when airborne teams from the Environmental Monitoring and Support Laboratory, Las Vegas, Nev., completed their visits to 152 lakes in 11 Rocky Mountain and Pacific Coast States. The testing of tributary streams and sewage plant discharges to the lakes was completed in the winter.

Individual reports are made on each lake and given to State officials as soon as possible, according to Jack H. Gakstatter of the Environmental Research Laboratory at Corvallis, Ore.

Reports on 547 lakes had been issued as of early June.

Dr. Gakstatter and Victor W. Lambou of EPA's laboratory in Las Vegas, Nev., are directing the survey.

All reports on western lakes sampled last year and the major over-all findings of the nationwide survey are expected to be completed by the end of this year, Dr. Gakstatter said. It will probably take another year or more to complete peripheral studies of specialized aspects of lake eutrophication, based on the mountain of information accumulated.

Patterns Revealed—Preliminary summary studies of the 485 lakes sampled in 1972 and 1973 reveal patterns that are likely to prevail nationwide in the final reports:

- Nearly three-fourths of the eastern lakes are "eutrophic." The word's basic meaning is "well-nourished." Applied to a water body it means rich in plant nutrients and subject to seasonal lack of oxygen. Each lake was rated according to three degrees of eutrophication, using criteria generally accepted by lake scientists.

- Only a handful of the eastern lakes are rated "oligotrophic"—having few or scant nutrients and an abundance of dissolved oxygen.

Rangeley Lake in Maine, Winnepesaukee in New Hampshire, and Canandaigua in New York are the only oligotrophic lakes among a group of 133 analysed for phosphorus loads and receiving effluents from municipal wastewater plants.

Twenty of these lakes have an intermediate rating of "mesotrophic," and 110 are eutrophic.

In 23 other lakes that have no known point sources of pollution the ratings are better: 11 eutrophic, six mesotrophic, and six oligotrophic.

- Phosphorus is the "limiting nutrient" for 62 percent of the eastern lakes; nitrogen is limiting for 38 percent. The limiting nutrient is the one needed by the

AGING LAKES



Lake Tahoe, one of the lakes included in the National Eutrophication Survey, is plagued in some sections by floating algae. Lake Tahoe had long been noted for its remarkably pure waters.

EPA helicopter flies over Lake Mead, Nev., after alighting on the lake to take water samples for the National Eutrophication Survey.

algae which is in shortest supply in any particular lake. Plant growth will stop when the limiting nutrient supply stops; it is usually not necessary to control both chemicals to control plant growth.

It is useful to know the limiting nutrient before taking action to improve the quality of a particular lake. Treated sewage wastewater is usually high in phosphorus that can spur the growth of algae in phosphorus-limited lakes. Removal of phosphorus at the treatment plant is therefore likely to be the most effective method of halting eutrophication in such lakes.

- If phosphorus from municipal wastes and other point sources could be reduced by 80 percent, about one-sixth of

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the eutrophic lakes could be upgraded to mesotrophic (moderate algal growth potential) or oligotrophic (negligible algal growth potential).

Watersheds Studied—To augment the lake sampling and provide guidance for lake improvement, the survey also studied the lakes' tributary streams and the types of land use in their watersheds.

About 5,000 National Guardsmen cooperated in the stream study, taking monthly samples for analysis in EPA's Corvallis laboratory. Operators of sewage treatment plants in the watersheds provided the scientists with periodic samples of discharges from their plants. Aerial photography and large-scale maps from many State and Federal agencies were used to determine the portion of watersheds devoted to such uses as forests, agriculture, and urban development.

Each watershed's predominant soil

type, geological classification, average slope, total stream flow rate, and estimated density of farm animals, were also tabulated, as were measures of the total amounts of nutrients washed from the land and nutrient levels in tributary streams.

All of these factors were correlated to see how they affected each other. The results have been analyzed for nearly 500 drainage areas in 24 States (most of the States east of the Mississippi, plus Minnesota) where lakes and streams were sampled in the first two years of the survey. Several significant relations have emerged:

- Nutrient levels are highest in streams that drain farm land and lowest in streams that drain forests. Streams from urban areas have nutrient readings between these levels.

- When total amounts of nutrients washing from the land are measured, urban areas rival agricultural areas.

Specific and Practical—The Survey's reports on individual lakes are factual and specific. Here are summaries from two typical examples:

Wonder Lake, in McHenry County, Illinois, about 25 miles northwest of Chicago, is "highly eutrophic." It ranked 30th in over-all quality among the 31 lakes surveyed in that State. Algal assays showed that phosphorus was the limiting nutrient in the spring months, nitrogen in late summer and fall. (Algae need both to grow, but growth can be most easily prevented by reducing the amount of the nutrient that is in relatively short supply.) Known point sources of wastewater are: the Alden and Woodstock sewage treatment plants, and the Woodstock Die Casting Co.

Mountain Island Lake in Gaston and Mecklenburg Counties, N.C., near Charlotte, is mesotrophic, "moderately enriched." It ranks third in over-all quality among the 16 lakes sampled in that State. Since this lake is formed by a dam on the Catawba River and has a flow-through time of only 12 days, it resembles a slow-moving river. There are no point sources of pollution directly on the lake, but it receives nutrients from Lake Norman, a larger manmade lake, and upstream areas. (Point sources contribute 9 percent of Lake Norman's phosphorus, and any reduction there would benefit Mountain Island Lake.) Large amounts of phosphorus were measured in McDowell Creek which drains into the lake from the urban area of Huntersville.

The individual lake reports also include physical and chemical measurements from all sampling stations for three periods during the sampling year, kinds and numbers of algae found in the water, chlorophyll and limiting nutrient data, tributary sampling data, nutrient loading rates and sources, and comparative statistics for all other sampled lakes in the State.

These factual reports permit State and local authorities to decide what, if anything, should be done to safeguard and improve a lake's quality. They also advise these officials how to obtain the most benefit from clean-up efforts. ■

CITY LAKES AIDED

EPA grants totaling \$2.1 million are helping to restore water quality in 11 municipally owned lakes in six States.

All are in or near urban areas and are degraded by pollution from urban and stormwater runoff, chemicals leached from septic tank fields, or farmland drainage. Many are in public parks.

EPA is paying half the cost, State and local governments the rest. All projects were approved by Regional Offices and the Office of Water Planning and Standards.

The most costly project is at Half Moon Lake, within the city limits of Eau Claire, Wisc., where \$743,000 in State and Federal funds is being spent for dredging, constructing embankments, drilling of wells to augment the lake's inflow during dry periods, and

various other measures to reduce pollutant drainage into the lake.

The smallest project is the construction of three sediment-control dams on roads around Lake Cochrane, in Brookings, S.D., at a total cost of \$18,011.

The other projects are:

Long Lake, in Kitsap County, Wash., near Bremerton, \$711,940. Lake Albert Lea, Albert Lea, Minn., \$605,600. Lilly Lake, Kenosha, Wisc., \$546,000. Mirror and Shadow Lakes, Waupaca, Wisc., \$430,000. Chain of Lakes, Minneapolis, Minn., \$358,000. Lake Apopka, Lake County, Fla., \$287,000. White Clay Lake, Shawano County, Wisc., \$214,000. Spada and Chaplain Lakes, Snohomish County, Wash., \$198,000. Collins Park Lake, Schenectady County, N. Y., \$92,500.

ALGAE

One of the most common symptoms of water pollution in lakes and other bodies of water is the heavy growth of algae scum fostered by excessive fertilization from sewage or other wastes.

These plants range in size from single cells to such seaweed as giant kelp which sometimes reaches 200 feet in length.

When heavily fertilized, these plants can be a nuisance in many ways. Some forms of algae, such as Chara, a branched erect alga, can become detached from their mooring and form huge floating rafts which obstruct navigation and emit vile odors. After being washed on shore, decaying algae attract swarms of buzzing flies.

Algae when decomposing can also rob water of its dissolved oxygen, thereby killing fish and other aquatic life. Algae can also cause taste and odor problems in drinking water, turn swimming water pea-green during a "bloom" when a sudden rapid increase in the number of these plants occurs, and foul fish harvesting equipment and water intake devices.

One species of algae—Gymnodinium breve—carries a potent poison. It forms the "red tide" which occurs off coastal waters and can cause fish kills.

There are an estimated 17,400 species of algae in the world. They are among the most widespread of living things. Without them, many scientists doubt that man could have evolved and survived.

The one-celled algae are believed to be the ancestors of all multi-cellular organisms. In the oceans, algae form the vegetable part of plankton on which all life depends.

Algae were the first plants and the first living things to take hold on land. Scientists estimate that the first algae appeared on this planet about three billion years ago.

Among the hardiest of living things, algae thrive in the ice of the polar regions, in near-boiling hot springs, in brine lakes far saltier than the sea, and in deserts.

In addition to being a vital part of the food chain, most algae are very useful

to man. Algae substances are used in hand lotions, chocolate milk, photographic film, puddings, rubber tires, beer, antibiotics, house paint, and ice cream.

Although decomposing algae rob water of its oxygen, living algae increase the supply of oxygen in the water.

It is the blue-green family of algae which cause most of the pollution problems. When nutrients from sewage or industrial wastes pour into a lake or river, these plants begin a rapid, cancer-like growth.

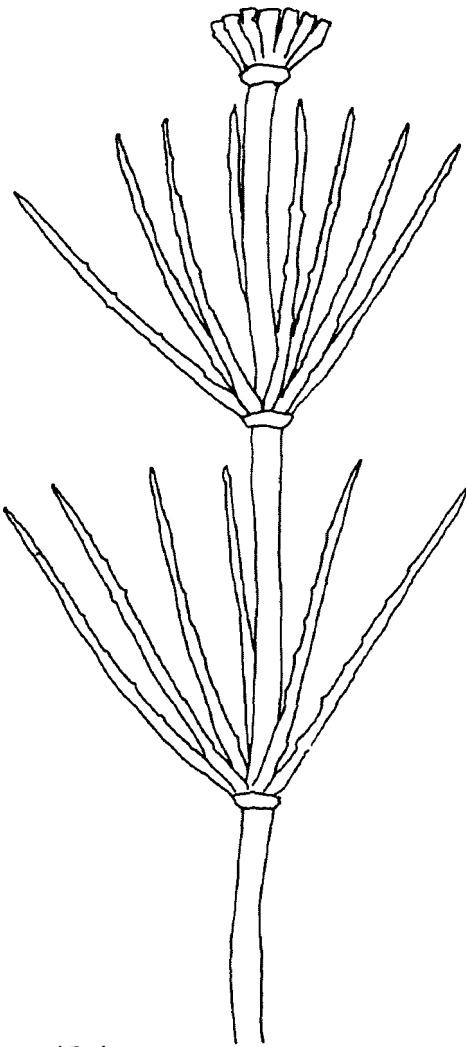
Another type of algae, diatoms, are used by some scientists as water pollution indicators.

Dr. Ruth Patrick, one of the country's leading limnologists (students of lakes), has developed a system that relates the type and number of diatoms present in a lake or stream to the type and extent of pollution. This method is now used in many parts of the world to identify contamination problems and to help determine water quality.

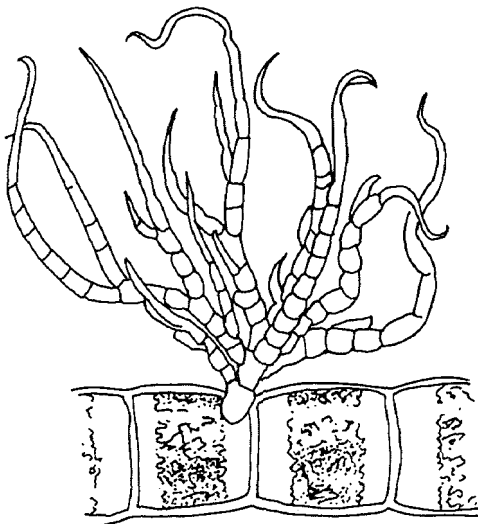
Another form of algae, Chlorella, is believed to have great potential as a food source for the earth's growing population. Although this alga is high in proteins and vitamins, it is too costly to market now.

Yet many scientists believe that the day is approaching when this kind of algae may play a useful role as a food crop.

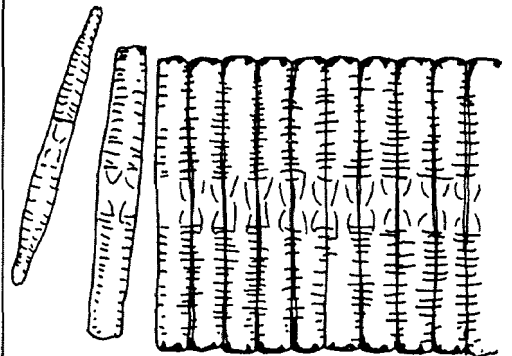
So algae floating on a pond comes from an ancient family which has played a major role in the natural world and which conceivably could have a major impact on man's future. ■



CHARA



DRAPARNALDIA



FRAGILARIA

MAKING REGULATION WORK

Excerpted from remarks by

EPA Administrator Russell E. Train at the National Conference on Regulatory Reform, Washington, D.C., May 26, 1976.

Most of us, I am sure, would agree that one of the most striking phenomena to emerge in this country over recent years has been the increasing antipathy, even antagonism, toward government, marked by a revolt against "Washington" in general and Federal regulation in particular. This public attitude appears, indeed, to be opening up a whole new order of politics—one with which I must admit to a good deal of personal sympathy. Like most people, I have little personal liking for the constraints upon individual choice which government regulation often imposes.

I do not think it is a bad idea to look at government with a skeptical and jaundiced eye. I believe, in fact, that we must do a far better job, as a people and as a country, of keeping an eye on government and insisting that it do its job better than it has. I am, however, deeply concerned that, while the antigovernment rhetoric finds easy and enthusiastic acceptance and is rapidly becoming the common coin of American politics, it may prove difficult and perhaps impossible in actual practice to *produce* the changes promised. It may well be that we have had thoroughly unrealistic expectations of what government could do for us; but I am afraid we may be replacing these with equally unrealistic expectations about how rosy life would be without government. We may, in short, be setting ourselves up for an even more shattering recurrence of the "manic-depressive" cycle we went through in the late Sixties and early Seventies—a cycle of inflated rhetoric and meager results, followed by massive public frustration and resentment.

I would suggest that the intrusion of government regulation into our lives is not the real issue before us—at least to the degree that it assumes we have a real choice between regulation or no regulation. To pose the issue in these terms is just as mistaken and misleading as to argue that, as a society, our only alternatives are between growth

or no growth. It is *not* a question of growth or no growth. The question is *how* and *where* we are going to grow. Similarly, it is *not* a question of regulation or no regulation. It is a question of *how* and *where* we are going to regulate.

Surely, we can reduce and cut out some government programs; we can improve the efficiency of others; we can streamline, simplify and otherwise improve regulation—and President Ford has, in my view, exercised admirable and effective leadership along these lines. But these are very different things from simply "getting rid of regulation;" these are ways of making regulation *work*.

Regulation Inevitable

It seems to me that increasing regulation is an inevitable, if perhaps unfortunate, by-product of our high technology and high economic growth society, associated with high and rising densities of human populations. If we really wish to maintain our commitment to an increasingly complex economic, technological, and social system, it is illusory to think we are going to get away from big government. Major government programs and widespread regulation are *inherent* in that kind of society, which is the kind of society we apparently want.

I think we had better face the fact that increased economic growth, more intensive agricultural production, increased energy usage, more synthetics in the environment, instant global communications, the increasing speed and volume of transportation, more population, crowding and land pressures—all inevitably mean more regulation. If we must have nuclear power to insure the supply of energy we feel we need, we had better accept as well the need for regulation to protect the public from accident, from radioactive wastes (perhaps for thousands of years), and from terrorist acts. If we must greatly expand the use of coal, we had better accept as well the need for regulation to protect the health and

safety of miners, to protect the land, and to protect the public health from the products of combustion. If modern agriculture requires the use of highly toxic chemicals to control pests, we cannot avoid regulation to protect human health and the environment. And so it goes. There is no way to accommodate such levels and kinds of activity without regulation. To put it even more bluntly, it is really regulation that makes further growth possible at all. Alvin Weinberg has suggested that our commitment to nuclear power involves a Faustian bargain. Perhaps we need to recognize as well that ever-increasing levels of economic and technological activity may also exact a cost in terms of human freedom. This is a recognition that will come particularly hard to Americans—witness our present antagonism toward regulatory constraints—since much of our economic success has stemmed from the opportunity to exploit with few constraints the natural riches of a virgin continent. What once seemed limitless resources of soil, forest, water, minerals and energy have suddenly become a finite world in which interdependence is the new reality.

Once we understand that "government regulation" is here to stay, and that we need to focus our efforts on making it work better, we need to distinguish between two very different kinds of Federal regulatory activities and agencies; between what we might call the "social regulators" such as EPA and OSHA, and the more traditional "economic regulators" such as the Interstate Commerce or Federal Power Commissions. These traditional agencies are designed to help get rid of obstacles and inefficiencies that keep market forces from operating freely. EPA was established *not* to keep these forces from operating, but to make certain that they operate in the public interest by insuring that the market increasingly takes into account environmental costs that it would otherwise exclude from its calculations. Left unregulated in a highly advanced

industrial society, all the normal economic incentives of a competitive, free enterprise system work to encourage the disposal of vast volumes of wastes into the environment, at rapidly increasing cost to public health and welfare and the natural environment.

Public Participation

In the area of environmental protection, therefore, there can be little question of "deregulation." What must always be open to examination—and what EPA, as an Agency, must do an increasingly better job of insuring—is the degree and extent of public participation in the regulatory process, the efficiency and effectiveness of specific regulatory approaches and timetables, and the accuracy and adequacy of the scientific and other data upon which these are based.

In this regard, EPA has pioneered a process that—to my knowledge—comes closer than that of any other agency in the Federal government to achieving the goal of full public participation in regulation development. We have, over the past several years, taken a number of major steps to overhaul and improve our processes for developing guidelines and regulations. These efforts have had four main objectives: *First*, to open up our processes for developing regulations; *Second*, to simplify our regulations; *Third*, to streamline our regulations; and *Fourth*, to reduce to the barest minimum any adverse social and economic impacts of our regulations.

As a result of the improvements we have made over the past several years, every regulation we now issue must run the most grueling and rigorous gauntlet of comment, review and revision that exists anywhere in the Federal government. To be sure, our processes are by no means perfect; they are still in the early—even pioneering—stages of development, and we have a long way to go before we can be anything close to satisfied with them.

It is by thus continuing to improve the regulatory process itself and, where it is necessary, by revising the basic legislation itself, that we can expect to achieve an increasingly effective Federal regulatory approach toward safeguarding the public from the hazards of pollution. The Congress is now considering amendments to our air and water and other envi-

ronmental legislation. Some of these I fully support as essential toward genuinely strengthening the legislation; others I oppose as undermining our ability to achieve the goals set forth in the legislation itself.

Item Veto

I am, in particular, disturbed by various measures introduced in the Congress that, while they vary in some details, would all give the Congress what amounts to a direct item veto over regulations issued by EPA and other agencies. In fact and in intent, these amendments would thoroughly subvert not only the orderly processes of government, but the separation of powers that the Constitution has established as one of the most fundamental elements of our system of government.

It is essential that the Congress continually assess and review regulations to assure that they do help achieve the goals set forth in the legislation and that they are justified and authorized by the law. But these measures go far beyond the bounds of such thoroughly legitimate Congressional oversight and review. They are unworkable; they would throw an already complex regulatory process into virtual chaos; they would put the Congress into a quasi-judicial position which could bring it into direct conflict with the courts, not to speak of the Constitution.

Beyond the extensive delays, the chaos, the conflicts with the courts that these measures would surely generate, the simple fact is that they are unworkable. EPA promulgates a large number of regulations each year, most of them required by statute. These often include extremely complex standards based on extensive scientific and factual records. It would be an enormous task for the Congress to review all the data necessary to make an informed decision regarding the correctness of the regulations.

Where Congress disagrees with a particular regulation it already has procedures for voiding the actions of the regulatory agency—through amendment of the authorizing legislation or, in some cases, riders to appropriations acts, both of which techniques have been used for EPA. The Congress, on several occasions, has exercised an effective oversight on EPA implementation of its statutes such as the regulations involving transportation control

plans.

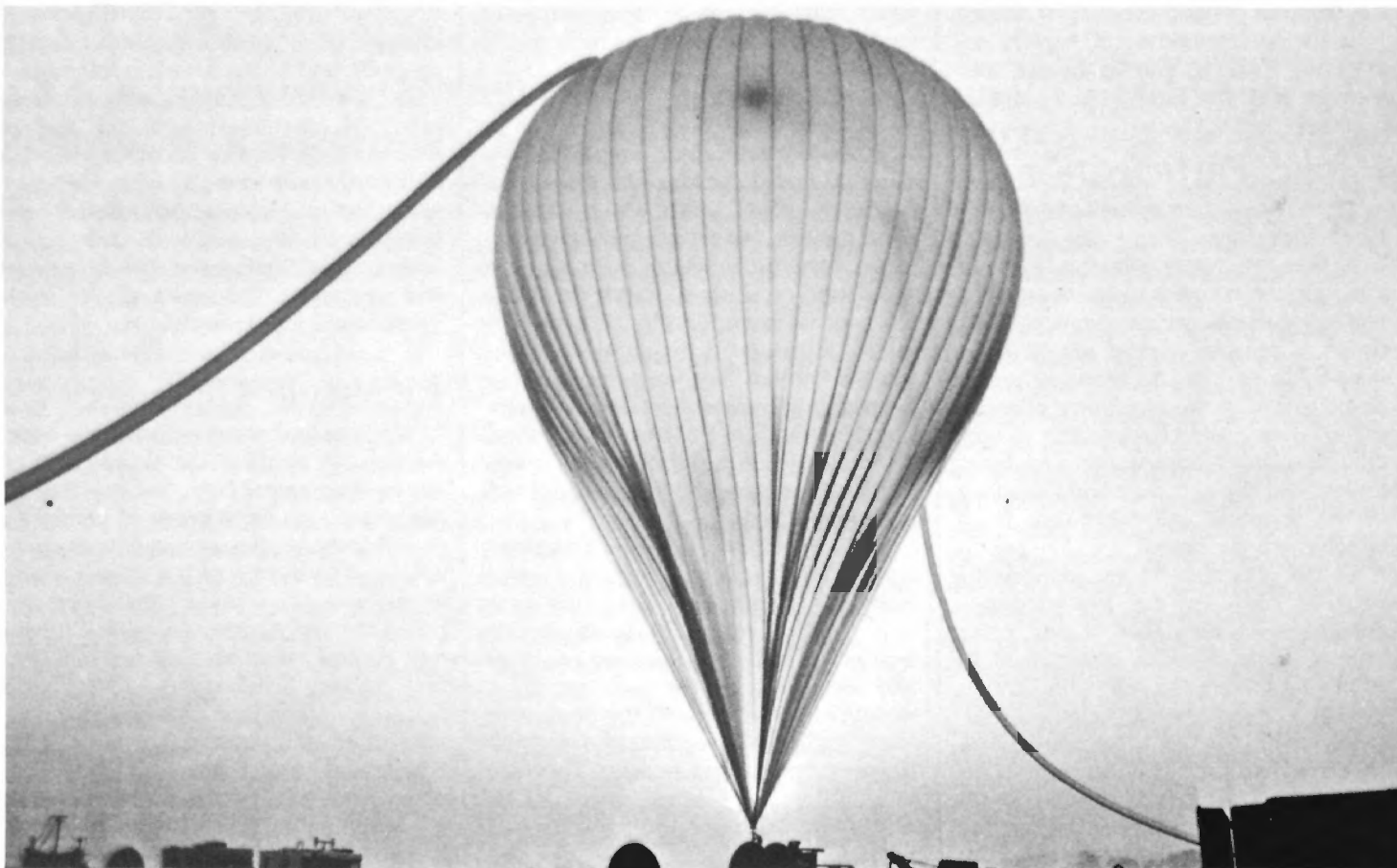
I believe that the Congressional oversight of agency actions can best be accomplished by the continual exchange of information between the agencies and Congressional committees and by prompt consideration by Congress of amendments to the statute where it believes that an agency's regulations do not comply with Congressional intent. This approach will certainly avoid the problems I have referred to and preserve the traditional and complementary roles of the three branches of Government.

Life-style Changes

We have had the most success, as an Agency, in carrying out those parts of our environmental laws that involve the control of specific sources of emissions or effluents by the application of technology. We have had the least success in trying—often under deadlines imposed by the courts—to require pollution control measures that involve very real changes in life-styles and land use patterns. These are changes that can take place only over a period of time; they entail very basic social and economic and environmental choices and tradeoffs that can only be made by the people involved and effected through the political process at the State, local and regional levels. I see such a process as one in which societal choice *evolves* from the ground up with open "give-and-take" which recognizes and reflects the extraordinary diversity of needs, conditions and aspirations which make up this country.

Increasingly, in the years ahead, real and lasting environmental progress must substantially depend on State and local initiative and action. The Federal role must, inevitably, focus more and more not simply upon the development of national standards and regulations and guidelines, but upon encouraging and assisting in the development of joint Federal, State and local decision-making processes that can enable the citizens of this country to deal effectively with what might be called the issues of growth—the issues involved, for example, in trying to preserve and maintain air quality, to control nonpoint source water pollution, and to relate and reconcile different environmental concerns such as clean air and clean water with each other and with social and economic concerns such as housing, and jobs, and energy. ■

BALLOON CHASE



Shortly after sunrise at an airfield west of St. Louis, the Da Vinci II is inflated with 160,000 cubic feet of helium through two long plastic "sleeves" that are later tied off and allowed to dangle.

When a huge plastic balloon drifted across St. Louis and southern Illinois last month, half a dozen EPA air pollution experiments went with it.

Dangling from the pear-shaped, 70-foot high bag was a 10-foot-square gondola carrying three men and a woman, radios, cameras, and a score of scientific instruments. Its total weight was more than three tons.

The aircraft, named Da Vinci II, was hitching a ride on St. Louis's polluted air. It followed the same air mass for a day and a night while scientists aboard gathered data on sulfur dioxide, particulates, and other air pollutants.

Da Vinci II was a joint project of the Energy Research and Development Administration (ERDA), the National Oceanic and Atmospheric Administration (NOAA), EPA, and the National Geographic Society. About a dozen other Federal agencies, universities, and private research laboratories also participated.

Da Vinci II took off at 9 a.m. on

June 8 and floated for almost exactly 24 hours at altitudes ranging from 1,000 to 3,000 feet. Its crew included Dr. Rudolph J. Engelmann of NOAA, coordinating scientist; Jimmie M. Craig, a civilian employee of the U.S. Navy at China Lake, Calif., pilot; Vera Simons, Washington, D.C., co-pilot; and Otis Imboden, National Geographic Society photographer.

EPA's on-board experiments were tied in with the Agency's Regional Air Pollution Study (RAPS), a five-year, \$22-million research program at St. Louis. (Because of the wealth of information already learned about St. Louis air pollution by RAPS, the Da Vinci project leader in ERDA chose St. Louis for the balloon-borne tests.)

EPA played a vital role on the ground and in the air, although no EPA employee rode in the balloon's gondola.

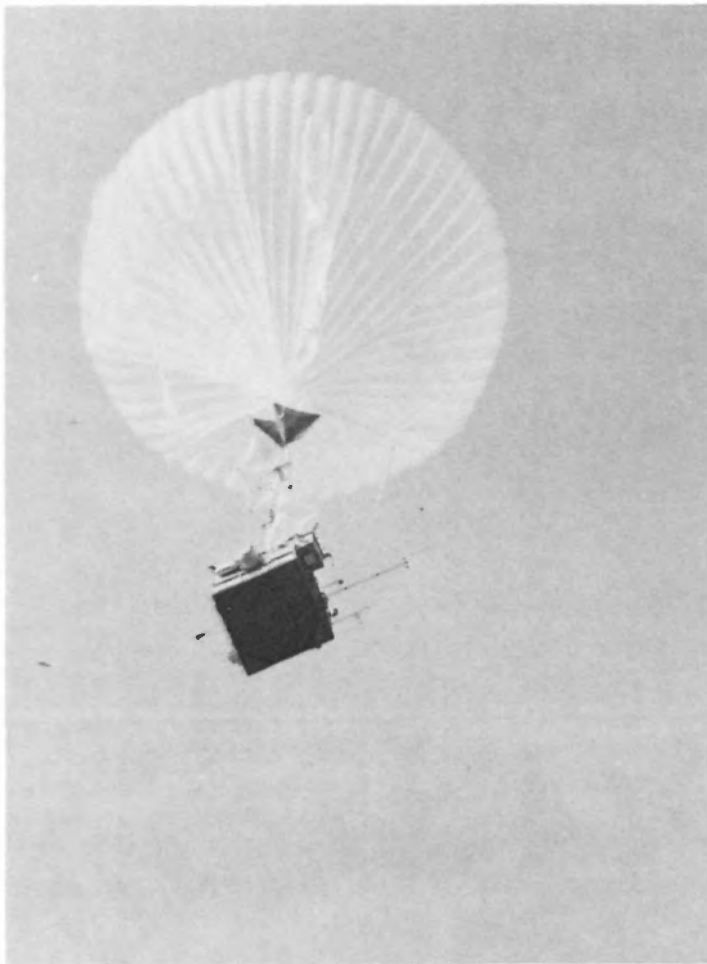
Launching a big balloon is a ticklish operation, explained Frank Schiermeier, RAPS operations coordinator.

Wind must be less than five miles per hour and steady while the gas bag is being filled and during liftoff. Strong or gusty winds can easily whip the thin plastic (four thousandths of an inch) into ground-based gear and tear it, and mishaps during liftoff can wreck the gondola and injure the crew.

Two pilot balloon crews were at the launch site, an airfield 15 miles west of downtown St. Louis, six hours before liftoff. They released the toy-size pilot balloons every 15 minutes to check on wind conditions. These little balloons, rising at a known rate, are tracked with surveyor's telescopes.

After the launch of the Da Vinci the two crews piled into motor-pool station wagons and took off after the big balloon.

"We would 'leapfrog' ahead of it," Mr. Schiermeier said. "release more pilot balloons, and radio the wind conditions back to the command post. This was to help the balloon crew know what was coming and keep their craft



For most of the day, in the first half of the flight, the balloon drifts over the St. Louis area during a severe air pollution alert, while the crew of three men and one woman study the polluted air mass.

Da Vinci II lands gently in an Indiana wheat field 24 hours and 150 beeline miles from takeoff. Local farm workers cluster around the tired aeronauts. Shiny bags containing air samples for analysis in EPA laboratories are clustered on gondola's side. In left background is a small oil well pump.



as closely as possible in the polluted air mass.

"It was a beautiful mission. There was a lot of pollution up there, so much so that it was difficult to get a good photograph of the balloon. The St. Louis area was under an ozone alert that day."

One EPA experiment involved simultaneous measurements of ozone at the balloon and on the ground under it. A chase vehicle took ozone readings from the ground. This experiment was managed by James Worth of the Research Triangle Institute, on contract to EPA's Environmental Sciences Laboratory at Research Triangle Park, N.C.

The balloonists took "grab samples" of air throughout the flight for later analysis at the EPA laboratory.

Another experiment involved taking pollution measurements from a small airplane that flew back and forth across the air mass. This provided a cross-section of the pollutant "plume" for comparison with the balloonists' core

readings. This project was planned and managed by Dr. Rudolph Husar of Washington University in St. Louis, under an EPA contract.

Da Vinci II landed gently in a wheat-field just across the Wabash River in Indiana, near the little town of Griffin in the southwest corner of the State. It had traveled across metropolitan St. Louis and the southern part of Illinois. The beeline distance was 150 miles, but meanders made the actual path much longer.

Dr. Engelmann said the landing was "like an automatic elevator coming to a stop." There was no need to deflate the balloon rapidly. The air was so still that the crew used the balloon to carry the heavy gondola to the nearest road. They dumped some ballast and walked both gondola and balloon to the highway.

Another flight—Da Vinci III, carrying similar experiments—is planned for some time in July, from the same launching site. The actual date will

depend on weather conditions.

The Da Vinci experiments are designed to give researchers a better idea of the long distance impact of cities' air pollution and to answer such questions as:

- How much air pollution originating in urban areas is carried into the countryside, and how far does it go?
- Does such pollution disperse and become harmless, or does it retain its noxious qualities?
- Do the compounds found in polluted city air change as they travel downwind? For instance, does sulfur dioxide, commonly discharged from power plants and industries, change to sulfates and sulfuric acid? How quickly do unburned hydrocarbons and nitrogen oxides become photochemical oxidants? These changes have been observed in the laboratory but never before directly in the air.

The Da Vinci project was the idea of Ms. Simons, an artist, a balloon designer and pilot. ■

SCENES AT THE FLORIDA EXHIBIT



More than 200,000 people have visited the EPA Pavilion at the U.S. Bicentennial Exposition since its opening May 30 at the Kennedy Space Center in Florida. A special EPA Day will be held at the exposition on July 30. Visitors to the EPA exhibit learn how science and technology are applied to the understanding and solving of environmental problems. The Exposition closes Sept. 7.



After listening to introductory messages under sound domes, visitors follow a log and stone pathway through the exhibit.

Exhibit cylinders, such as this one on Lake Eutrophication, highlight various environmental programs.

A Ford automobile chassis, specially built for the EPA exhibit, shows the location of pollution control devices in use today. Telephones here give additional information about the role of transportation control plans in reducing air pollution.



FREE CAR CHECK

Free tests of automobile exhaust emissions are being offered by EPA to summer visitors to the Nation's capital.

A three-man team from the Mobile Source Enforcement Office is providing the service every weekday to anyone who wants it at a special parking lot for Bicentennial visitors near Arlington Cemetery, across the Potomac River from downtown Washington.

The free tests began June 21 and are expected to continue through Labor Day, according to Norman D. Shutler, Acting Deputy Assistant Administrator for Mobile Source and Noise Enforcement.

The parking lot is one of two "fringe areas" where Bicentennial visitors can leave their cars and take shuttle buses into the city's central historic area, where parking is virtually impossible. Thousands of motorists use the Arlington lot each day, providing a pool of cars of all ages, makes, and models from all over the country.

Dr. Shutler believes the test program—which is entirely voluntary on the part of the motorists—can be of major benefit in increasing public

awareness of the value of regular inspection and maintenance for automotive pollution control systems.

Signs and arrows at the entrance of the Arlington lot direct motorists to the testing station. The test takes about half a minute, and no one has to leave the car. With the car's engine idling, an electronic probe is held at the car's exhaust pipe. The operator takes readings of carbon monoxide and unburned hydrocarbons, jots them down on a card, and gives the card to the driver.

The diagnostic card contains printed interpretations of the meaning of various degrees of exhaust pollution and recommends remedial action if needed. It also contains tips on maintenance and driving methods to increase fuel economy.

The test team includes two parttime summer employees to operate the emissions analyzer and a supervisor from the Mobile Source Enforcement Division who is familiar with inspection-maintenance programs and can answer motorists' questions.

The free testing station is open every day but Sunday from 8 a.m. to 1 p.m. ■



A human figure symbolizes our need to apply our knowledge and natural resources towards achieving a better life in America's Third Century.



Large columns identify various exhibit sections in the pavilion.



Many visitors to Washington, D.C., this summer are taking advantage of EPA's free auto emission tests at a fringe parking lot. This photo shows a similar test being given by Fairfax County, Va., air pollution officials Don Parmeter, left, partly obscured by car, and Jim Dusek.

Probe inserted in car's tailpipe carries exhaust gases to portable instrument box.



Administrator **Russell E. Train** was interviewed on film in his office recently by Philippe Cousteau, the oceanologist, for a series of documentary films to be shown on the Public Broadcasting System next fall.

The series, to be called "Oasis in Space," will deal with environmental problems on a global scale: water and ocean resources, food supply, population, and the quality of life. The six half-hour programs are being produced by the Cousteau Society, headed by Philippe Cousteau's father Jacques, the pioneer undersea explorer.

Michael Bonchonski has been appointed Water Coordinator for Region II, New York, replacing Patrick Harvey who is now chief of the regional Water Facilities Branch. Mr. Bonchonski had been Chief of the Organic Wastes Section of the Branch.

Swept T. Davis has been appointed Director of Analysis and Evaluation, a new post in the Office of Water Planning and Standards, by Deputy Assistant Administrator Eckardt C. Beck. Mr. Davis, 31, is a native of Hattiesburg, Miss., and was graduated from the Georgia Institute of Technology in 1968 with a B.S. in mechanical engineering. After two years with the Army Corps of Engineers, he attended the Harvard Graduate School of Business and earned a master's degree in business administration. He joined EPA in July 1972 in the Economic Analysis Division, Office of Planning and Management.



Elizabeth M. S. Smith, Chief of the Library Services Branch at Research Triangle Park, N.C., recently received the largest cash award—\$1,534—ever given under EPA's Employee Suggestion Program.

Her ideas were for improving the efficiency of the Air Pollution Technical Information Center, now being shifted primarily to a contract operation. A key element was expanded use of commercially available systems for searching and abstracting technical literature. It is estimated that EPA will save \$434,000 annually.

Mrs. Smith's suggestions, first made in January, led to the naming of a task force and the complete revision of the contract proposals.

The award check and commendation letters from President Ford and Administrator Russell E. Train were presented by John DeFord, Director of the Office of Administration, on behalf of Bernard J. Steigerwald, Director of the Office of Air Quality Planning and Standards.

PEOPLE



Richard Field, of the Municipal Environmental Research Laboratory, Edison, N.J., has been chosen to receive the State-of-the-Art of Civil Engineering Award of the American Society of Civil Engineers.

The award is a plaque and certificate to be presented at the Society's annual meeting in Philadelphia Sept. 29. It is given for the best technical paper on "state of the art" advances in civil engineering published the previous year. Mr. Field's paper on the control of water pollution from urban runoff was published in the Journal of the Society's Environmental Engineering Division in February 1975. A co-author, John A. Lager of Metcalf and Eddy, Inc., Palo Alto, Calif., will receive a matching award.



Kenneth H. Walker, Director of EPA's Rochester, N.Y., Field Office since 1972, has been named Deputy Director of the Great Lakes Regional Office of the International Joint Commission, the U.S.-Canada border authority. He is now located at the IJC headquarters in Windsor, Ontario.

Richard C. Brenner, sanitary engineer with the Municipal Environmental Research Laboratory in Cincinnati, was recently named the outstanding Federal employee of the year by the Greater Cincinnati Federal Business Association.

Mr. Brenner was cited for his leadership in managing several multimillion-dollar projects for the laboratory's Wastewater Research Division. A panel of private citizens chooses five persons each year for the awards. Mr. Brenner was winner in the professional-scientific category. In the Federal Service since 1967, he has received numerous commendations from EPA and from contractors and municipalities. His work has helped to advance several wastewater treatment processes from pilot-plant status to full-scale systems. He holds B.S. and M.S. degrees in engineering from the University of Cincinnati and is a licensed professional engineer in Ohio.

Donald P. Dubois, 41, Deputy Regional Administrator in Denver, has been appointed Regional Administrator in Seattle for EPA's Region X, which has jurisdiction over Federal environmental matters in the States of Idaho, Oregon, Washington, and Alaska.

The appointment was made by Administrator Russell E. Train who said that "Mr. Dubois is a career civil servant with an exemplary record in public health protection and environmental improvement. He will bring a wealth of professional experience and administrative talents to the ecological problems of the Northwest."

Mr. Dubois, who has been with EPA since it was formed in 1970, holds a B.S. degree in civil engineering from Washington State University in Pullman. He did post-graduate work in civil and environmental engineering at the California Institute of Technology in Pasadena.

A native of Seattle, Mr. Dubois held a number of engineering and management posts with the U.S. Public Health Service before joining EPA. Mr. Dubois succeeds Clifford V. Smith as Region X Administrator. Mr. Smith resigned in May to join the Bechtel Corporation.

Mr. Dubois is a member of several professional engineering organizations and has been awarded four outstanding service medals from the Federal government.

Stuart J. McDonald, of Region VIII's Office of Congressional and Governmental Relations, used to be a cartoonist for the Grand Forks Herald and other newspapers in North Dakota. The originals of most of his editorial cartoons, published from 1961 through 1967, were recently purchased by the First Federal Savings and Loan Association in Grand Forks. Selected cartoons are being displayed in the Association's main and branch offices, and the whole collection will be donated to the Chester Fritz Library of the University of North Dakota, Grand Forks.



Marcellus Blount, part-time clerk-typist in Region II's Civil Rights and Urban Affairs Division, has received a four-year scholarship to Williams College, Williamstown, Mass., plus a three-year additional scholarship from the college to any law school he chooses.

Marcellus, who is 16, has been working at EPA since July 1975, finds the job "enlightening and rewarding" and plans to continue during his college vacations. He has received a number of other awards and citations for scholarship and leadership.

Reorganization of the Corvallis, Ore., Environmental Research Laboratory was completed recently with formation of three new branches (consolidated from six former groups) and the naming of their chiefs by Dr. A. F. Bartsch, Laboratory Director. The new branch chiefs are: **Donald J. Baumgartner**, Marine and Freshwater Ecology Branch; **Lawrence C. Ranieri**, Terrestrial Ecology Branch; and **Jack Gakstatter**, Special Studies Branch.



Administrator Train has announced his intention to appoint **Bryan LaPlante** as the new Director of the Office of Legislation. Mr. LaPlante replaces **Robert Ryan**, who has left EPA to become Director of State Programs for the Nuclear Regulatory Commission.

Mr. LaPlante has served as Deputy Director of the Office of Legislation since December, 1970. Prior to the establishment of EPA he was Associate Commissioner of the Department of Interior's Federal Water Quality Administration.

During his 30 years of Federal service, Mr. LaPlante has worked for the Senate Republican Policy and Conference Committee, the U.S. Atomic Energy Commission and Air Force Security and Intelligence.

Mr. Ryan had served as Director of the Office of Legislation since June, 1973. In his new position he will be responsible for directing liaison efforts between NRC and State radiation agencies.

John C. Kolojeski has resigned as Special Assistant for Health Regulatory Affairs to Assistant Administrator Andrew W. Breidenbach. Mr. Kolojeski, EPA Consultant Ian Nisbet, and a group of scientists have formed an environmental consulting firm, Clement Associates, in Washington, D.C. He had previously been Assistant General Counsel for Pesticides, Toxic Substances, and Solid Waste Management and later Deputy Associate General Counsel for Litigation. ■



smoke stacks," he said. Previous deadlines for the city to purchase equipment to correct the violations have not been met, Mr. Hansler said. An official notice issued by Region II recently gave the city 30 days to take cleanup steps, after which EPA may seek a court order requiring compliance.

vapor controls

More than 7,000 gasoline stations and storage facilities in New Jersey are installing equipment to control the discharge of hydrocarbon vapors. When fully operative these systems will recapture about 90 percent of the gasoline now lost to the atmosphere during storage and transfer in 14 counties having the highest pollution levels. Region II officials estimate the controls reduce the total emission of hydrocarbons by 11 percent.



working with states

The Region III Emergency Response Team recently conducted a seminar for Pennsylvania Department of Environmental Resources personnel on oil spill regulations, prevention, and cleanup methods.

The Water Supply Branch has released a comprehensive evaluation of the Delaware Water Supply Program, including field surveys of public water supplies and review of State laws and regulations.

The Pesticide Branch, in cooperation with the National Enforcement Investigation Center in Denver, recently sponsored a pilot program to monitor the effect on the environment of aerially-applied insecticides in Magnolia, Delaware.



phosphate impact

Region IV will prepare an environmental impact statement on Florida phosphate mining. The Region

will also head a multi-agency industry study that is expected to take 18 months and cost about \$1 million. Regional Administrator Jack E. Ravan has named Gene McNeill and Tim Smith of the Atlanta Office to coordinate the preparation of the impact statement.

The \$1-million study, ordered by President Ford, will look into the industry's effects on water, air, wildlife, and agriculture as well as land use and radiation levels. Other Federal agencies involved include the Council on Environmental Quality, the Departments of Interior and Agriculture, and the Corps of Engineers. Florida State and local governments, environmental groups, and the phosphate industry will name advisors to the study group. Mr. Ravan said the study will not establish an EPA moratorium on existing phosphate mining in the central Florida region. All mining already approved will continue.



pleasant prairie plant

Preliminary approval for construction of a power plant—the first such action in Region V under EPA's "significant deterioration" rules—has been given to the Wisconsin Electric Power Co. Regional officials decided that the company's proposed 1,160-megawatt coal-fired generating facility at Pleasant Prairie, Kenosha County, would not cause significant deterioration of the county's already clean air.

great lakes board

Region V Administrator George R. Alexander has been appointed United States Chairman of the Great Lakes Water Quality Board by the U.S.-Canada International Joint Commission. He assumes the Board post vacated by his predecessor in EPA's Chicago office, Francis T. Mayo.

Mr. Alexander said: "I look forward to my new responsibility with the Board. The experience I've had in Washington as spokesman for and to EPA Regions should help me to work with representatives of the Great Lakes States, the Province of Ontario, and the Canadian Federal government."



boston harbor

Region I experts have begun assessing the environmental effects of a proposed \$850-million project for the cleanup of Boston Harbor. They will file an environmental impact statement on the complex project, which includes the expansion and upgrading of existing sewage treatment facilities, the possible construction of two new plants on the Charles and Neponset Rivers, sludge disposal, and facilities to prevent pollution from combined storm and sanitary sewers.

providence plan

A comprehensive transportation control plan for Providence, R.I., is being drafted and will be formally proposed soon. It includes inspection and maintenance of vehicle emission controls, solvent and vapor recovery regulations, carpool incentives, transit improvements, downtown traffic and parking strategies, and monitoring.



new york warned

Smoke from four of New York City's incinerators—two in Brooklyn and one each in Manhattan and Queens—is violating Federal and State law, according to Region II Administrator Gerald M. Hansler.

"EPA estimates that during the course of a year the incinerators are allowing more than 6,400 tons of excess particulate matter to come out of their



vapor controls

Public hearings will be held in a number of Texas cities during July and August on ways of controlling oxidant air pollution. Proposals to be discussed include requiring gasoline terminals and stations to install equipment to recover hydrocarbon vapors, measures to encourage carpooling, extension of controls on stationary sources, and voluntary inspection and maintenance programs for auto emission control devices.

at-sea incineration

Shell Chemical Co. has applied for another permit to incinerate chemical wastes on a specially equipped ship in the Gulf of Mexico. The company did this last year under a research permit, and EPA monitoring indicated that the chlorinated hydrocarbons (mostly wastes from pesticide production) were burned with high efficiency and no immediate environmental damage.



charlie chipmunk

Region VII's Office of Public Affairs recently published a children's storybook, "Charlie Was Just a Chipmunk," and held an autographing party for a kindergarten class from Cherokee School, Overland Park, Kansas. The author, Mrs. Danita Ross Haller, and the illustrator, Mrs. Susan Still, both of Kansas City, signed copies of the book for the children. The book's brief story gives a chipmunk's view of littering and other manmade environmental pollution. Copies have been distributed to all depository libraries in the Region. EPA speakers at elementary schools will make further distribution.

rangers trained

Iowa's State park rangers have been certified as water and wastewater treatment plant operators. The Conservation Commission sent the rangers to a week-long training course at the University of Iowa, and the Department of Environmental Quality held a special examination for them. The training will help protect the health of people using park facilities and assure adequate wastewater control in the parks.



free emission tests

Nearly 700 car owners in the Denver area are getting free tests of their cars' emission controls, \$50 savings bonds, rental cars for one to three days, and full tanks of gas at the end of the tests. The program that started in May is designed to measure the effectiveness of EPA's pollution controls on domestic and imported autos of the model years 1972 to 1975. The Denver area tests are being made at Automotive Testing Laboratories, Inc., in nearby Aurora. Similar testing of cars in use is under way in Phoenix, Los Angeles, Houston, St. Louis, Chicago, and Washington, D.C. The Denver tests include a bonus not available in the other cities: cars that fail their emissions tests (an estimated 50 percent) are given free engine tuneups to bring them into conformance (if the tuneup does not require more than \$100 worth of mechanical work). The free testing service is not for all comers, however. Since this is a research project to simulate the effects of emission testing and maintenance programs, a carefully "stratified" sample of cars is needed in each city. This means just so many cars of each make, year, model, and engine size. When each particular sample slot is filled, no more owners of that kind of car will get a free savings bond.



alcohol in the tank

EPA-sponsored research at the University of California at Santa Clara is investigating the use of methanol as auto fuel. Methanol, or wood alcohol, can be obtained from organic waste such as manure, garbage, and sawdust. The university is now operating three test cars on methanol or methanol-gasoline blends, and it will shortly add two more vehicles. Meter readers in the City of Santa Clara have been driving a Valiant on pure methanol for four years. According to the researchers, the whole program should bear "practical fruit" in about 18 months.



ketchikan closure

Region X officials have moved to forestall the threatened closure of a pulp mill in Ketchikan, Alaska. Officials of the Ketchikan Pulp Co. were told May 19 that EPA will exercise "administrative discretion" and delay enforcement action, pending further hearings on the economic feasibility of the company's cleaning up its wastewater. Ketchikan Pulp faces a July 1, 1977, deadline for providing secondary wastewater treatment. Its permit calls for construction to start by July 1 this year, and failure to meet that date would usually subject the company to immediate legal action. Delaying such action till next January "will enable Ketchikan Pulp to continue full operation of the mill . . ." said L. Edwin Coate, Acting Regional Administrator, "at least until the current hearing process produces a reappraisal of the company's financial ability to install the needed treatment facilities." The company had announced seven days before a public hearing it would close the mill in July 1977. ■

REDUCING GOVERNMENT FORMS

In the last three months EPA has cut by more than 10 percent the number of information-gathering forms it sends out. The reduction was made after President Ford ordered all agencies to curb the paperwork they require of the public.

Frederick V. Lilly III, Director of the Program Reporting Division, Office of Planning and Management, said his office is interested in further reduction and streamlining of EPA's information requests.

The Federal Government is fond of asking questions, as anyone who has filled out an income tax return knows.

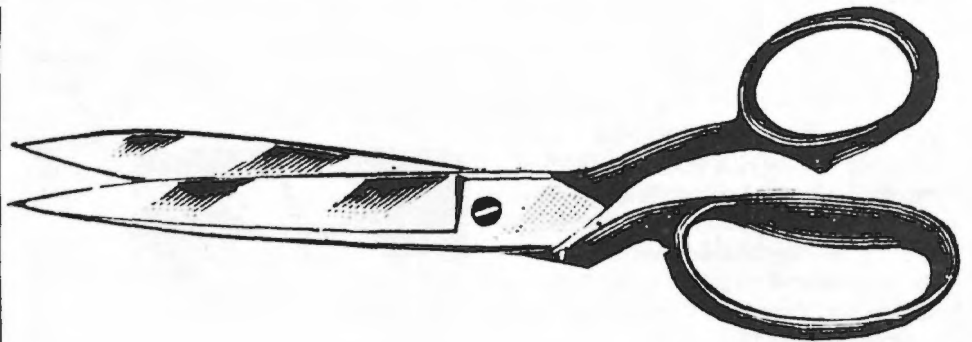
Applications for jobs, requests for funds, reports on a thousand things required by law, all contain those little blank spaces to be filled in with numbers, check marks, ratings, and so on. And don't forget the larger spaces for longer answers and comments (attach extra sheet if necessary).

EPA is one of scores of government agencies that ask such questions. Under the Federal Reports Act, dating back to 1942, all forms requesting information from people outside the Federal Government—industries, contractors, schools and colleges, State or local agencies, or individuals—must first have the approval of the Office of Management and Budget.

The OMB-approval hurdle was designed to prevent overlapping requests by two or more agencies, to assure that only necessary and useful information was collected, and generally to limit the amount of public paperwork required by Uncle Sam.

Information Need—Whether it has succeeded or not depends on where you sit. New legislation—like the National Environmental Policy Act—requires new regulatory actions and new requests for information to carry out the law. Those who are regulated tend to think there's too much paperwork required of them; agencies say they cannot carry out Congressional mandates without asking more questions.

A new drive to reduce the public's form-filling load was launched March 1 by President Ford. "American citizens



are understandably exasperated," he said, "by the complexity of reporting to the Federal Government . . . (The forms) are too many, too long, too frequent, and take too much time to fill out." And he ordered all agency heads to cut the number of public report forms by 10 percent by June 30.

EPA Administrator Russell E. Train had anticipated the President's order.

Last December Mr. Train named an ad hoc committee, headed by Mr. Lilly, to recommend ways of reducing all EPA's information requests, including internal and interagency reporting as well as the "public use reports" that must be cleared through OMB.

"We have done our best to meet the President's directive," Mr. Lilly said. "EPA's public use reports normally total about 78. By April we had reduced that total to 71, and in mid-June the figure was 69."

More than 5,000 report forms were in use throughout the Federal Government before Mr. Ford ordered the 10 percent cut, which would mean a reduction goal of more than 500 forms.

Since every public use form is approved by OMB for only a limited time, old forms are constantly becoming obsolete, and the current total is continually changing, Mr. Lilly explained. EPA's public use forms range from cards for reporting calibration tests of air sampling instruments to medical questionnaires for health effects research to surveys of municipal water supplies.

Combining Forms—"We have tried to combine two or more forms into one wherever possible," Mr. Lilly said

"We have declined to seek renewal of some forms that, in the light of the President's order, seemed of lesser importance, considering our planning goals and priorities.

"Throughout our study, EPA people have exercised the judgment. We have decided what could be cut. And we have carefully followed the OMB policy of limiting our information gathering to what is required by law, and necessary and useful to Agency programs.

"We have tried to put ourselves in the public's shoes: is the value of this information sufficient to justify the time and effort needed to fill out this form?"

The ad hoc committee working with Mr. Lilly on paperwork reduction includes Bernard J. Steigerwald, Deputy Assistant Administrator for Air Quality Planning and Standards; Jeffrey Miller, Deputy Assistant Administrator for Water Enforcement; L. Edwin Coate, Region X Acting Administrator, and Alvin R. Morris, Region III Deputy Administrator.

Three experts from outside EPA are serving as committee participating members: Michele Schrecker, Intergovernmental Relations Coordinator, Fairfax County, Va.; Wesley E. Gilbertson, Deputy Secretary, Pennsylvania Department of Environmental Resources; and Thomas G. Frangos, formerly of the Wisconsin Department of Natural Resources.

Howard A. Howell of the Program Reporting Division represents EPA on the Commission on Federal Paperwork, a joint legislative-executive group that is working to reduce all categories of government reporting and information gathering. ■



The J. C. Nichols Memorial Fountain at Country Club Plaza in Kansas City is one of many which helped this Midwestern metropolis become known as "the city of fountains."

REGION VII

ON PARADE

The economy of the four states in Region VII, Iowa, Kansas, Missouri and Nebraska, is based on agriculture or "agribusiness." The Region, with only 5.4 percent of the national population, contains 21 percent of the productive cropland in the country.

Iowa is the Nation's No. 1 corn producer; Kansas is No. 1 in wheat production. The Region supplies 43 percent of the Nation's market cattle and 44 percent of the butcher hogs. Agribusiness, including farm income, in the four States amounts to approximately \$45 billion annually.

The associated environmental prob-

lems and technical challenges they produce strongly influence the environmental quality and research needs of the Region. Economical technical solutions are needed for: 1) ammonia removal from effluents, 2) erosion and sediment control, 3) ground water contamination, 4) environmental impact of irrigation, 5) pesticide management, and 6) land disposal of sewage. The impact of regulations and guidelines that might impose a heavy economic burden on agribusiness would affect the whole country both nutritionally and economically.

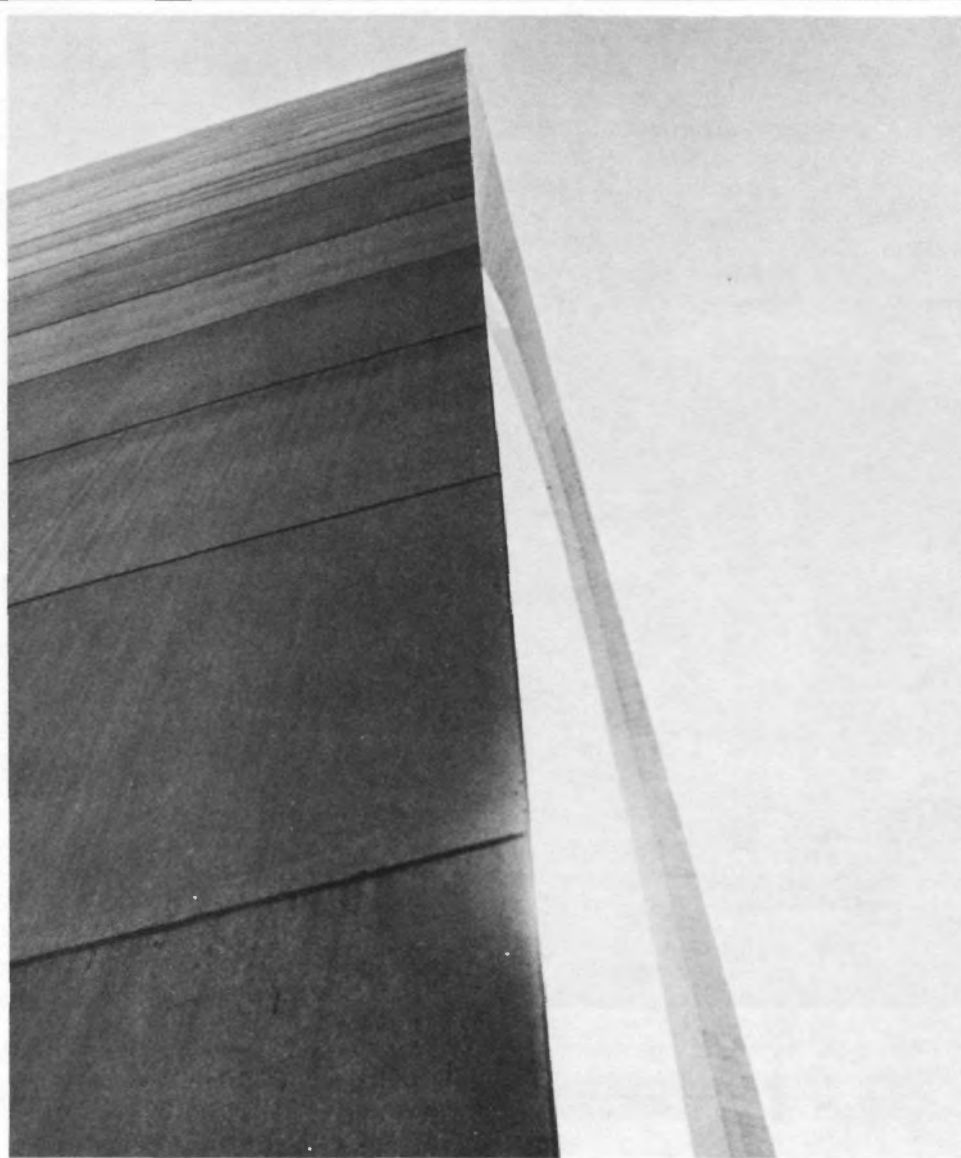
Environmental problems in the metropolitan areas are similar to those found in all large cities. A significant

problem for both rural and urban areas is finding a means to achieve proper treatment and disposal of solid and hazardous wastes.

WATER POLLUTION PROBLEMS Agricultural and surface runoff that add nutrients, organics, and bacteria to the waterways are problems in every river basin. Pollution of streams from feedlot sources continues to be a major problem. Nonpoint sources of fecal coliform and ammonia wastes are major obstacles to achieving full water quality standards compliance. Increased emphasis is being given to the solution of nonpoint sources of pollution. A national strategy has been formulated and policy and procedures have been developed for dealing with this problem.

The States have all implemented water pollution control programs which satisfy current State and Federal regulations. Program objectives of the States may, at times, disagree with long-range Federal goals, but satisfactory working relationships are maintained.

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St. Louis's 630-foot-high Gateway Arch makes an abstract pattern in this photo.

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A few raw sewage discharges into the Kansas and Missouri Rivers are a continuing problem.

Strip mining in southeastern Kansas has caused an acidic condition in nearby streams.

Full funding of the Omaha, Nebraska, secondary treatment projects would obligate all of the States' construction grant allocation for several years. This delay in funding of all construction of the Papillion Creek and Missouri River plants will make it impossible to meet the July 1, 1977, deadline for secondary treatment. A similar situation exists for several major projects in Iowa and Missouri.

The requirements of Federal Water Pollution Control Act Amendments of 1972 increase the States' work load, but the Act provides additional funding that was lacking in the past. This Federal funding improves the prospects for in-

creased State staffing needed to achieve more satisfactory water pollution control programs. The States, however, are experiencing difficulties in recruiting and maintaining staffs to respond to the comprehensive and demanding requirements of the law.

The construction grant funds allocated to the States in Region VII are not generally adequate. The broadening of eligibility to include collection systems and other facilities, increased construction costs, secondary and tertiary treatment requirements, etc., have combined to create a greater need. EPA's estimate of the total cost—based on the May 1975 revision of the 1974 Needs Survey—was about \$2.4 billion. Only \$0.7 billion has been allocated to the Region as its share of the \$18 billion authorized by the Act. On an average funding basis, it would take about 10 years to satisfy the construction needs.

All four States have indicated that

they plan to seek primary enforcement responsibility for their water supply programs under the Safe Drinking Water Act. At present Nebraska is the only State with the necessary legislation. To assist the States in monitoring their water supplies, EPA has contracted with American Management Systems to develop a Model State Information System. This is a computer-based information system for use by individual States in managing the increased volume of water quality information required to implement the National Interim Primary Drinking Water Regulations. While it is primarily designed for States without automated systems, it will also help States with them.

AIR STANDARDS

High background particulate levels may prevent meeting ambient air quality standards for particulates in 1976. In Iowa legal authority is needed to permit the imposition of regulations to control complex sources and hazardous pollution sources. Additional personnel and funding will be needed if this legislative backing is given.

In Kansas funding and personnel do not meet the requirements stated in the Implementation Plan but this should not unduly hamper the State's effort. In Missouri inadequate manpower and fiscal resources have hampered progress in developing an effective State-wide enforcement program. A more positive approach, including court action as needed, is required to enforce State regulations. In Nebraska the program is hampered by a lack of funds and personnel.

Only one Transportation Control Plan, for the St. Louis area, was required in Region VII. Coordination of the plan's preparation and implementation was handled by the East-West Gateway Coordinating Council. Because of difficulties in negotiating a contract between the Council and the State of Missouri, the plan was not submitted until April 30, 1976.

SOLID WASTE

Increased concern and effort at all governmental levels are required for necessary improvements in the various aspects of solid waste management. All four States have solid waste processing and disposal site permit requirements. There are varying weaknesses in their laws, but open dumps and open burning sites are being closed. Implementation of permit systems requires additional

funds and personnel to provide technical assistance, plan review, and provide inspection and enforcement services to local solid waste agencies. All State agencies are hampered by lack of resources. In addition, the permit programs have produced a wider recognition of the hazardous waste disposal problems. Each State has undertaken a survey of the generation of these wastes to form a base for developing a control strategy. Resources recovery efforts for both solid and hazardous wastes will contribute to the long-range solution of both disposal problems and are being investigated by Kansas, Missouri, and Nebraska.

PESTICIDE CERTIFICATION

Iowa has fully certified over 10,000 private and 2,800 commercial applicators. Iowa State University Extension Service trained 13,220 private applicators during 192 training sessions and 3,300 commercial applicators at 14 training sessions.

With the cooperation of a Sioux City TV station and funds from some pesticide producers, a county agent and an agronomist produced five half-hour TV tapes for private applicator training in 12 northwest Iowa counties. These were shown on five weekends. Over 3,200 training manuals were requested from the station, and 2,453 private applicators from these counties have been certified.

The Nebraska Extension Service has agreed to hold participatory training sessions this fall to make private applicators eligible for certification. The sessions will be in conjunction with their fall Crop Clinics, which always draw well.

The Nebraska Legislature has enacted a statute that enables the State Extension Service to train applicators and act as the lead agency in promulgating regulations and developing a State plan. Work is progressing on the plan.

In Missouri, 1,275 commercial applicators have passed the general standards exam and one or more category exams and are qualified for certification. Exams were held across the State. An estimated 400 additional applicators will have been examined when final reports are received.

Missouri law now requires dealers selling restricted-use pesticides to be examined and licensed. Over 800 have been examined. Thirty-nine training sessions, each one day in length, were held with an attendance of 2,160. The

entire program is to be repeated next winter. Train-the-trainer sessions have been held for 40 area extension specialists, and a staff member has been designated for each county in the private applicator program to coordinate training. A participation program is being developed with a 35-part study guide for use in the planned four-hour training sessions.

While waiting for a law and an approvable State plan, the Kansas State Extension Service has held 16 training and testing sessions for commercial applicators. The Regional Office reviewed the program to determine that it met the certification criteria. Of the 2,300 attendants, 2,000 took the test and 1,300 passed.

Kansas trained and made eligible by



Windbreak hedgerows of trees divide the rich farmlands of Nebraska.

written tests 600 private applicators. This was done under a training grant to the Kansas State University.

ENFORCEMENT

Region VII has a long history of vigorous environmental enforcement. Since 1970, the Enforcement Division has worked closely with the Surveillance and Analysis Division to develop an extensive data base defining the quality characteristics of major rivers and the major waste discharges. This data base has been used to resolve disputes on water quality standards and to support permit development. To date the Region and its States have issued over 6,000 permits covering almost 90% of the known point sources. Three of the four States have assumed discharge permit authority and are maintaining active permit and compliance programs. The major future goal of the Enforcement Division is to work with the States to ensure valid, reasonable per-

mits, timely compliance, and effective enforcement.

By late May of this year 60 oil spill cases had been referred to the U.S. Coast Guard and/or the U.S. Attorney. Fifty-four administrative orders had been issued for various permit violations and 15 substantial permit violations had been referred directly to the U.S. Attorney. Five Notices of Violations have been issued to the States for violations of State issued discharge permits.

The Division is conducting a pilot program for the Enforcement Management System, which, if successful, may be used in other Regions. It has issued 88 administrative orders, 66 unleaded gasoline complaints, and two Notices of Violation under the Clean Air Act.

Over 1,000 warning letters have been sent to various facilities advising them to comply with the provisions of the unleaded gasoline program. Eighteen prohibition orders have been issued to various power plants under the authority of the Energy Supply and Environmental Coordination Act, and considerable additional activity is expected in coming months.

The Pesticides Branch of the Air and Hazardous Materials Division has issued 64 complaints this year, all of which were handled by the Enforcement Division in cooperation with the Pesticides Branch.

Surveillance and Analysis has undertaken a State laboratory quality assurance program and a field quality assurance program in-house to improve the quality and credibility of air and wastewater data put into various program and data systems. A water laboratory certification program began this summer. ■



SAVING THE GRASSLANDS

By Rowena Michaels

To the untrained eye of a casual traveler, the four states of Region VII, Kansas, Nebraska, Iowa and Missouri hold little in wondrous spectacular scenery . . . no towering snow capped peaks, no pounding surf, no heavy black forests, no white sand beaches.

Rather manmade attractions dot the scene . . . the towering steel arch that dominates the city of St. Louis . . . the Lake of the Ozarks, a body of water created by a utility company-built dam, whose tree dotted shoreline is longer than the entire coast of California . . . two magnificent libraries erected in the honor of Presidents of the United States, Dwight Eisenhower and Harry S. Truman . . . scholars from all over the world come to study and pore over these archives . . . the Nelson Gallery-Atkins Museum houses one of the finest collections of Oriental art any-

where in the world.

Kansas City has more fountains than any place but Rome, more miles of boulevards than Paris, and her Country Club Plaza, the first suburban shopping center in this country, is the epitome of good taste in planning.

But there are those of us in Region VII who feel that the quiet beauty of the prairie is as awesome as snow capped peaks and raging rivers.

Early American surveyors riding through the virgin tallgrass prairie found the grass stirrup high to their horses, and in some spots in the region this grass, big bluestem, still grows on lower slopes and valley floors. Midgrasses, such as needle grass and little bluestem, cover the high ground. Further west in Kansas in "short grass" country, that American Indian favorite, buffalo grass predominates.

These early surveyors found that the land belonged to the Indian grass and big bluestem . . . to wildflowers and to the sky and the sun . . . and always the wind . . . that trees shrank from it and

for a long time, so did people.

Slough grass, often found in low lying areas of the prairie and avoided by Indians and settlers alike, was called "rip-gut" because of its tough, saw edge blades. But its sod was unexcelled for building the "soddie" home of early settlers, and if cut early it made good hay for the animals.

Wild prairie flowers and wild strawberries covered the prairie hills like a colorful blanket and 150 years later the picture is repainted each spring.

It is estimated that the Sheeder Prairie in southwestern Iowa is over 10,000 years old. Once mammoths, mastodons, giant bison and wild pigs roamed there. Now, only the tallgrass remains to remind us of an ancient time.

The largest Iowa prairie to survive in its original form is Kalson Prairie in northwestern Iowa. Only 160 acres remain, but in the full blaze of an Iowa summer day the prairie is brilliant with golden rod and ripening bluestem.

True prairie was not a matter of location but of composition. The lie of

*Ms. Michaels is Director, Region VII
Office of Public Affairs*

the land had nothing to do with whether it was prairie or not; some prairie was flat, much of it was rolling and some was broken and rocky. But, it needed tallgrasses, Indian grass, cordgrasses and the big bluestem, towering to 12 feet in some areas, to be true prairie. It was here that the forested East ended and the West really began.

One old journalist wrote "the verdure and flowers are beautiful, and the absence of shade and the consequent profusion of light produces a gaiety which animates every beholder."

Open as they are, the prairies are not treeless. Most prairie has a roll and break, with the land rising to the skyline and some timber down in the folds. Prairie must have sweep and perspective to look like prairie. It is more than just native grasses, prairie chickens on their booming grounds, coyotes howling, bison grazing or whitefaced cattle running before a storm. To be prairie it must stretch from horizon to horizon, and the only places where you can still find it are in parts of Nebraska's Sand Hills and the Flint Hills of eastern Kansas.

The Flint Hills prairie has survived because beds of cherty limestone lie so close to the surface it cannot be plowed.

A very active organization is working diligently to save the tallgrass prairie but cattlemen and landowners and others are working equally hard against it. It was in the Flint Hills that former Secretary of the Interior Stuart Udall, was forced to leave, at gunpoint, after helicoptering in to investigate the possibilities of locating a National Prairie Park there. Billboards dot major highways stating "Save Our Grass" . . . "Keep the Park Out," etc. But enthusiasts do not appear to be weakening . . . the movement has been afoot for over 40 years to secure this sophisticated climax ecosystem. Perhaps they will win . . .

Those of us who have heard the angry buzzing of a prairie rattlesnake, crawled a quarter of a mile to observe the communal life of a prairie dog town, heard the lonesome chorus of the wily old coyote as he hunts a yucca-studded ridge, listened to the distant thunder of prairie chickens booming in their weird dance on centuries old booming ground, or felt the prairie wind in our face under the beating sun of a cloudless Kansas sky as we rode horseback through belly-deep bluestem . . . we are hoping the tallgrass prairie is saved, too. ■

Region VII's LEADERSHIP TEAM



Jerome H. Svore,
Regional Administrator



Charles V. Wright,
Deputy Regional
Administrator



Earl Stephenson
Director,
Enforcement Division



Carl Blomgren,
Director,
Water Division



Robert Markey,
Director,
Air and Hazardous
Materials Division



Donald Townley,
Director,
Surveillance and
Analysis Division



Charles Hajinian,
Director,
Management Division



Arlein Wicks,
Director,
Office of
Intermedia Programs



Ronald Ritter,
Congressional and
Intergovernmental
Relations Officer



John Morse,
Regional Counsel



Rowena Michaels,
Director,
Office of Public Affairs

INQUIRY

What are you doing to conserve resources?

Zack Dobbs, Chemist, Rochester Program Support Branch, Region II, Rochester, New York:

"My program of conservation is based on the premises that things commonly considered 'wastes' are resources to be used and reused, and that in the past we have been heedlessly extravagant in our use of energy and materials.

"Bottles, other glass containers, newspapers, and aluminum cans are all carted off to recycling centers. Paper is conserved by always using both sides; lights are turned off when not in actual use and during the winter the house thermostat is kept at 68°. I try to organize errands that require car use into one continuous trip rather than making a series of separate runs; this not only saves gas but reduces the amount of pollutants released to the atmosphere. I plan my work so as to utilize instruments and machinery at their fullest capacity and with the least expense of energy."

Polly Johnson, Mail Clerk, Environmental Research Laboratory, Corvallis, Oregon:

"My life style is pretty much structured around conservation, both because of conviction and a preference for a simple life that makes low demands on energy and other resources. I live in a valley in the Coast Range Mountains near Blodgett, Ore., and drive the 20 miles to Corvallis daily in a carpool with two other women who live nearby.

"I built my house from recycled wood from an old barn; I use wood—

there is a lot of dead and windfall wood around—for heating and cooking; a propane lantern provides light; a spring brings water to the house by gravity flow; a traditional outhouse affords the other amenities. My twenty acres have been logged over, but I am planting trees, and I have a garden that provides much of my food and ultimately will yield even more for canning and preserving."

Norbert Schomaker, Chief, Disposal Branch, Solid and Hazardous Waste, Research Division, Municipal Environmental Research Laboratory, Cincinnati, Ohio:

"I live in Green Hills, a small town just north of Cincinnati and I have been active in advising the Town Council on management of solid waste. About 18 months ago we devised a workable and profitable way to re-use newspapers rather than dumping them with other trash in the landfill.

"Each resident is required to separate newspapers from other waste and when town collection is made, the papers are placed in special containers and taken to a town storage place. The market price for recycled paper varies a great deal, so the papers are stockpiled until the price goes up. Then they are hauled to the Diamond International Paper Co. plant in Cincinnati where they are recycled into usable paper.

"Profits from sale of the old papers go into the town's general funds."

Robert F. Powell, Physical Scientist, Office of Water and Hazardous Substances, Washington, D.C.:

"Most of my conservation activities are focused on promoting sailing as a pursuit that is conserving of energy and resources, intellectually and physically challenging, non-polluting, relatively cheap—and fun! For years I've worked as an environmentalist with youth groups and directed the environmental science and national sailing programs of the Boy Scouts of America.

"Next year there will be about 100,000 boys at the National Scout Jamboree in western Pennsylvania, and I plan to have a fleet of 150 boats and staff there to teach the rudiments of sailing to boys and leaders from all walks of life. Sailing competition is a marvelous discipline for creating personal interaction with the environment and other people."

Sylvia Miller, Clerk-Typist, Research Support Branch, Environmental Research Laboratory, Duluth, Minnesota:

"Although many people thought we were crazy then, my family and I started conserving energy and materials about six years ago. We are motivated in part by environmental considerations, but also by the earlier morality of 'waste not, want not.'

"Our procedures are quite simple. We live in rural Duluth on Lake Superior where it can be very cold. We regularly burn wood, in an iron pot-bellied stove that throws out a tremendous amount of heat, to supplement the gas furnace. The furnace is not started until December and it is shut off in March and in this area it is not unusual to have May temperatures in the low thirties!" ■



Zack Dobbs



Polly Johnson



Norbert Schomaker



Robert F. Powell



Sylvia Miller

news briefs

TRAIN URGES BETTER LONG-RANGE PLANNING FOR NATIONAL PROBLEMS

The Nation must face the reality of the long-range problems of energy, food supply, natural resources, population and uncontrolled growth, Administrator Russell E. Train told a recent joint hearing of the House Committees on Science and Technology and Merchant Marine and Fisheries. These "critical issues are ...interrelated and long-range ones" that call for continuous analysis and comprehensive planning by Congress and the Executive Branches, he said.

DDT APPROVED TO COMBAT PLAGUE IN COLORADO

The burrows of rock squirrels and other rodents in five counties near Colorado Springs are being dusted with DDT powder this month to control an outbreak of bubonic plague among rodents. State health authorities sought and obtained EPA's permission to use the generally-banned pesticide. They are concerned that rodent fleas could carry the plague germs to humans.

SPECIAL HANDLING NEEDED FOR VINYL CHLORIDE CANS

Spray cans that have vinyl chloride as the propellant gas are hazardous to get rid of. EPA recently issued recommendations for disposal of these products. Vinyl chloride is a cancer-causing agent, and sale of all spray cans containing it has been banned by the Consumer Product Safety Commission.

DISCHARGE LIMITS PROPOSED FOR FOUR TOXIC PESTICIDES

Strict limits on wastewater discharges containing four toxic pesticides have been proposed by EPA to protect human health, fish, and other water organisms. The substances are: aldrin/dieldrin, DDT (and related compounds), endrin, and toxaphene. EPA's proposals would forbid the discharge of any aldrin/dieldrin or DDT (and related compounds DDE and DDD) from plants manufacturing these chemicals and would place severe restrictions on discharges from existing plants making endrin or toxaphene.



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BIKECENTENNIAL



Bicyclists travel quiet back roads past snow-capped mountains on the Trans-America Trail.

Several thousand Americans are spending part of this summer riding across the country on a non-polluting form of transportation—bicycles.

Will Foster, EPA environmental engineer, and Eileen Kadesh, an EPA environmental protection specialist, who resigned from the Agency to make the trip, are among those riding across the Trans-America Trail, a system of secondary and rural roads 4,250 miles long, developed by Bikecentennial '76, a non-profit bicycling organization.

Asked why he was making the trip, Mr. Foster replied that "locomotion by muscle power is an important objective. We need to return to a simpler and less polluted kind of existence."

While at his EPA job in the mobile source enforcement office, Mr. Foster biked or jogged to work from his residence two miles from Waterside Mall.

"The most I have ever biked in one day was 150 miles," Mr. Foster said.

"I hope to do an average of 50 miles a day on the cross country trip, which is a relatively easy pace, providing you don't run into a head wind. A head wind can be a real bummer."

Mr. Foster attended a leadership training course at Yorktown, Va., sponsored by Bikecentennial before flying to the West Coast, where he began his bicycle trip back to the East from Oregon.

"I just didn't have enough leave time to be able to bike both ways," Mr. Foster explained. He added that it will also be easier biking to the East Coast because the prevailing winds are generally from the West. Ms. Kadesh also flew to the West Coast to begin her biking venture.

Before leaving Washington, Ms. Kadesh said she hoped to bike from Reedsport, Oregon, to Yorktown, Va., with a group of other bicyclists.

In a phone interview with EPA Journal from New Meadows, Idaho, Ms.

Kadesh said that "We are now on our 15th day and both I and my bike are holding up well. There are 15 people in our group ranging in age from 16 to 66 and I am one of three women. I'm with a fine and friendly group. One night we celebrated the 66th birthday of our member from Los Angeles.

"He is doing fine, though he usually walks up the steep hills. We come from all over the United States. Usually we are out on the road by 6:30 or 7 a.m. and do 55-60 miles a day. The weather has generally been good. The prettiest day so far was going over the Cascade Mountain Range in Oregon. We were scheduled to go over the McKenzie Pass, but the snow was too deep. So we used the Santiam Pass in Central Oregon instead.

"I guess I'm a little bit crazy to be doing this, but I love biking. It's the only way to see the country. I've been amazed by the variety of terrain we've gone through. I expect to complete the trip in Yorktown, Va., about August 24. It's so nice to get away from the tensions and pressures of the city."

The Trans-America Bicycle Trail is the first transcontinental bike route. The trail is divided into a series of two- and three-week vacation length sections designed to make bike touring attractive to both the casual bicyclist and the seasoned bike traveler.

Overnight accommodations are provided at simple bike inns and hotels. Camping facilities are also available all along the route.

The trail crosses 25 national forests and its development has received major support from the U.S. Department of Agriculture's Forest Service. The trail is also recognized as the keystone route in a future interstate system of bicycle trails. New routes are already being developed.

Bicyclists traveling the Trans-America Trail this summer have been invited to join in a variety of local Bicentennial celebrations along the way. ■