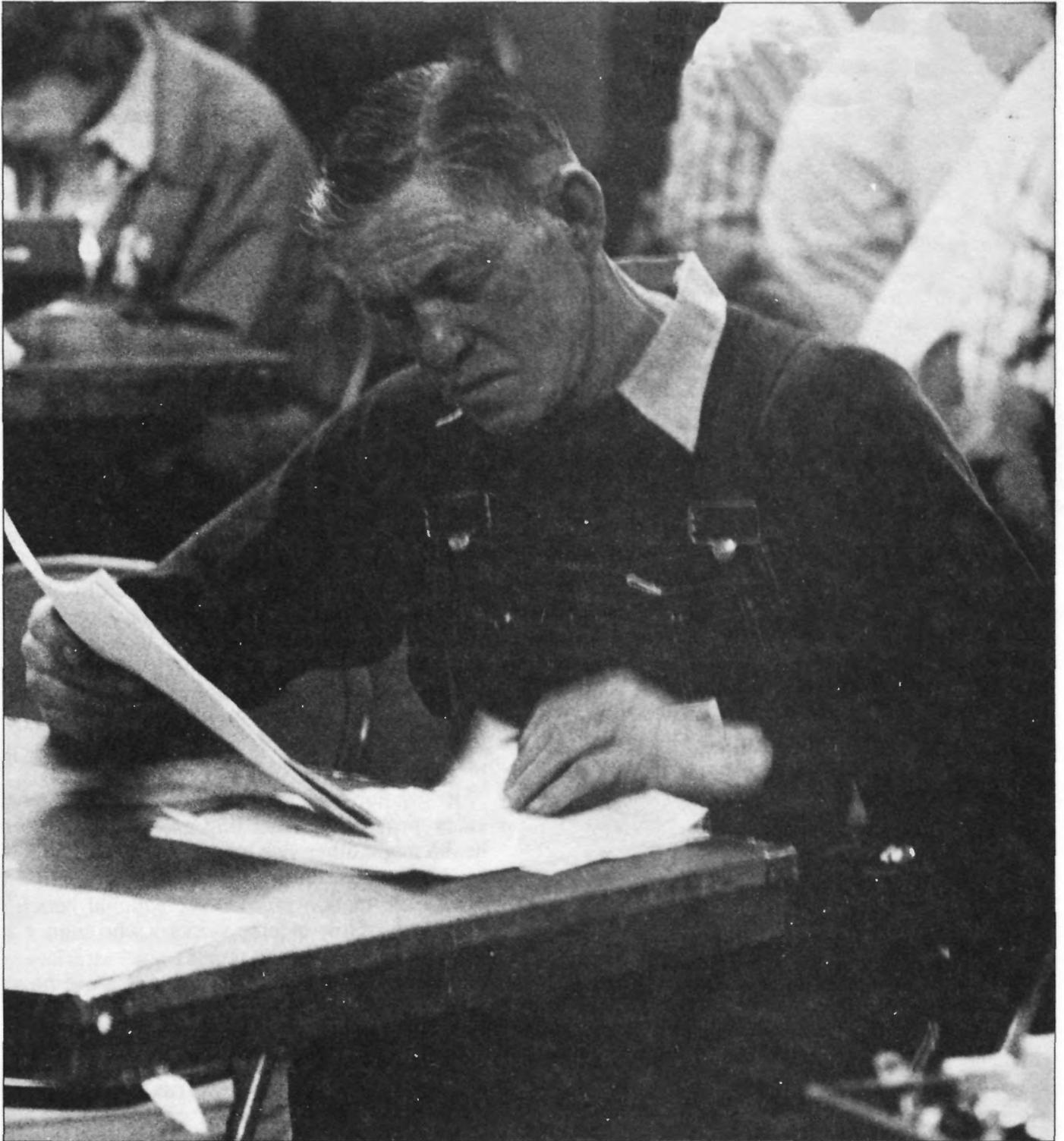


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LEARNING PESTICIDE SAFETY

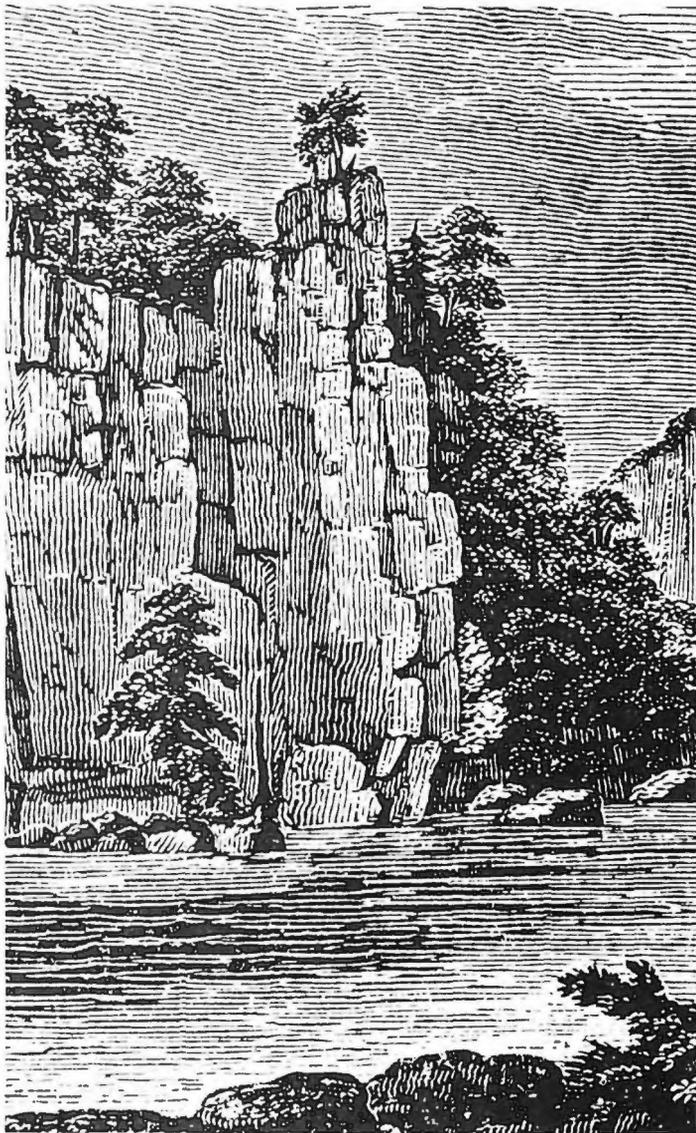
U. S. ENVIRONMENTAL PROTECTION AGENCY

EPA'S PURPOSE

TO FORMULATE AND IMPLEMENT ACTIONS WHICH LEAD TO A COMPATIBLE BALANCE BETWEEN HUMAN ACTIVITIES AND THE ABILITY OF NATURAL SYSTEMS TO SUPPORT AND NURTURE LIFE.

We all have very legitimate needs for shelter, food, and jobs, but these needs must be met without destroying or permanently impairing the renewal capacity of the natural systems which sustain people.

EPA's role is to help keep the balance which protects the environment while still allowing fulfillment of society's aspirations.



A recent Harris poll indicated that the American people recognize their stake in protecting the environment.

Most Americans now "would rather live in an environment that is clean rather than in an area with a lot of jobs," according to the poll.

The poll also showed that those questioned have serious misgivings about technology and "bigness." A majority felt that "modern technology furthers the progress of society more than the progress of the individual."

And a majority reported that they felt that "bigness in almost anything leads to trouble for individuals who can't stand up to it."

A point often overlooked is that while EPA is carrying out its role as guardian of the environment, it also helps protect human health, creates recreational opportunities, and provides new jobs and industry.

To help emphasize the responsibility EPA has to account to the public about its opportunities and challenges, the name of its Public Affairs Office has been changed to the Office of Public Awareness.

Some examples of the developments EPA will be reporting on to the public in the months ahead are:

The environmental movement has spawned a major pollution control industry as private companies and factories all over America spend billions of dollars to clean up their wastes.

EPA's multi-billion dollar construction grants program to help cities build waste treatment plants provides thousands of jobs.

Restrictions placed by EPA on the use of pesticides protect farmers and other workers whose health might otherwise be permanently impaired.

The massive efforts to clean up rivers and lakes across the Nation provide recreational benefits for thousands of low-income workers who cannot afford to visit expensive resort areas.

The Agency's efforts to curb excessive noise will eventually help reduce the psychological and hearing damages from the cacophony of urban sounds in our major cities.

The progress in reducing air pollution will protect two of the most vulnerable groups in our population—children and the aged.

While the environmental cause still must overcome enormous obstacles, it is one which a properly informed public will insist on winning.

EPA JOURNAL

U.S. ENVIRONMENTAL
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Cover: An Iowa farmer studying manual during a pesticide applicator training course. USDA Photo. (See story on Page 2).

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PESTICIDE SAFETY



Pesticide is sprayed on a Michigan cherry orchard.

Under a new pesticides safety program, more than one million Americans have received special training on how to apply highly toxic chemicals, and by the time next spring's crops are planted nearly two million farmers and commercial applicators will have been given this instruction.

Approximately 1,400 pesticides ingredients are used in making about 35,000 different pest-killing products in the United States. Use of many of these have controlled insect damage and helped spur food production.

But pesticide misuse or careless storage can pollute water sources, create other types of environmental damage and sicken or kill animals and humans.

For this reason, Congress included in the amendments to the Federal Pesticide Act a requirement that farmers and other applicators must be certified before using certain pesticides which will be classified by EPA as "restricted". The program goes into effect on October 21, 1977, but over half of the people who EPA predicts will require this training have already been certified in anticipation of the new regulation.

Most pesticides, however, and especially those used by homeowners and home gardeners, are expected to remain classified for general use, and thus may be applied by anyone who follows label directions. This means the general public will not as a matter of course be involved in the certification process.

Under the new program, the States adopt plans for applicator certification programs, which EPA then reviews and approves. The training is conducted by the State Cooperative Extension Service, and certification is granted by the appropriate State agency. Should any State fail to adopt a plan, EPA is planning to administer the program in that State.

"As the new certification program begins, we expect that all but two States—Colorado and Nebraska—will have approved plans," said Edwin L. Johnson, EPA Deputy Assistant Administrator for Pesticide Programs. "Almost all of the States, as well as four U.S. Territories, have already submitted plans and gained such approval.

"Certification will have positive benefits for both the pesticide users and the general public. As a result of their training, certified applicators know more about the products they are using, the safety measures needed and the dangers

to the environment."

Individual State pesticide laws and plans for applicator certification may go beyond the basic Federal requirements, as some States have elected to do in formulating their programs. Agreements for the training sessions have been worked out among EPA, the U.S. Department of Agriculture, State pesticide officials, and the involved State Cooperative Extension Services. EPA is aiding in the funding of the training program.

Georgia became the first State in the Nation to develop an acceptable State plan for applicator certification in August 1975. Iowa was second. Three northwestern States—Washington, Oregon, and Idaho—are credited by the Agency for having taken the lead in simplifying procedures for applicators who apply pesticides in more than one State by working out reciprocal programs.

Pesticide applicators affected by the new program are divided into two categories: private and commercial. Private applicators are those who are producers of agricultural commodities; all others are regarded as commercial applicators.

Adam Quick of Baltimore County, Maryland, recently attended such a course with about 30 other men and women, most of whom, like Quick, were farmers. The four-hour agenda included movie and slide presentations, lectures and discussions, and study of training manuals.

The instruction included techniques on safe pesticide use and disposal, pest identification, pesticide labeling, and other aspects of handling these chemicals.

Some days later, Quick received a small plastic card which will tell chemical dealers that he is certified to buy and use pesticides which have been designated as restricted by EPA.

"I figure its a good idea to learn all we can about pesticides," Quick said of the new program.

Many State programs have alternate certification procedures for private applicators where class attendance is not required if one studies at home and then takes an open- or closed-book exam. Said Charles Ensor, a Baltimore County farmer who took the course in this fashion, "Farmers don't realize the danger involved in using pesticides. I learned some new things from the course."

Until a restricted product is actually relabeled as such at the retail level, per-

sons not certified to buy or use it won't be penalized for doing so. EPA has proposed that retailers have up to 180 days after a product is judged restricted to relabel old stocks. Afterwards, uncertified applicators buying or using a restricted product could be subject to penalties ranging from a simple warning to fines of several thousand dollars.

Restricted pesticide ingredients are those which the Agency determines could pose problems for people or the environment unless used by persons who have demonstrated their competency to handle such materials.

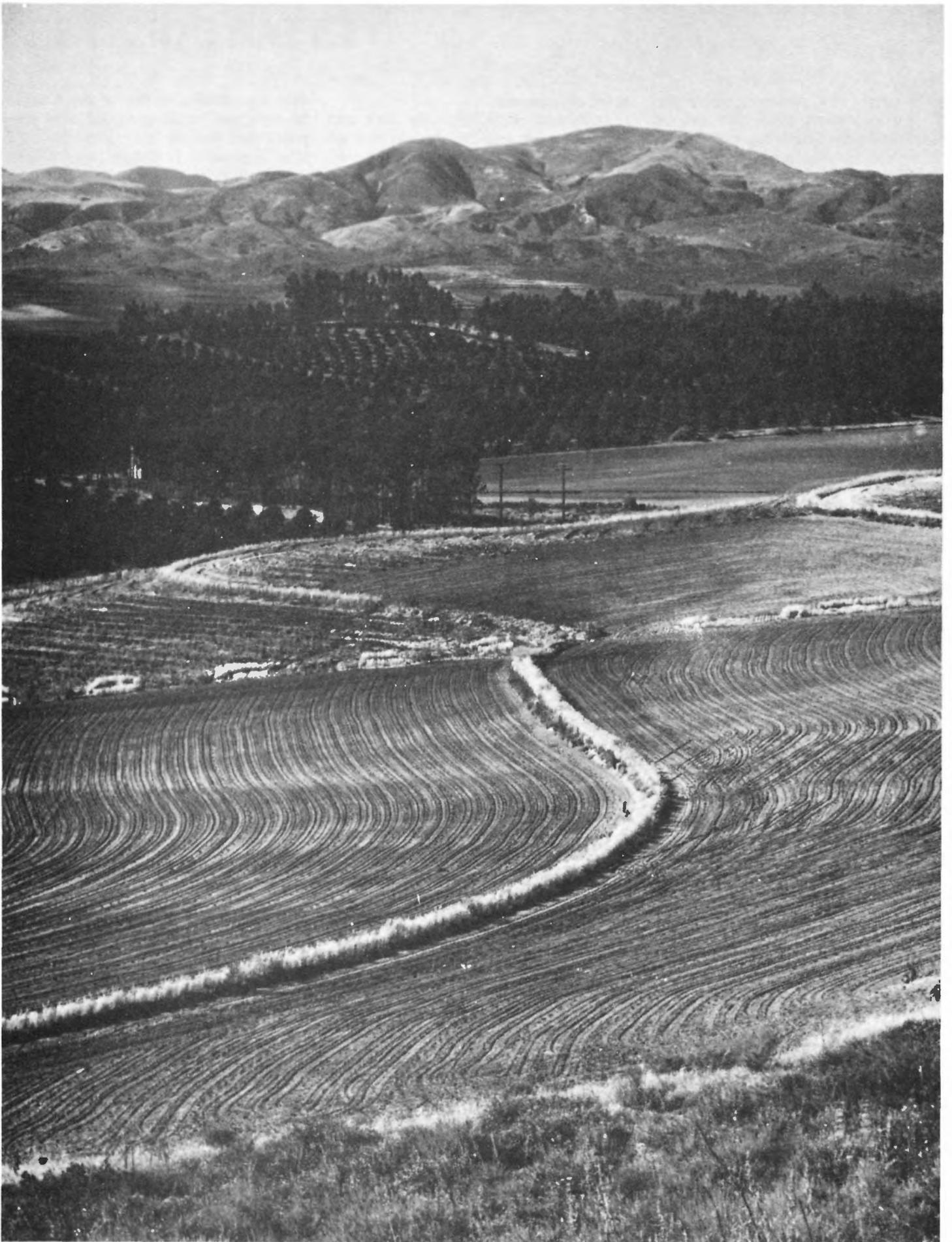
EPA has already proposed that all use of 23 pesticide ingredients—many important to agriculture—be restricted. EPA has also asked for additional information on 38 other pesticide ingredients it considers candidates for restricted use. The Agency is particularly interested in skin and inhalation effects and the use history of the pesticides.

"We hope to have final decisions on the 23 pesticides by October 21 of this year," said EPA Administrator Douglas M. Costle. "Restrictions on at least some, and perhaps all, of the 38 remaining pesticides will then follow. The same procedure will apply in both instances: a group will be proposed for restricted use, public comment sought, and a final decision made."

According to Johnson, "The certification program gives EPA more options when considering whether to register or re-register a pesticide—or whether uses should be cancelled or suspended. Instead of allowing unrestricted use of some pesticides—or being forced to cancel all uses—we can now restrict certain products or uses to certified applicators who have demonstrated their competence to handle products safely.

"This increases the ways EPA can achieve its long-term goal of providing the pesticides needed to maintain our food supply while avoiding risks to people and to the environment. We've come a long way toward better pesticide use . . .," Johnson said.

Harry Hubble, another Baltimore County farmer who took the training course, had this observation about the new program for farmers and others who might feel that it is just more government red tape: "I remember when we objected to milk inspection, and it turned out to be one of the best things that ever happened to us." ■



PRESERVING FARMLAND

The Environmental Protection Agency has begun an intensive review of its programs and regulations to assure that they will encourage the preservation of America's prime farmlands.

The actions come at a time when the American farmer is beset by pressures on every side to sell out and let his land be converted to other uses.

Every year the Nation experiences a net loss of more than a million acres in valuable croplands. Some of this acreage is eaten up by urbanization—the spread of streets and houses and shopping centers across once productive fields. Other farmland reverts to grazing and forest. And still other acreage is prone to erosion and dust storms and other natural forces that cause rapid soil depletion.

The trend would be serious enough by itself, but it comes at a period when the Nation and indeed a hungry world needs the American farmer's products. EPA intends to shape its policies with the farmer's interests in mind.

As Administrator Douglas M. Costle recently told the Essex Agricultural and Technical Institute in Danvers, Mass.:

"EPA has what might be called a vested interest in preserving farmland. It also carries out a series of mandates that—if not carefully thought out and managed—could conflict with that vested interest."

Why is farmland lost? What are the factors that conspire to change a farmer's view of the future and convince him, despite his own love of the land, to sell out and either retire or find work in some other walk of life?

"Almost every aspect of modern life conspires to destroy the farmer's incentive to keep on farming," Mr. Costle said.

"Costs have risen. Labor is tough to come by. Prices for farm products have not kept pace. Taxes have skyrocketed. And many a farmer is caught between the difficulty of making a living, the temptation to sell out to developers who have been offering top price for his acreage, and lack of support from his neighbors and local representatives who too often would dearly love to see his farm become a source of greatly increased tax revenues through development. Yet the added costs of meeting the resource needs—roads, sewers, schools—of such development almost inevitably offset the gain in taxes, not to mention the losses in quality of life."

There are obvious reasons why many

observers are concerned over the shrinking supply of prime agricultural land. Although the loss of a million acres annually seems small compared with the 470 million acres in cropland, the land going out of food production often is the best in terms of quality and accessibility. Also, the change in land use can have a major local impact—economically, environmentally, and socially.

Once the farmland is lost to urbanization, particularly in industrialized areas such as the northeastern United States, it cannot be retrieved. And when enough land is taken out of farm production, related industries such as local feed mills, farm machinery outlets, and farm supply stores also must close.

There are other undesirable side-effects. A recent Congressional report noted that agricultural land in floodplain areas often is shifted to industrial or commercial development, with pressure then created for public investment to provide flood protection.

One of the social effects, of course, is the loss of the farmer himself and the enduring, sturdy values that he historically has contributed to the national character. Such things cannot be weighed in dollars and cents, but they have been known and honored for many centuries. As Oliver Goldsmith wrote in "The Deserted Village" two centuries ago:

"Ill fares the land, to hastening ills
a prey,

Where wealth accumulates,
and men decay."

The Environmental Protection Agency has an interest in preserving prime farmland and keeping it in food production for other and more specific reasons.

"The drought and water shortages of this past summer," Mr. Costle pointed out, "have underscored one of the essential attributes of farmland: the protection of watersheds. Open lands such as farms maintain local water supplies by absorbing precipitation and transferring it to the ground water system. They also protect aquifer recharge areas and provide buffers for water supply and other natural areas."

In addition to protecting such environmental entities as wetlands and flood plains, farms furnish a habitat for wildlife, including game such as deer, grouse and quail, as well as songbirds and other nongame species, he noted. Equally valuable are the emotional, aesthetic and social benefits of our verdant fields and

valleys.

Because of the Agency's specific concern for preserving and protecting such valuable land, Costle has directed EPA to take a fresh look at the way its programs may affect the future of farmland. He listed these steps the Agency now is taking:

- An examination of land use changes which may be induced by EPA programs. "We have already begun revising the construction grant program for building sewage treatment facilities, for example, in order to make sure that we are minimizing pressure to take land out of food production," he declared.
- EPA is becoming increasingly sensitive to regional variations in water and land availability in implementing Agency programs that affect farmlands.
- The Agency is working to bring about closer cooperation with the Soil Conservation Service through joint technical assistance projects.
- EPA is seeking to assure that there is a thorough review of environmental impact statements on any actions that will affect agricultural lands.
- The Administrator has directed that EPA develop an overall policy statement on the preservation of prime agricultural lands to give general guidance for the implementation of EPA programs.

The English poet Goldsmith was not the first to warn of the serious social side effects that can result when farmland is squeezed out and the "bold peasantry" disappears.

As Costle noted, "Two thousand years ago the Roman poet, Virgil, warned his countrymen that the loss of agriculture would be the destruction of the nation. He was right. Just as an army becomes vulnerable when its supply lines grow too long, a city, a state, or a nation is weakened when it is no longer capable of producing most of its basic food supply."

In announcing the new policy, the Administrator concluded:

"I would like to assure you that EPA, both nationally and regionally, will do everything in its power and within its mandate to preserve and protect our farmlands. We will devote our best efforts to developing a common-sense awareness of the very real problems and opportunities that our policies and progress can create for farmers. We will work to minimize the problems and expand the opportunities." ■

CHILD-PROOFING PESTICIDES



Two boys, ages 12 and 24 months, were visiting their grandmother. They found the aerosol spray can containing DDVP she was using for roach control and took turns spraying each other in the mouth with the pesticide. Both began vomiting and when seen at the hospital several hours later were in a coma. They responded to vigorous treatment with atropine sulfate. —The Archives of Environmental Health

Each year an estimated 10,000 youngsters under the age of five end up in hospitals because of accidental poisoning due to pesticides in the home, according to reports from Poison Control Centers across the Nation. Research indicates that most of the time these incidents could have been prevented by the use of special packaging.

The danger of household pesticides to children has prompted the Environmental Protection Agency to propose regulations that would require industry to package most hazardous household pesticides in child-proof containers. About one fourth of the 8,000 pesticides found in residences would be affected. Included are such familiar items as ant and roach insecticides, bathroom and kitchen disinfectants, and pet sprays.

Child-protective packaging requirements have already been in effect for several drugs and chemicals that fall under the jurisdiction of the Consumer Product Safety Commission as spelled out by the Poison Prevention Packaging Act of 1970, including aspirin and certain household products such as drain cleaners.

The products affected by the new regulations would be pesticides associated with households and other places where children are apt to spend time, and patient-care areas of health institutions. Special packaging will be required if there is a human health hazard, such as acute toxicity or the potential for serious skin and eye damage, or if use history, accident data, or any other evidence indicate the existence of a serious threat of accidental injury or illness to children.

Household pesticides are considered by EPA to include indoor pest control products, garden and patio bug and weed killers, pet kennel sprays, and some swimming pool chemicals, as well as pesticides used in mobile homes, marine pleasure craft, campers and recreational vehicles, non-commercial campsites, and educational and daycare facilities.

EPA was given jurisdiction over pesticide packaging under the amended Federal Insecticide, Fungicide, and Rodenticide Act in 1972. The Administrator is authorized to establish packaging standards, as long as they are consistent with those standards that have been established

under the Poison Prevention Packaging Act.

Under EPA's proposed regulations the type of packaging, such as "press-down-and-twist" caps, is left to the discretion of the manufacturer. The packaging standards are broadly spelled out, thus providing leeway for new and innovative designs. Essentially, the child-protective package must be effective when the pesticide is in the container, and the package must not damage the integrity of the product during storage and use. In addition, the safety design must be effective throughout the reasonably expected lifetime of the package.

Special packaging has been shown to be very effective in reducing the number of child poisonings. For instance, the drug that children most often eat accidentally is aspirin, which falls under the jurisdiction of the Consumer Product Safety Commission. In the three-year period after special packaging regulations for aspirin were set for 1973, accidental swallowing of aspirin decreased 41%. Antifreeze has also been subject to packaging requirements, and poisonings from that common item have dropped 70%. Meanwhile, products that have not been required to use safety packaging, such as perfumes, colognes and pesticides, have shown annual increases in the number of accidental child poisonings.

In addition to establishing broad standards for packaging, the proposed regulations set forth the procedures for industry to test for effective child-proof packaging.

Two hundred children, ages 8½ months to 5 years, are assembled as a test group. Each child is given five minutes to figure out how to open a container. If, after the first five minutes, he or she can't master the task, a visual demonstration is given. A second five minutes is allowed, and children are even encouraged to use their teeth on bottle caps. Eighty-five percent of the children must fail to open the package, and 80% must still not be able to open it even after being shown. Ideally, if a container is properly engineered, it is too complicated for children under five to open since they lack the manual dexterity or finger length needed to successfully

manipulate the cap or type of closure.

EPA hopes that another outcome of the designs will be to alert parents to the toxic nature of the pesticide. Children have often been the accidental victims of adults who have taken pesticides out of original containers and placed them in soft drink bottles. Since those containers are familiar and appear harmless, children often do not hesitate to sample their contents. For this reason, adults are included in the testing procedures. One hundred adults, 18-45 years old, comprise the test group. Since women are most likely to encounter household pesticides, 70% of the group are women and 30% men. They are given only printed instructions and allowed five minutes to figure out how to open the container. According to EPA's proposal, 90% of the adults tested have to be able to open it in the given time period "without a demonstration."

Criticisms have been leveled at safety packaging because the elderly and the handicapped experience difficulties in opening such containers. However, the marketing of non-safety containers could seriously deter efforts to reduce pesticide poisoning in young children. Therefore, all pesticides falling within the criteria for special packaging will have to be specially packaged.

The procedures and regulations proposed for pesticides by EPA are similar to those being used successfully by the Consumer Product Safety Commission. It is hoped that the EPA regulations, supplemented by parental common sense, will be equally effective in reducing accidental deaths due to poisoning from pesticides. Industry has filed few objections to these proposals, since special packaging is currently available and in use for other products such as aspirin, and the economic burden for carrying out the proposals is expected to be slight. In fact, several companies including Shell and S.C. Johnson and Son (manufacturers of "Raid" and "Off!") have voluntarily used safety packaging for several of their pesticide products. Both Shell and Johnson adopted the idea because they found consumer interest in specially packaged products a market for them. It has been estimated that the total cost to industry will be approximately \$2.5 million. ■

CONTROLLING TOXICS

By Anne Haughton

The control of toxic pollutants is now one of EPA's top priorities as the Agency moves with increasing determination to prevent what Administrator Douglas M. Costle has called "the occurrence of silent epidemics of cancer and other health risks."

Last October the Toxic Substances Control Act was signed by President Carter, giving EPA the authority as of January 1, 1977, to regulate the production and use of chemicals which threaten human health or the environment.

The law is designed to prevent hazardous new chemicals from being introduced into the marketplace as well as to deal with existing chemicals that are found to be harmful.

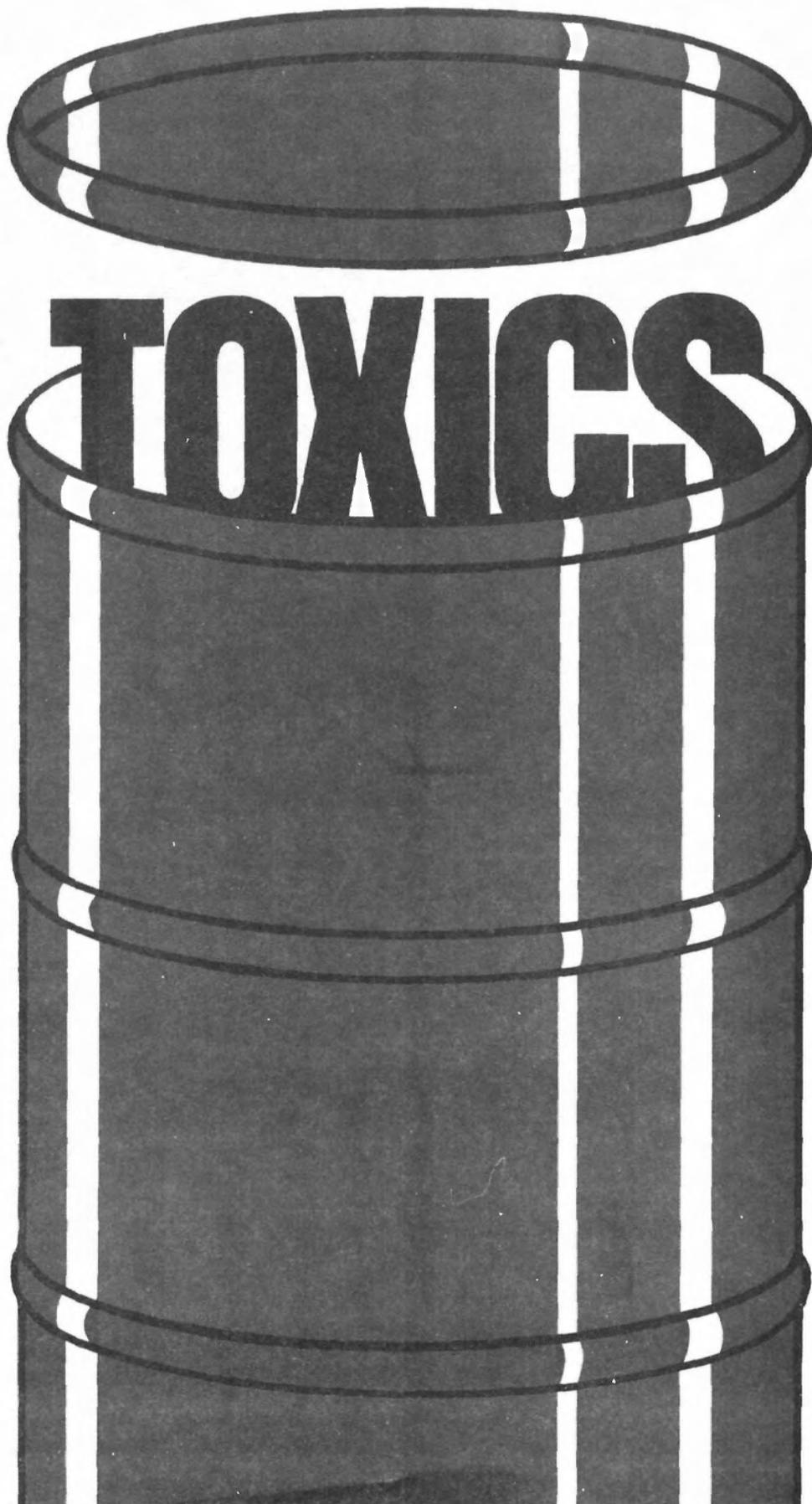
The measure is regarded as one of the most important pieces of legislation ever enacted by the Congress—a law that would fill a long-recognized gap in our Nation's environmental and public health protection programs.

President Carter, in his Environmental Message to the Congress in May said, "The presence of toxic chemicals in our environment is one of the grimmest discoveries of the industrial era. Rather than coping with these hazards after they have escaped into our environment, our primary objective must be to prevent them from entering the environment at all"

"The Toxic Substances Control Act enables the Federal Government, for the first time, to gather the information on chemical substances needed to determine their potential for damaging human health and the environment and to control them where necessary to protect the public."

EPA Administrator Douglas Costle considers implementation of the Act one of the most difficult challenges and important priorities now facing EPA. "We have neglected the subtle but lethal effects of chemicals for decades," he says. "Now we must extend the frontiers of scientific knowledge to evaluate what those risks really are and find ways to control them. We must act in haste but not in panic. We must recognize that minimal risks are inescapable, but our society must take any needed precautions to prevent the occurrence of silent epidemics of cancer and other health risks."

(Haughton is an EPA Headquarters Press Officer.)



Under the new law, EPA is undertaking regulatory action to limit the threats of one of the more notorious toxic chemicals—PCB's.

A regulation has been proposed to ensure the safe disposal of all accessible PCB's. It calls for the destruction of PCB liquids through high-temperature incineration, the only known way of effectively destroying the chemical and preventing it from escaping into the environment. If adopted, the regulation would permit PCB disposal in properly-controlled chemical waste landfills for two years until more incinerators can be constructed. In addition, it would require that PCB products be marked with special information and warning labels.

This winter regulations are also expected to go into effect limiting the manufacturing, processing, distribution and use of PCB's to products from which they cannot escape into the environment. And as required by the law, all PCB manufacturing will be banned after January 1, 1979, and all PCB processing and distribution prohibited after July 1, 1979.

PCB's represent the most vivid example of the danger of uncontrolled chemical contaminants. It was not until after tens of millions of pounds of PCB's were produced and released into the environment that scientists realized how toxic and persistent they were. Despite limited restrictions imposed in the early 1970's by industry to reduce production and to restrict use of PCB's to electrical equipment where escape to the environment would be minimal. PCB levels are still so high in the Hudson River and the Great Lakes, for example, that fishing has been banned. Over the past few years, PCB's have been found not only in fish but even in the milk of nursing mothers.

More recently, the hazards of polybrominated biphenyls or PBB's, a chemical closely related to PCB's, have been discovered. Accidental use of PBB's in animal feed led to the contamination of thousands of Michigan cattle. The health effects of PBB's on the Michigan families who consumed the contaminated products are still uncertain, but preliminary reports are disturbing. And now environmental contamination from PBB's, once thought to be confined to Michigan, has been discovered near two plants in New Jersey that manufactured the chemical and on Staten Island near a plant that

used PBB's in its manufacturing process.

EPA is currently considering various regulatory actions on PBB's, including a possible prohibition on its use as a fire retardant, its only known function.

The Toxic Substances Control Act has also been used to propose regulations (jointly with the Food and Drug Administration and the Consumer Product Safety Commission), to ban the non-essential aerosol uses of fluorocarbons. The proposed EPA regulations would affect pesticides and industrial uses such as lubricants and battery sprays and household products such as cleansers, air fresheners, waxes, and polishes. Food, drug and cosmetic products would be regulated by FDA.

The proposed inter-agency plan, unprecedented in the history of the Federal Government, calls for these aerosol products to be phased out in stages beginning October 15, 1978. If adopted, the manufacture of fluorocarbons for use in these products would be prohibited after that date. Then, on December 15, 1978, all companies would have to stop using existing fluorocarbon supplies in making the products, and finally, after April 15, 1979, stocks containing the banned propellant could no longer be shipped in interstate commerce. Final regulations are expected to be promulgated in December.

EPA is also planning to propose regulations for the non-propellant uses of fluorocarbons, such as in refrigeration and air conditioning equipment.

Another group of chemicals suspected of harming human health or the environment is currently being investigated. These include: phosphates, cadmium, benzene, asbestos, mercury, trichloroethylene, acrylonitrile, the flame retardant Tris, lead, hexachlorobenzene, benzidine, arsenic, polynuclear aromatic hydrocarbons and vinylidene chloride.

The Agency is currently gathering existing data on each of these chemicals, and examining the work being done by other Federal agencies in order to make a preliminary evaluation of what, if any, regulatory actions should be taken.

As far as the thousands of other chemicals produced in this country are concerned, EPA has proposed reporting requirements to help it develop an inventory

of all existing chemicals as required by the law. The inventory, which will contain more than thirty thousand chemicals, is expected to be published next September. Thirty days afterwards, anyone wishing to manufacture a chemical that is not on the inventory will have to notify the EPA 90 days before beginning commercial production. This will give the Agency time to evaluate new chemicals coming on the market to determine if they pose a risk to health or the environment.

To enable EPA to compile the inventory, major chemical manufacturers will have to report the names, production volumes and manufacturing sites of the chemicals they make.

Additional reporting will be required in phases over the next two years. This will enable EPA to develop a broad base of information on chemicals, particularly those suspected of being hazardous.

In addition, an eight member inter-agency committee is expected to submit an initial list of "priority" chemicals this month which they believe should be tested to assess their safety or potential for human or environmental damage.

The committee, which is required by the law, is composed of representatives of the Department of Commerce, the Council on Environmental Quality, the Occupational Safety and Health Administration, the National Science Foundation, EPA, the Department of Health, Education and Welfare's National Institute of Occupational Safety and Health, National Cancer Institute, and National Institute of Environmental Health Sciences.

Upon receipt of the list of "priority" chemicals, EPA will have one year either to initiate testing requirements for each of the designated chemicals or to state publicly its reasons for not doing so.

Over the next few months, organization will be a primary goal of the Toxic Substances program. Steven D. Jellinek, former Staff Director of the Council on Environmental Quality, will be taking over the reins as Assistant Administrator for Toxic Substances. A search is also underway for three new Deputy Assistant Administrators—one responsible for chemical testing and evaluation, one for chemical regulatory control programs, and one for program integration and information. The program staff is expected to double in size this year and again next year. ■

THE VIEW FROM THE DEPUTY ADMINISTRATOR'S OFFICE

Interview with Barbara Blum, Deputy Administrator

Q: *What originally inspired your involvement in the environmental movement?*

A: It was probably my children. I recall that one day I was driving down the street when one of my sons said: "I don't think I have to think too much about the future because with the air being as bad as it is, and the problems we have with the water, I may not grow up."

Of course, that was grossly exaggerated. But, it's frightening when a young child feels that threatened by the environment around him.

Also, about that time, there were some sewer problems in the area in which I lived. I was very concerned about that. It affected us because the sewer line was going to destroy a water-fall, which was one of our favorite family places.

So I joined together with a group of other concerned citizens and we took a leadership role in seeing that the Environmental Protection Agency did the first environmental impact statement on sewer lines that was ever done.

Q: *Can you tell us about your work for conservation causes in Georgia?*

A: I started, as I told you, getting involved in a neighborhood issue and my interest just sort of sprouted out in the fairly early days of the environmental movement.

Eventually, I became president at different times of two grassroots environmental organizations in Georgia and at one time or another was on the boards of most of the environmental organizations in the State. Simultaneously, I was on the Citizens Advisory Council to the Atlanta Regional Commission, was appointed by Governor Carter to the Vital Areas Council to study and make land use planning recommendations to the Georgia General Assembly, and served as vice-chairman of the Fulton County Planning and Zoning Commission. I guess one reason I have such a strong feeling that grassroots groups should be included in everything that the Environmental Protection Agency does is that these groups are such a large, productive segment of our constituency that they should never be overlooked.

Q: *As one who has been active in grassroots politics, do you feel that your perspectives have changed much now that you are involved inside the system?*

A: I think certainly it's safe to say that it's easier to tell the Government how the Government should be managed than to manage it.

When one is an advocate for a specific cause, such as saving a river, or helping to

determine a positive approach to a sewer line, you can leave the difficult task of compromise up to somebody who is less "pure" than yourself.

I think another area where my perspectives have broadened is that I have a better understanding of the word "bureaucracy".

I found that the bureaucracy is a very positive force, made up of a lot of dedicated people who feel that working for our country is an important profession.

Q: *Since public participation has been one of the major themes in the Carter Administration thus far and you have already chaired several American Environmental Forums, do you find these sessions to be of value, and what are the issues that seem to be on people's minds?*

A: I have found them to be very valuable;

**"I know we have
got a long way to go
before the
Federal Government
regains the trust of the
public — which still
remembers Watergate."**

I've done two so far: One in Salt Lake City and one in Little Rock, Arkansas. There was quite a difference between those two forums because people in Salt Lake City were much more suspicious and skeptical about the Federal Government than the people in Little Rock.

But I also found that it's a good educational experience for me—probably more for me than for the people who attend the meetings. I am finding out just how broad the spectrum of public opinion really is. I find that it's very hard to get a consensus—when you're meeting with 500 people and half of them are telling you that you should do more and the other half are telling you you should do less.

Q: *Would you share with us some personal observations about President Carter's concerns and commitments to the environment?*

A: I have worked with the President very closely since 1970, when he first became Governor of Georgia and I was an environmental lobbyist in both Georgia and in Washington on Georgia causes.

I found out that he was the only person in that entire State whom I didn't have to lobby to try to get my ideas across. That was because he was almost always there before I was, in his conceptual thinking. There are several reasons for this. One is that he doesn't just take what his staff gives him and digest it—he reads voraciously on his own. He prides himself on his ability to listen to conflicting opinions and draw independent conclusions. Being a peanut farmer and a man of the land, he has a real feel for the environment.

He is the first President that we have ever had, I believe, that we could say is an environmentalist. Teddy Roosevelt certainly was a conservationist, and a preservationist. Others have made lasting contributions. However, I think that Jimmy Carter is the first President who understands the science and the scope of the environmental issues from a biospheric perspective.

Q: *As one of the top-ranking women in the Carter Administration, do you have a special interest in women in management at EPA?*

A: Yes. Very definitely so. Women in management all over Government are of special interest to me.

Regarding EPA specifically, I think that the environmental movement owes a great deal to women, especially women who started on the grassroots level. As we're building the EPA team here, we're going to be building it on basis of skill and talent. But, you can be sure that nobody in this Administration is ever going to be held back because of anything so unrelated to performance as sex, color, or country of origin. I think that one of the things we need to concentrate on in EPA is bringing women and minorities into the middle management level so that they can develop to move into senior management positions. Although I am really pleased with the changes that we have made here so far, it is not as good as I would like it to be. However, we have established a "consciousness raising" committee, that will soon be making specific recommendations with regard to recruitment, training and promotions. I am confident that they will be able to give us some good direction.

Q: *With your background in planning, can you comment about the importance of long-range land use planning as a tool for managing*

the environment?

A: Both Doug Costle and I believe that long-range land use planning is going to serve as a most vital tool to manage the environment.

As I mentioned, I served on Governor Carter's land use planning council in Georgia. I shared his belief that land use planning needs to be implemented at the level closest to the people, at the State and local level.

That can be done under 208, and I think that although land use planning is not directly addressed in any of our authorities, we have other areas in which we can have an impact. The Resource Conservation and Recovery Act, and certainly, many provisions under the Clean Air Act are going to enable us to focus and plan a key leadership role in land use planning.

Q: Do you expect to conduct the Office of Deputy Administrator in the tradition of your predecessors, or do you plan any major departures in your management of this office?

A: I think certainly that both Bob Fri and John Quarles did really good jobs in managing the Agency. We don't plan to have any major reorganizational changes. Although we are going to do some organizational fine tuning such as moving the Pesticides Program over to the Toxic Substances Program, I think that both Doug and I will try to leave our own imprint on the Agency by the nature of the job we do.

Q: What are your main hopes and desires for the Agency for your own sense of accomplishment?

A: There are several areas that we are going to be initially concentrating on:

We're going to be concentrating on new legislative programs, the toxic control program, solid waste, the amendments to the Clean Air Act and the Water Act. I think these new mandates are going to be really vital issues of concern which will impact the future of EPA.

Another area we want to emphasize is public participation. In the past this is something that I think has not been stressed as much as it should have been. It is something that the President is committed to and something that I very much believe in.

Recently, I had an opportunity to experience the international environmental community's perception of EPA. With our new legislation in the toxics area, the international implications of such issues as chloro-fluorocarbons and PCB's are immense. We feel that the International Activities Program is going to play a key role in communicating our initiatives and concerns to the many environmental agencies around the world. Environmental consciousness transcends all international boundaries and ideologies and the socially aware in every country understand the need for a biospheric perspective.

Q: What is the most difficult decision you have had to make so far?

A: There have been many tough decisions. The most difficult decisions have been getting key positions filled with people that are going

to make a difference.

For instance, in Toxic Substances, and that's just one example, we worked very hard to find somebody that was a proven manager and had the ability to bring together a multidisciplinary program that is going to cut across all facets of the Agency.

Q: How would you assess the condition of the Agency when you inherited it?

A: When Doug and I came here, there had been that period of uncertainty about who was going to run the Agency and when they were going to arrive.

Many of the Assistant Administrators had already left or were in process of leaving, so that I found, when I got here, that the Deputy Assistant Administrators were in effect running the Agency. I am pleased to say, they were doing a really good job of it.

Q: EPA is perhaps one of the most decentralized agencies in the Federal Government now. Do you feel it will continue that way or do you think that it is time to try and draw some of the strings in?

A: I think that the decentralization of the Agency is what makes it one of the strongest agencies in Government today, because it is bringing the Government closer to where the

“EPA has the total support of an Administration that is dedicated to the idea of environmental protection.”

decisions should be made—on the local and State level.

We plan to continue this trend, although, we also would like to have a more consistent management policy so that we don't have one region enforcing against a particular industry and an adjacent region not enforcing against that particular industry. Unless you have consistency, the municipalities and industries sometimes play one region off against the other.

Q: One of the most difficult problems confronting the Agency is the problem of toxic substances and I wonder if you think at this time the Agency has the manpower and legislation and general equipment necessary to deal with this problem?

A: Based upon public expectation and the implications of the regulation of new chemical

compounds, the Toxic Substances Program probably will be one of our more crucial programs. We have a very broad legislative mandate. Initially, we were fortunate in obtaining resources to assist this program in getting it under way. The Agency is now going through a zero-base-budgeting process which, I believe, will direct more emphasis and resources toward this program. Since I have spent a considerable amount of time on the program, I feel that I can safely say that we do not have enough resources for this important mission, but that we are trying to manage from within by reprogramming and by involving the other program offices which will be directly affected by this Act.

Q: What message would you like to convey to EPA's employees across the country above all else?

A: I suppose that the message that I would most like to convey to the EPA team, above all else, is that for the first time in its history, the Agency has the total support of an Administration that is dedicated to the idea of environmental protection. I have never seen Jimmy Carter back off when it has been a question of protecting important environmental considerations. And I've seen him under many pressures in the conservative State of Georgia.

So I think that we have the leadership, we have the mandate, we have the total support of the President, and we have the chance now to apply the kind of programs and use the kind of innovative thinking necessary to carry out our mission.

What I have heard in my town hall meetings from the people is their strong concern about quality of life issues.

At the same time I have seen a great deal of skepticism about whether the Government really does care about their concerns.

I hear a lot of complaints that may be justified about Government inefficiency and lack of responsiveness. I know we have got a long way to go before the Federal Government regains the trust of the public—which still remembers Watergate.

Q: What are your hopes for the Agency?

A: One of my hopes is that we can help bring all the people who really felt disenfranchised with government in the past back in—the environmentalists who often felt that the regulatory agencies were just rubber stamps or servants of special interest groups, and also the corporate and labor and agricultural groups that have felt unnecessarily threatened by what the Environmental Protection Agency was perceived to be—a regulatory authority with extremely strict mandates to impose. I feel that through public outreach and involvement, we can clarify many of the misconceptions that special interest groups have about EPA.

And then, ultimately, I just hope that we will all be able to live up to the opportunity and responsibility that the President and the Congress have given to all of us here at EPA. I hope that we will be known as a fair but firm Agency that served the people well. ■

EPA's New Leadership Team

Administrator:



Douglas M. Costle, the third Administrator of EPA, is an attorney with extensive experience at both State and Federal levels in the organization and administration of environmental programs.

Deputy Administrator:



Barbara Blum is an environmentalist and businesswoman who served as deputy director of the Carter-Mondale election campaign last year.

Assistant Administrators



Assistant Administrator for Planning and Management: **William Drayton Jr.** was a lecturer at Harvard University's Kennedy School of Government and a management consultant for McKinsey and Co., New York City.



Assistant Administrator for Water and Hazardous Materials: **Thomas C. Jorling** was Director of the Williams College Center for Environmental Studies, Williamstown, Mass., and had extensive experience with the Federal Government.



Assistant Administrator (designate) for Toxic Substances: **Steven D. Jellinek** was a staff member of the Council on Environmental Quality and for the last four years its Staff Director.



Assistant Administrator (designate) for Research and Development: **Stephen J. Gage** was Deputy Assistant Administrator for Energy, Minerals, and Industry in EPA's research program.



Assistant Administrator (designate) for Enforcement: **Marvin B. Durning** was a partner in a Seattle law firm and a leader in environmental and conservation matters in the Pacific Northwest.



Assistant Administrator (designate) for Air and Waste Management: **David G. Hawkins** was a staff attorney for the Natural Resources Defense Council from 1971 to 1977, dealing with a wide range of air pollution issues and litigation.

Regional Administrators



Region I Administrator, Boston: **William R. Adams, Jr.** had been Maine's Commissioner of Environmental Protection for the last five years.



Region II Administrator, New York City: **Eckardt C. Beck** was EPA's Deputy Assistant Administrator for Water Planning and Standards and had extensive experience in the environmental field at the State Government level.



Region III Administrator, Philadelphia: **Jack J. Schramm** was a lawyer in Clayton, Mo., and an environmental consultant for the engineering firm of Arthur D. Little, Inc.

Office Leaders



Region IV Administrator, Atlanta:
John C. White has served for two years as head of EPA's Dallas regional office, and before that as Deputy Regional Administrator in Atlanta.



Region VI Administrator, Dallas:
Adlene Harrison was a member of the Dallas City Council and had extensive experience in land-use, zoning, energy, and environmental issues.



Region IX Administrator, San Francisco:
Paul DeFalco, Jr. has held that post since EPA was organized in 1970, and before that he headed West Coast regional activities in San Francisco for EPA's predecessor water pollution agencies in the Department of the Interior.



General Counsel:
Joan Z. Bernstein was a partner in a Washington, D.C. law firm before joining EPA. She also worked for five years with the Federal Trade Commission's Bureau of Consumer Protection.



Public Awareness:
Joan Martin Nicholson is Director of this office. An experienced environmentalist, she founded the Bolton Institute, a nonprofit organization dedicated to helping people find practical solutions to environmental problems.



Region V Administrator, Chicago:
George R. Alexander Jr. has held this post since March, 1976. Before that he served as Deputy Director, Office of Regional and Intergovernmental Operations, in EPA Headquarters.



Region VII Administrator, Kansas City:
Kathleen Q. Camin was Associate Dean of Wichita (Kan.) State University's College of Business Administration. She has done environmental research.



Region X Administrator, Seattle:
Donald P. DuBois was first appointed to this post in July, 1976, after having served five years as Deputy Regional Administrator in Denver.



International Activities:
Alice Brandeis Popkin is Associate Administrator, Office of International Activities. A former attorney-professor at the Antioch School of Law, she was a member of the original staff that set up the Peace Corps in 1961 and was its Director of International Programs.



Regional and Intergovernmental Operations:
J. Edward Roush is Director of this office. He was a member of the House of Representatives from Indiana and had experience on committees dealing with natural resources.



Region VIII Administrator, Denver:
Alan Merson was a professor at the University of Denver's College of Law, teaching courses in environmental law and land-use planning law.



Legislation:
Charles S. Warren is director of this office. He was chief legislative assistant to Sen. Jacob K. Javits of New York for seven years, and before that practiced law in Washington, D.C. and New York City.

NEW DIRECTIONS IN THE INTERNATIONAL ARENA

Interview With Alice Brandeis Popkin, Associate Administrator for International Activities

Q: *How do you see your mission as the new leader of the Office of International Activities?*

A: EPA, as the U.S. Government agency with the primary competence, technology, know-how and authority to protect the quality of this Nation's ecosystems, must play a major role in establishing and carrying out America's international environmental policies.

The Office of International Activities (OIA) must be the effective staff instrument for planning and managing EPA's international role. I envision OIA developing, implementing, and administering Agency-wide international objectives in accordance with the priorities set by the Administrator, Doug Costle, and Deputy Administrator, Barbara Blum. These objectives can then be used to focus EPA's international activities and to measure the value of existing and future international efforts.

It is vitally important to involve all parts of the Agency, including the Regional Offices, in planning and implementing EPA's international responsibilities. By developing a good reciprocal working relationship with all the program offices, OIA will be able to depend on their technical input, which is one of the greatest assets of the Agency.

Q: *Do all foreign governments have agencies concerned with pollution control now?*

A: When the United States established EPA, we were the first country to have a national environmental control agency. Not all governments have pollution control agencies yet, although the number is growing rapidly. Almost 100 governments have formed environmental agencies since 1970. In many countries, people look to EPA as a possible model of how to deal with the environment. I think one of the important roles that EPA should continue to play is to advise other nations on how to set up governmental units or programs to deal with environmental issues.

Q: *What do you consider to be the most pressing environmental issue confronting the world today from EPA's perspective?*

A: One of the most pressing problems is toxic substances. I use that phrase in the broadest possible sense to include problems with pesticides, chemicals in drinking water, and the manufacture and use of commercial chemicals for a wide variety of other purposes. Internationally, there are several initiatives in the field of toxics. Our Deputy Administrator, Barbara Blum, in her recent meeting with environmental officials in Japan told them of our deep concern about this problem.

My major work in the next few months will be to work with the Assistant Administrators and their staffs to establish the priorities at the international level which are most significant to EPA's domestic mandate. The establishment of international priorities by the Administrator and the Deputy Administrator, based on national program needs, is critical to the optimum use of EPA resources.

Since we need international agreements on procedures, we are concentrating our work primarily within a few international organizations, rather than dealing individually with a number of countries. We are working within the Organization for Economic Cooperation and Development Chemicals Group to develop common testing procedures for bioaccumulation and persistence. We have undertaken an ongoing dialogue with the European Commission toward harmonization of regulations, and will be meeting with the World Health Organization later this month to draw up an international plan of action to improve the evaluation of health risks from exposure to chemicals.

Q: *I understand that the third United Nations*

conference on the Law of the Sea has also considered the marine environment. I have two questions. Has EPA played a part in this conference? And, should we be satisfied with the way in which the conference has dealt with the question of the marine environment?

A: Yes, EPA has played a role. Since the beginning of the Conference in 1973, we have participated in the formulation of U.S. positions, and have been represented, through this office, on the delegations to each of the Conference's five negotiating sessions. Frankly, I am not that pleased with the Conference's results on the issue of marine pollution. The current draft treaty, if it became final, would probably not harm the environment, but it would add little to existing international law on pollution. On the well-publicized issue of pollution from ships, I read the current text to mean, in essence, "business as usual."

On the whole, I think the negotiations to date will be seen someday as a muffed environmental opportunity. It is hard to know where to place the blame. Certainly, the U.S. environmental position has been one of the more enlightened viewpoints represented at the Conference, but we do not seem to have had much success in selling that viewpoint internationally.

Q: *What has been achieved under the US-USSR Environmental Agreement?*

A: Doug Costle is the chairman of the U.S. side of the Joint Committee formed to carry out this agreement. In the first five years since the Agreement was signed, there has been a productive exchange of information and specialists between the Soviets and ourselves, as well as an impressive amount of joint work in various fields. The Agreement defines 11 different areas for joint work in which there are at present 41 projects underway. In this connection, it should be noted that 16 of these projects are led by EPA; the others are chaired by other agencies and institutions such as Interior, Commerce, Agriculture, Transportation, and Coast Guard, and universities. This Agreement thus represents a broad-gauged US effort aimed at developing cooperation with the USSR.

An excellent example of recent joint work in an EPA-led project was the testing of a U.S. electrostatic precipitator and a Soviet wet scrubber used for the abatement of particulate emissions from electric power stations. In another project, U.S. and Soviet specialists have conducted joint balloon experiments to measure stratospheric aerosols.

Q: *What is the State of U.S.-Canadian cooperation in protecting the Great Lakes?*

A: The Great Lakes Water Quality Agreement of 1972 has been a very successful vehicle for mobilizing support to clean up the Great Lakes. The U.S. will be spending more than \$6 billion on municipal wastewater treatment alone in the Great Lakes Basin to meet the terms of the Agreement. The fifth year review of the Agreement is taking place this year. Both the U.S. and Canada are pleased with progress made through the Agreement and look forward to the Agreement negotiations to strengthen the environmental programs between the two countries.

Q: *I wanted to ask you about a complaint by the Canadian Minister of Environment, that air pollution from this country is blowing into Canada and causing harm to Canadians. Are you familiar with that complaint?*

A: One of our most important and challenging international roles

is to work with Canada to solve our mutual environmental problems. I'm aware of Minister LeBlanc's comments. We are planning to meet with him this fall to discuss a broad range of issues, including trans-boundary pollution. Minister LeBlanc recognized in a speech before the Air Pollution Control Association in Toronto that this is a two-way street. EPA, through my office, is participating in State Department negotiations with Canadian and Ontario officials about their proposed fossil fuel plant at Atikokan, Ontario, that would be just 35 miles from the pristine areas of northern Minnesota. I expect to spend considerable time on the subject of long and short-range transport of air pollutants in the coming months.

Q: *Internationally, EPA puts a great deal of effort into CCMS. Can you describe what the essential characteristics of this organization are?*

A: The NATO Committee on the Challenges of Modern Society (CCMS) was created, on U.S. initiative, to explore ways in which the quality of life could be improved. Administrator Costle has been named by the President to be the new U.S. Representative to CCMS.

Countries recommend CCMS adoption of studies which have the most relevance to their environmental policy needs. Interested CCMS members thereby "plot" international analyses, based on ongoing scientific, technical and economic work, toward policy recommendations.

EPA participated in five of the eleven current CCMS projects: Advanced Wastewater Treatment, Disposal of Hazardous Wastes, Air Pollution Assessment Methodology and Modeling, Flue Gas Desulfurization, and Drinking Water.

Through the CCMS projects, EPA improves its knowledge of the state-of-the-art and of available solutions to problems of industrialized countries. Under auspices of the Flue Gas Desulfurization project, EPA will gain substantial information on successfully operated systems, operational problems and costs. The Hazardous Waste Project has provided EPA with valuable insight into mine and landfill disposal practices, and has produced recommended procedures for hazardous waste management. Details on sophisticated methods of wastewater treatment used abroad have helped EPA experts determine which treatment methods may be feasible for use in the U.S.

Q: *How does EPA cooperate with the UN Environment Program (UNEP), "the environmental conscience of the United Nations"?*

A: Administrator Costle met with the Executive Director of UNEP, Mustafa Tolba, this spring. Mr. Costle pledged EPA's strong continuing support for UNEP's activities. For example, we've helped design the International Register of Potentially Toxic Chemicals, an international information system that will assist countries in dealing with chemical problems.

EPA technical staff are active in planning UNEP's Global Environmental Monitoring System which will link together existing national monitoring programs and then seek to fill in the gaps. In addition, we provide the U.S. focal point for UNEP's International Referral Center for Sources of Environmental Information.

As a result of the Administrator's meeting, we have stepped up cooperation in sharing our experience with UNEP on a broad range of issues including basic industrial analyses, initiating environmental legislation, demonstrating that environmental expenditures create jobs, and that overall savings do result from environmental expenditures.

Q: *What role does EPA have in developing regional and world monitoring systems for identifying and assessing problems in the global environment?*

A: EPA is participating in the UNEP Global Environmental Monitoring System (GEMS) primarily in urban air monitoring. Our cooperation in the Global Water Quality Monitoring Network is increasing as a result of our role as a World Health Organization Collaborating Center for Environmental Pollution Control. We are also working with Canada in developing joint surveillance and monitoring programs in the Great Lakes. This data will be incorporated into the GEMS system.

I believe that the U.S. can fully participate in the establishment

of a global system only after it establishes a comprehensive, nationally coordinated environmental monitoring program. This would give us the ability to increase our data base of knowledge as to which pollutants may be building up in the general environment before their presence becomes a crisis.

Q: *Are there many opportunities abroad for adopting ideas and technology to benefit EPA's domestic programs?*

A: Yes! Although we are not yet taking full advantage of all that is available, we have found many unique situations that provide valuable information for domestic efforts. We may be able to learn from Germany's experience concerning the reclamation of strip mined lands and resettlement of affected populations. In Poland several projects have provided us with valuable information on methods of utilizing stripped lands for agricultural purposes and methods for treating mine waste discharge. This information might assist in unlocking the coal reserves of the Great Northern Plains in an environmentally safe manner.

Through cooperation with the Japanese, we are learning about a new dredging technology which allows reclamation of contaminated harbors without major increase in suspended water sediments. This type of technology may prove useful in situations such as the Kepone contamination of the James River bottom. We also gained first-hand information on Japanese air pollution control measures at coke production ovens and used it to resolve a court action in Region III.

We are working to determine the positive health impact of a World Bank-financed pollution abatement effort in the city of Sarajevo, Yugoslavia. Reduction in environmental air and water pollution is expected to be dramatic. By working with the Sarajevo government, EPA researchers hope to obtain valuable data on the benefits of pollution abatement programs.

Q: *In the past, the United States has exported pesticides abroad that we prohibit in this country, and I just wondered what your view is on that?*

A: While I don't feel that the U.S. is in a position to assess the internal needs of other countries for particular pesticides to combat malaria, for example, I do feel strongly that the U.S. should keep other governments fully informed of significant actions taken in this country regulating the use of pesticides. EPA currently informs all foreign countries with which we have diplomatic relations, and concerned international organizations, whenever a registration, cancellation, or suspension of a pesticide occurs. As one of my first acts, I am undertaking a complete review of the procedures currently in use for notification of foreign governments. This approach relates to private commercial transactions. I believe the U.S. has additional responsibilities when Federal action or funding is involved. We have been working with AID on its Environmental Impact Statement concerning its pest management program, and I plan to hold discussions with other funding organizations.

Q: *Is there any particular message that you would like to give employees of EPA and our general public?*

A: I hope all concerned environmentalists can feel my excitement at the challenge and opportunities for action in the international environmental arena. Ultimately, all environmental problems must be solved globally, and EPA has a crucial role to play in international environmental decision-making during President Carter's administration.

I hope that the Office of International Activities can reach out to all the employees of EPA, and work with them to develop the international implications of EPA's mandate.

To the general public, I want to emphasize that there is tremendous need for support on international environmental issues, from both the general public and from non-governmental organizations and citizen groups.

As part of the President's program for obtaining a greater awareness of citizens' needs, EPA management is participating in numerous town meetings across the country. During this ongoing exchange we hope that citizens will express their concerns regarding global as well as domestic issues. ■

AROUND THE NATION



septic systems

Maine summer home owners who want to convert their houses for year-round use cannot do so unless they have adequate sewage disposal systems, according to a new law that took effect last month. The law, proposed by the water planning group for the Greater Portland area, an agency created under Section 208 of the Water Pollution Control Act, is designed to help preserve Maine's lakes and rivers, crucial to the State's tourist industry, and reduce the need for central sewer systems in many areas.

It requires owners who live in their houses more than six months of the year to have their septic tanks and fields inspected by town officials to assure that they are capable of handling the added sewage loads. If they fail such inspection, the owners must replace them. Overloaded septic systems can pollute nearby rivers and lakes.

certification

Maine is the first New England State to win EPA approval of its plan for certifying applicators of restricted-use pesticides. Region I Administrator William Adams recently approved the State's plan, submitted more than a year and a half ago by Gov. James B. Longley. It takes effect Oct. 21.



manhattan traffic

A plan for auto traffic control to reduce air pollution in Manhattan has been agreed to by New York City and EPA. It is scheduled to go into effect soon, after expected approval by a Federal judge. The plan relies less on banning mid- and downtown parking and

more on stricter enforcement of traffic laws and encouraging mass transit by setting up express lanes for buses and park-and-ride lots near mass transit terminals outside the borough.

The proposal to charge tolls on all East River bridges has been dropped.

ocean watch

Abnormally low levels of oxygen in the bottom waters of the Atlantic Ocean from two to five miles from the New Jersey coast were recorded this summer, but they did not affect water quality on the beaches. The condition was reported by EPA and two other agencies—the National Oceanic and Atmospheric Administration and the New Jersey Department of Environmental Protection—which are jointly monitoring the waters' quality. The decline in oxygen levels began in March, a normal occurrence for that time of year. In early August at some points off Manasquan, Barnegat, and Atlantic City the oxygen decline was so severe that bottom-dwelling fish and other organisms could be harmed.

The decline did not originate in the 12-square-mile site farther off the Jersey shore where sewage sludge from the New York metropolitan area is dumped, but in waters farther south, according to Dr. Richard Dewling, Director of Surveillance and Analysis for EPA Region II. "Oxygen levels at the dump site have not gone down and are not expected to go below normal," he said.



water plants

Herbicides washed into Chesapeake Bay are believed to be causing a decline in rooted aquatic plants in the bay, according to preliminary results of a study being conducted for EPA by the Smithsonian Institution. Such plants provide food for migratory birds, and also nurture many kinds of fish and shellfish. The study is also testing the theory that increasing silt from agricultural runoff may be reducing the amount of sunlight that water plants receive, thus speeding their decline. At the Smithsonian's Chesapeake Bay Center for Environmental Studies, scientists are growing typical aquatic plants in laboratory tanks and measuring the effect of different levels of waterborne herbicides.

flood cleanup

Region III's Emergency Response team which was rushed to Johnstown, Pa., the day after a disastrous flood occurred there in July

to help in the cleanup directed the recovery of more than 175,000 gallons of oil, 500 drums of chemicals, and 500 propane gas cylinders. Breathing apparatus, gas detection meters, and protective clothing were lent to the local fire department by EPA to forestall injuries and damage from gas and explosive fumes. Hundreds of cars and trucks that were swept into the Conemaugh River and its flood plain had to be handled with care to avoid further contamination from oil and gasoline. Other Region III people helped assess the damage to water and sewer systems to speed Federal aid for their repair or reconstruction.



polluter fined

C.F. Industries, a fertilizer manufacturer near Chattanooga, Tenn., has agreed to pay a \$5,000 civil penalty for discharging pollutants into Chickamauga Lake last year. Without notifying State or EPA officials, the firm began dumping untreated chemical wastes into the lake in August, 1976, after an explosion damaged its pollution control equipment, according to Paul Traina, regional Director of Enforcement. Assistant U.S. Attorney Ray H. Ledford handled the case for the Justice Department.



steel mill

More than 300 persons attended a hearing at Conneaut, Ohio, recently to discuss the environmental effects of a proposed new steel mill on the shore of Lake Erie east of the city and straddling the Ohio-Pennsylvania border. U.S. Steel Corporation had asked EPA and other Federal and State agencies to make a preliminary environmental assessment, and the hearing was called both to inform local residents and to obtain their reactions. The study is not yet complete.

permits

A request by Illinois to take over administering and enforcing the wastewater discharge permit system in that State was the subject of a hearing in Chicago Sept. 7. If the request is approved by EPA, Illinois will be the sixth and last State in Region V to be granted this authority. A decision is expected by Oct. 23.



convicted

A Durant, Okla., exterminator was recently convicted of seven violations of the Federal pesticide law in connection with the deaths of three small children who ate poisoned cookies from his truck in March, 1976. The court postponed sentencing of J. D. Jones, pending a probationary investigation. Maximum penalty would be \$25,000 fine and a year in jail for each violation: four counts of improper application and one each of improper storage, improper mixing, and failure to keep poisons out of reach of children. The cookies had been poisoned for use as rat bait. The children took them from an open can by the driver's seat of Jones's truck.

payment halted

Further payment on a \$1.9-million wastewater treatment grant to Jefferson Parish (county), La., has been held up by Region VI officials, because of a Justice Department investigation into the handling of parish funds.

A Federal grand jury has indicted two parish officials and a consulting engineer on conspiracy charges, alleging irregularities in the awarding of contracts for the first phase of work on a \$162-million sewage treatment project. "We are making a special check concerning compliance with EPA subcontracting requirements, and an intensive audit will be conducted," said John C. White, Regional Administrator, when the suspension was ordered. "No further payments will be made until there is complete assurance of . . . propriety."



new waste law

A new law in Missouri creates a Waste Management Commission and empowers the State's Department of Natural Resources to regulate the generation, transport, storage, and disposal of all hazardous wastes. The law also provides the legal framework for the State to operate a hazardous waste program under the Resource Conservation and Recovery Act of 1976.

extra service

Personnel of Region VII's Surveillance and Analysis Division, under William Keffer, have recently been sampling and analyzing wastewater from industries far outside the four-State region.

Their special task involves factories as far away as Little Rock, Ark.; Houston, Texas; and San Francisco, Calif.: about 60 locations altogether. It provides field and laboratory support for EPA's Effluent Guidelines Division, which is establishing specific limits for some 65 different water pollutants in 21 types of industry. To be chosen to handle the bulk of this investigative work, said Keffer, "is a technical compliment to Region VII." The project started in August and will extend through October.

The Kansas City Sampling and Analysis experts are also assisting EPA contractors in training their water sampling teams and evaluating their results.



oil shale

Plans for extracting oil from shale near Rangely, Colo., have been tentatively approved by Region VIII's Office of Energy Activities. Public hearings on the \$93-million pilot plant were held in July, and EPA officials said the lessees, Standard Oil Co., of Indiana and Gulf Oil Corporation, appear to have made adequate plans to control environmental damage. If various other approvals are obtained, the companies expect to start work before the end of the year.

farm liaison

Region VIII is seeking to get farmers and farm organizations actively involved in environmental programs. An employee of the Soil Conservation Service, Department of Agriculture, has been detailed to the Region to encourage the participation of State and local conservation agencies and to give technical assistance to areawide water quality planning groups.

The National Association of Conservation Districts sponsored a three-day meeting Sept. 7 to 9 in Grand Junction, Colo., to discuss how to carry out water quality management plans.

A meeting of State water pollution and conservation agencies is scheduled for Oct. 20 in Denver to discuss implementation programs and new legislation.

The Region had exhibits on agriculture and the environment at the Montana and Colorado State Fairs this summer.



city sued

At EPA's request the U.S. Attorney in Los Angeles has brought suit against the Los Angeles Sanitation District, alleging discharge permit violations at the Hyperion Treatment Plant at Playa Del Rey. The plant discharges sewage sludge diluted with secondary effluent through an outfall pipe extending more than six miles into the Pacific Ocean at Santa Monica Bay. Since 1971 the District has received \$20 million in Federal and State funds for the total elimination of the sludge discharges. The permit, issued in August 1975, provided for ending the discharges within 30 months from the concept approval date, Oct. 1 of that year.

EPA officials say Los Angeles has failed to take necessary interim actions, and the Los Angeles City Council last April adopted a report of its Public Works Committee stating, "It is not practicable for the City to bind itself to a specific timetable for the termination of the discharge of sewage sludge."

The sludge contains toxic heavy metals, phenols, and chlorinated hydrocarbons as well as other chemicals and organic substances.



forestry burning

Forestry burning—the deliberate use of fire in the management of forest land or for the disposal of slash after timber cutting—is the subject of a scientific study launched last month by EPA's Region X at the request of State officials in Oregon and Washington. Geomet, Inc., a Gaithersburg, Md., engineering consulting firm, will perform the study under a \$130,000 contract. The first phase is to be completed in mid-1978, and a draft report will be made available for review by industries, government agencies, and the public.

The study seeks to determine what kind of pollutants will result from a particular type of burn, the best burning methods, the effects of terrain and elevation on smoke transport, alternatives to slash burning, and human health effects.

Deliberate burning is now regulated by the U.S. Forest Service and by various State authorities, who issue permits only during certain favorable weather conditions.

YOUTH AWARDS

The flower-decorated bus pulls up in front of an elementary school. Soon a stream of small children carrying newspapers, magazines, and cartons of soda bottles file into the bus. Under the watchful eye of a group of high school students they deposit their treasures into the marked barrels and boxes that line the inside of the bus. When the "Ecology Bus" pulls out later that day it will be filled with reusable materials.

Students at Governor Mifflin Senior High School in Shillington, Pa., are starting their fifth year of a project that has recycled close to 300 tons of newspaper and over 300 tons of glass. They persuaded the school board to turn over to them a bus that was due to be traded in. It was painted, equipped with a desk, chairs, and bins for materials. Several times a month the bus is driven to other area schools to help promote recycling.

The kids who bring their contributions to the "Ecology Bus" are among more than five million young people who are learning to appreciate, enjoy and improve their physical surroundings through the President's Environmental Youth Awards program, administered by EPA. The program fosters ecological awareness by involving students in projects of their own design that deal with air and water pollution, noise, and solid waste disposal in their communities. These activities often tie in with schoolwork as science classes take water samples, art classes produce anti-pollution posters, and English classes write plays and reports about local environmental problems.

The youth program is first and foremost a local effort. Although the administrative staff for the program is located in EPA's Office of Public Awareness in Washington, D.C., under youth program director Mary Faye Dudley, the choice of a project, planning, and execution are all done by the kids themselves. They get assistance from parents, teachers, community groups, and local businesses.

When a youth group finds a project that interests them, they must first choose an Awards Panel from interested local adults. The Panel members serve as a liaison between students and the community. One member, who serves as a sponsor must enroll the projects with the President's Environmental Youth Awards staff.

The Panel members set guidelines for the project according to local environmental problems and needs. They advise students, encourage community involvement, and evaluate the results at the completion of the project.

At the recommendation of Panel members students receive a Certificate of Merit or an Award for Environmental Excellence from local dignitaries at a special ceremony. EPA staff supply the certificates and keep a record of the projects. Some projects, like the "Ecology Bus" have been with the program since

the very beginning and are getting better each year.

Speaking about the program, President Carter has said, "Young people in summer camps and schools today are much more interested in environmental problems than their parents were, and this is good. We need your help with the job of cleaning up our world."

The youth program was created by Executive Order on October 25, 1971, to recognize, reward, and encourage environmental activities by American high school students. The program was expanded to include summer camps on March 10, 1972.

The first awards ceremony was held in April 1972 in the White House Rose Garden. That year close to 10,000 youngsters received certificates for taking part in the new program.

Participation in the environmental program more than doubled in the next year: 1972-73 saw 26,000 youngsters involved. In 1973-74 participation rose to more than 52,000 boys and girls. The number of participants has grown each year and in 1976-77 close to 80,000 certificates were distributed.

More than 300,000 children have received awards for their service to the environment since the President's program began. The President's Environmental Youth Awards now involve all youth organizations. EPA staff members estimate that over 5 million youngsters have been exposed to ecologically-ori-

ented activities through teachers or other youth group leaders.

Agency support of the program includes supplying teachers and leaders with informational brochures, bi-annual bulletins describing projects underway, and shoulder patches for participants. EPA has an environmental activities workbook called "Fun With the Environment" for younger children. A booklet called "Environmental Exchange—a Beginning" outlines experiments that can be done by junior high and high school students. "Career Choices," an outline of educational programs that train students for environmental jobs, is also available.

EPA Deputy Administrator Barbara Blum made this comment about the Agency involvement in the youth program: "If we can encourage their respect and appreciation for our beautiful land, help them understand the fragile nature of Nature, inspire their participation in projects of social benefit and provide positive reinforcement for accepting environmental responsibility at such an early age, then what great rewards we all receive."

EPA staffers report that the youth projects they receive reports on cover a wide range of interests from outdoor activities to petitions and public information campaigns that require more enthusiasm than sweat.

Students at Columbia Grade School in Portland, Ore., tackled 28 weed-choked acres to start work on an arboretum and wildlife refuge as their youth project. They planted 1,000 trees and plotted sites for a future forest of 10,000.

The school children are working on a five-year plan. They hope to build nests for water-

The frog who adorns the front of the "Ecology Bus" is a symbol of recycling for many Pennsylvania schoolchildren.



fowl along the 3-acre pond that borders the arboretum, and to improve the access road. Eventually the area may also have picnic tables and a cleared area for annual garden crops.

High School students in Iowa are learning to be active stewards of their environment through a youth project that ties ecological issues in with the political process. Students Concerned About Tomorrow's Environment (Project SCATE) involves some 50 school districts across the State. At workshops teachers and students learn environmental investigation techniques from ecologists. State legislators also pitch in to teach political participation.

The students pick a local or State issue for research and leg-work. Recent topics have included land use, energy, and a returnable bottle bill. In January they hold regional assemblies, introduce resolutions to solve environmental problems, and then hold debates to decide which resolutions to send on to their version of the State assembly.

Selected SCATE members act as lobbyists for the environmental measures at the two-day mock State assembly. There the bills go through committees that determine which proposals will be presented for debate before the full student assembly. Measures that pass this final test go to the Iowa General Assembly where they receive the attention of career legislators.

This student project is having some impact.

Under the watchful eye of their sponsor, high school students from Governor Mifflin High School sort newspapers for recycling.



In Iowa City, as part of shop courses, the school system builds a house each year. SCATE members have persuaded the educators to build solar heat into the homes. A bottle bill that has student support has passed the Iowa House of Representatives.

In a Passaic, N.J. youth project inner-city youngsters get to know a different environment by spending six weeks in a rural setting. Groups of high school boys and girls stay at the Delaware Water Gap National Recreation Area, where they work at improving the camp sites and themselves.

On an average day these young people spend several hours refurbishing buildings, tending the grounds, and caring for animals. They have classes on environmental topics and then apply their new knowledge in the work they do on their surroundings. This project is unfamiliar ground for city kids, but it has worked well. The project, which started in 1974, has expanded and last summer included several hundred young people.

These are only a sampling of the projects that youngsters are involved in all across America. The scope of the President's Environmental Youth Awards program allows students to see many ways that daily life and the environment are tied together.

In Vineland, N.J. grade school students recycled paper and glass. They learned a new meaning of the recycling concept by collecting used clothing and household items for a family that had been burned out of their home.

In Culver City, Ca., at the Braddock Drive School the Student Council planted and maintained a garden of crops popular during colon-

ial times.

Knoxville, Tenn., students at the Doyle Middle School developed an understanding of the importance of energy conservation in the fight against pollution.

In Centereach, NY, children at the North Coleman Road School have developed a compost heap to make fertilizer for their garden project. They recycle leftovers from their lunches into the compost heap. The students have also built a worm farm to supply beneficial wildlife for their garden.

Some schools vary their projects from year to year as the interests of the children involved change. Other projects, like the "Ecology Bus" continue even when the students move on. In a few cases, the environmental projects take root and grow into more complex programs that benefit entire communities.

As an outgrowth of their marine biology classes, students at Biloxi High School on Mississippi's Gulf Coast took on the project of explaining the intricacies of their environment. They studied the unique ecology of the Mississippi Sound, and catalogued the scientific research being done in the area. The results of their research were published in a book, "Guide to the Marine Resources of Mississippi", which has since been adopted as a State text.

Students learned the history of the barrier islands off their beaches in the Gulf of Mexico. They investigated the habits of the fish that have provided livelihood for generations of their families. They also studied the fine art of beachcombing.

As a result one young man built a mechanical simulator that illustrates the oscillatory movement of water in waves. The Gulf shoreline is often dotted with natural oddities called "hurricane balls". A young woman, as her part of the project, formulated a theory about how waves build these conglomerations of marsh plant material and sand around flotsam like grassroots and cigarette filters.

The youth project has expanded into the Biloxi High School Environmental Cooperative Education Program. Students with no classes scheduled the last few hours of the school day participate in a work-study program with local environmental agencies like the Mississippi Conservation Commission. When word got out just how well the students were working, some agencies came to the school looking for more participants. This year students may even receive academic credit for their efforts.

Ms. Blum has said, "In so many ways, every effort to preserve and protect the environment is ultimately for the children—and the beauty of the President's Environmental Youth Awards is that it helps them to help themselves." ■

PEOPLE



Swep Davis Jr. has been promoted to EPA's Deputy Assistant Administrator for Water Planning and Standards after having served as Director of the Office of Analysis and Evaluation, since June, 1976. He started with EPA in 1972 in the Water Economics Branch, Economics Analysis Division. Previous experience includes consulting for a non-profit public policy consulting firm and Army service from 1968 to 1970, including a year in Viet Nam. Davis received a degree in mechanical engineering from the Georgia Institute of Technology in 1968 and an M.B.A. from the Harvard Graduate School of Business Administration in 1972. His background combines engineering with math, economics, management and policy planning. He is 32 years old and is from Hattiesburg, Miss.

Gerald Hansler, former EPA Region II Administrator in New York, has been appointed Executive Director of the Delaware River Basin Commission, a four-State body responsible for water resource planning and development in the Delaware Valley. Before joining

EPA in 1970, Hansler was an environmental affairs official in the Department of Health, Education, and Welfare. He recently retired as a commissioned officer with the Public Health Service after 20 years of service. Hansler has also worked in public health protection, water supply and pollution control. A native of Summit, N.J., he holds degrees in civil and industrial engineering from the University of Washington.

Anthony Freedman is the new Deputy Director for the Office of Legislation. He comes to EPA from Capitol Hill, where he was legislative assistant for Rep. Elizabeth Holtzman (D-N. Y.) from 1972 to 1977. Freedman was an attorney in private practice and taught junior high school science as well from 1968 to 1972. He received his B.S. degree in political science and English in 1965 from the City College of New York, and a J.D. from Stanford Law School in 1968.

Dr. Stephen J. Gage has been recommended for the post of EPA Assistant Administrator for Research and Development. The recommendation to the White House was made by EPA Administrator Douglas M. Costle. Since 1975 he has served as Deputy Assistant Administrator for Energy, Minerals and Industry in the Office of Research and Development. Before coming to EPA in 1974, Dr. Gage was Senior Staff Member for Energy Programs with the Council of Environmental Quality. He was a White House

Fellow in 1971, working with the White House Office of Science and Technology, and Director of the Nuclear Reactor Laboratory University of Texas, Austin, from 1966 to 1971. Dr. Gage received a B.S. degree in mechanical engineering from the University of Nebraska in 1962, and M.S. and Ph.D. degrees from Purdue University in 1964 and 1966, respectively. His background is primarily in nuclear engineering and energy conversion. Professional affiliations include the American Nuclear Society, the American Society of Mechanical Engineers, and the American Association for the Advancement of Science, and honorary membership in the Society of Sigma Xi. Originally from Nebraska, Dr. Gage, 37, now lives in Bethesda, Maryland.



Rebecca W. Hanmer has been named Deputy Regional Administrator for EPA's Region I office in Boston, Mass. For the past two years she has been Director of the Agency's Office of Federal Activities, which included the coordination of EPA's program for reviewing Federal agency projects and environmental impact

statements. Hanmer has been with EPA since its beginnings. Her previous experience includes working for EPA's predecessor agencies, the Federal Water Quality Administration and the Federal Water Pollution Control Administration in the Department of the Interior. She earned a bachelor's degree in political science in 1963 at the College of William and Mary in Virginia, and a master's degree in the same subject at American University in Washington, D.C. Hanmer is a member of several conservation organizations and professional societies.



Roy N. Gamse, former Director of the Economic Analysis Division in the Office of Planning and Evaluation, has been named Deputy Assistant Administrator for Planning and Evaluation. Before joining EPA in 1972, Gamse was employed in the Systems Analysis Department of the Mitre Corporation. A 1967 graduate of the Massachusetts Institute of Technology with a B.S. in economics, Gamse earned an M.B.A. from the Harvard School of Business in 1972. He is 32 years old and lives in Washington, D.C.

ENVIRONMENTAL ALMANAC

A GLIMPSE OF THE NATURAL WORLD WE HELP PROTECT

OCTOBER

Bon Voyage!

The last of the chimney swifts, those birds that look like flying cigars, are leaving the Washington area on their fall migration to the Amazon Basin, thousands of miles away in Brazil and Peru.

We'll miss their chattering calls as they rolled and twisted through the summer sky in relentless pursuit of their insect food. We enjoyed watching them at dusk, as they congregated around an abandoned church building, shaping their flying formation into a funnel before descending into a chimney to spend the night clinging to the rough bricks.

Their chattering stopped the other day and we realized they had departed for their winter home. The swifts are part of the great autumnal departure of birds, one of the cyclical wonders of Nature.

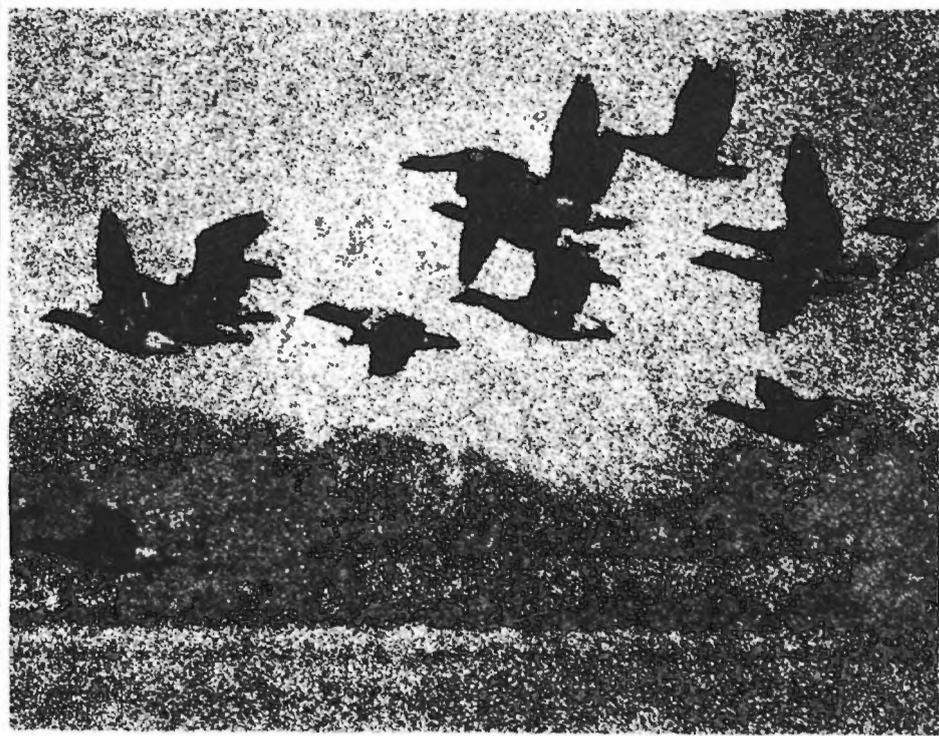
The swifts apparently leave because the approach of cooler weather diminishes their food supply of insects. Called swifts because they are one of the faster fliers, these birds can travel 100 miles in a day. They sometimes reach speeds of 60 to 70 miles an hour but even in migration frequently make extensive detours to nourish themselves on insects.

The use of abandoned chimneys by these swifts as a protected area to spend the night is a remarkable adaptation. Swifts used to roost in hollow trees but now prefer these man-made structures.

We had speculated that in the Amazon Basin the swifts might once again seek out replicas of their ancestral homes—old trees or caves. However, a recent report stated that thousands of them had been seen pouring out of an abandoned factory chimney in Brazil.

The remarkable fact is that the swifts and thousands of other migrating species survive their extraordinary journeys. The casualty rates on these trips are usually high.

Some birds crash into tall buildings, blinded by the light from a setting sun, confused by their reflected images in mirror-like building exteriors, or smashed by obstacles they never saw on dark nights.



An occasional peril for migrating birds is pesticides. For example, some robins in Florida died after feeding on berries which had been inadvertently contaminated when a nearby potato field was sprayed.

Canada geese and ducks have been killed when they fed on alfalfa which had been recently sprayed with an insecticide.

Another type of death is illustrated by the following example, cited by EPA's Pesticide Programs Office. Some snow geese migrating through Missouri died. An investigation produced evidence suggesting that the deaths resulted from the delayed effects upon the geese of eating rice seed in Texas which had been treated with an insecticide.

The geese stored the insecticide in their body fat without suffering any harm at first. However, when the birds used the fat as a source of energy in flight, the insecticide entered their blood stream and traveled to the brain.

There are obstacles and dangers all over the world for the aerial migrants. Thousands of geese trying to cross the Himalayas in Asia have crashed into these peaks or succumbed to chilly

blasts.

Yet nothing seems to check the urge to migrate to warmer climates. In Britain, the swallows fly off to southern Africa to spend the winter.

The Arctic Tern, in the most extensive flight of all, winters in the Antarctic and then spends summer in the Arctic, a distance of over 10,000 miles.

Even in the insect world, some extraordinary migrations are under way. Monarch butterflies, which are widely seen over the United States and southern Canada during the summer, start moving south in September. Some fly to Florida, some to California, and others to Mexico where they spend the winter semi-dormant, clinging to trees in huge colorful masses.

With the return of spring to the Washington area we will be visited again by hummingbirds from Panama, white-eyed vireos from Mexico, Cape May warblers from the West Indies, the sooty shearwater from Tierra del Fuego at the southern tip of South America, and of course, the chimney swifts back from the Amazon. Some will nest here and others will be on their way to points farther north. All will be welcome.—C.D.P.

SOLAR POWER FOR WASTE TREATMENT

Solar power will be used to help run a national award-winning waste water treatment plant now being built in Wilton, Maine with the aid of EPA funds.

The design for this facility now being built in Wilton, Maine, has won the Owens-Corning Energy Conservation award, industrial category, in 1975.

Wilton, population 4,300, is located about 60 miles north of Portland. Some homes in the area have septic tanks but many have been discharging raw sewage. In order to meet the standards set by the Federal Water Pollution Control Act of 1972, the town had to build a waste treatment plant.

EPA is contributing 75 percent of the cost of the project, over \$3 million. The State of Maine is paying 15 percent, \$600,000. The remaining 10 percent will be raised by the townspeople through loans from the Farmer's Home Administration, property taxes, and user charges. Some local industries will be served by the new treatment plant, but only for sanitary sewage, not for industrial effluent.

Harold Cahill, Jr., chief of EPA's Municipal Construction Division, says, "The Wilton, Me. treatment plant may well be part of the real solution for the future. This treatment plant has been designed as an energy conserving solar power system. Fiberglass panels will transfer solar heat into the processing areas. Solar collectors will carry heat to the anaerobic digesters. The design, orientation, and exposure have been thoughtfully developed to get the optimum benefits from the climate and geography of the site."

Designer of the plant is engineer and solar consultant Douglas A. Wilke of Glen Head, N.Y. The engineering firm for the project is Wright, Pierce, Barnes and Wyman of Topsham, Me.

Active and passive solar collectors will be used to the utmost by the southern orientation of the buildings. Projecting

sidewalls protect the collection surface from the chilling effects of the wind. The north roof will be covered with light stone chips to prevent heat accumulation in the summer. The roof is also designed to hold snow, which will act as an insulator during the winter months.

Insulated fiberglass panels on the south side of the building will allow heat from the sun to warm the air in the process rooms of the plant.

Active solar energy will also be captured through black metal solar collection panels set at a 60 degree slope, forming the south roof of the treatment plant. An antifreeze solution will be pumped through these panels and heated to 120°-140° F by the sun.

The energy from this system will be used to heat the sludge digesters. These tanks, which are used to biologically break down organic matter in the sludge, must be maintained at a constant 98° F. A byproduct of the decomposition process is methane, a colorless, odorless gas that can be used as a fuel. The methane will be channeled into storage tanks where it will be stored until needed to operate the electric generator or fuel the hot water boiler during prolonged periods of little or no sun.

A heat pump located at the end of the wastewater treatment system will extract heat from the process water, which can then be used to supplement the solar and methane systems. This device also lowers the temperature of the wastes sufficiently to prevent thermal shock to the plant and animal life in the small stream which receives the flow.

Another solar collector, made of many layers of translucent fiberglass panels backed by a black heat-absorber plate, forms the south wall of the building that encloses the bio-discs. Bio-discs are a form of biological secondary treatment.

Use of bio-discs instead of trickling filters for secondary treatment also saves energy because of the lesser costs in-

involved in heating the smaller area required to enclose the process. Trickling filters use a rotating arm that drips waste water over a bed of stones that support bacterial slime. The bacteria consume the nutrients in the effluent and produce cleaner water. Both processes would require heated enclosure because of the extremely cold temperatures experienced in Wilton. The engineers decided to use more compact bio-discs, which work by revolving a plastic drum covered with bacterial slime in a holding tank full of waste water.

John T. Rhett, EPA's Deputy Assistant Administrator for Water Program Operations says, "We are hoping, once the Wilton plant is built and operating, it will live up to its potential. Saving energy is a big asset for our EPA construction projects, particularly in our goal to cut operating costs for the smaller communities. While none of the energy supply, energy saving, and energy recovery methods designed into the plant are completely new and untried, the combination of the energy capturing methods in the design is unprecedented and innovative. That is why we funded 75 percent of the capital cost, and why we are hoping the consulting engineering and design profession will be challenged by the Wilton experience to come up with even better energy savings at less cost." The engineer estimates that the systems will save Wilton approximately \$4500 per year.

The two plant buildings have been situated to take fullest advantage of any sunlight available. Parts of the buildings will be sheltered below ground to take advantage of natural insulation. The earth and other material excavated during this project will be used to build a small hill to the west of the plant at an angle that will reflect the rays of the early morning sun onto the solar collector surface. A scooped out plain south of the plant will also reflect sunlight onto the collectors when there is snow on the ground. Naturally-occurring woods in the surrounding

area have been left standing to act as a windbreak. Plantings of juniper, a low-lying evergreen, will collect snow and form a natural insulator around portions of the building.

Another energy-saving feature of the Wilton plant is the use of gravity wherever possible to reduce the need for pumps. Sewage is lifted into the plant by screw pumps, devices that look like giant augers. The only energy used is for turning the screws. These automatically lift a measured amount of sludge to the top of an incline with each rotation. The processes within the plant are grouped to take advantage of gravity flow.

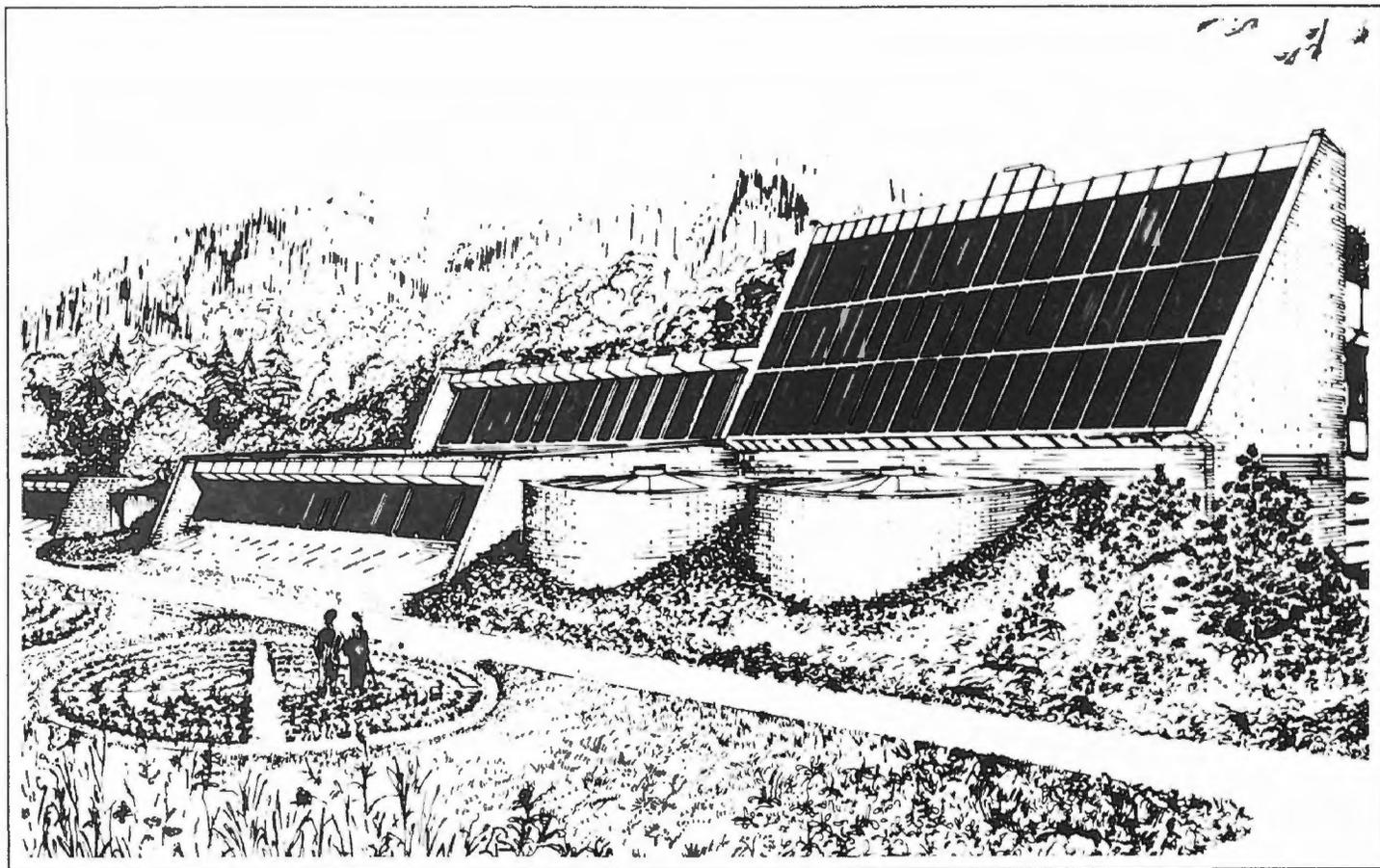
The effluent from the Wilton plant will be discharged into Wilson Stream, a small brook that runs from Wilson Lake into the Sandy River. The discharge pipes will be submerged to keep winter disruption to a minimum. During drought periods, when the flow of Wilson Stream is low, the effluent will not be discharged into the stream but will be sprayed onto a nearby wooded area where it will provide water and nutrients for trees and plants.

Digested sludge from this plant will be

loaded into trucks and carried to local farmland where it will be used as a soil supplement. During winter months the sludge will be stockpiled.

"Saving and recovering our environmental resources—usable materials such as soil conditioners from sewage sludge—must be the future direction of our environmental program," Assistant Administrator for Water and Hazardous Materials Thomas Jorling said. "The Wilton project represents a commendable application of a resource conservation alternative to our needs for affordable waste water treatment facilities under the EPA construction grants program." ■

Architect's rendering of a waste treatment plant being built at Wilton, Maine.



UPDATE

A listing of recent Agency publications, and other items of use to people interested in the environment.

GENERAL PUBLICATIONS

Single copies available from Printing Management Office (PM-215) US EPA, Washington, D.C. 20460. (202) 755-0890

A Global Environmental Concern: EPA's Scientific Activities Overseas Program (October 1977) A 12-page booklet that describes EPA's scientific activities in other countries. The multi-million dollar program funds environmental research in six nations.

Residuals Management and Water Pollution Control Planning (October 1977) A 12-page pamphlet describing the impact of solid waste on water quality. It deals with water pollution from industry, agriculture, mining, and wastewater treatment.

Earth Trek (October 1977) A 16-page environmental handbook for junior high school students. The pamphlet gives students an overview of the ecological system that they are a part of, and explains why it must be protected.

A World Fit for Chipmunks and Other Living Things (July, 1977) This 16-page coloring book for young children continues the story of Charlie the Chipmunk. Charlie moved from the litter-filled park to the forest, and the book tells about his new home. Available from Office of Public Awareness, EPA, 1735 Baltimore Avenue, Kansas City, Mo. 64108.

Sludge Handling and Disposal Practices at Selected Municipal Wastewater Treatment Plants (MCD-33) This 56-page report describes sludge handling practices used by members of the Association of Metropolitan Sewage Agencies. It evaluates dewatering and disposal methods with respect to availability of equipment, handling costs, and other factors. The book also discusses research needs and non-technical aspects of sludge. Available from General Services Administration (8FFS), Centralized Mailing Lists Services, Bldg. 41, Denver Federal Center, Denver, Co. 80225.

FEDERAL REGISTER NOTICES

Copies of Federal Register notices are available at a cost of \$.20 per page. Write Office of the Federal Register, National Archives and Records Service, Washington, D.C. 20408.

Fuel Economy Retrofit Devices. EPA establishes interim test procedures and evaluation criteria; effective 8-10-77. pp. 40438-444. August 10.

Pesticide Programs. EPA issues rebuttable presumption against registration and continued registration of Ethylenebisdithiocarbamates (EBDC's). pp. 40617-675. August 10.

New Stationary Sources. EPA revises detailed requirements used to measure emissions from affected facilities: effective 9-19-77. pp. 41753-89. August 18

Truck-mounted Solid Waste Compactors. EPA proposes noise emission standards, comments by 11-25-77. pp. 43225-243. August 26.

COMING EVENTS

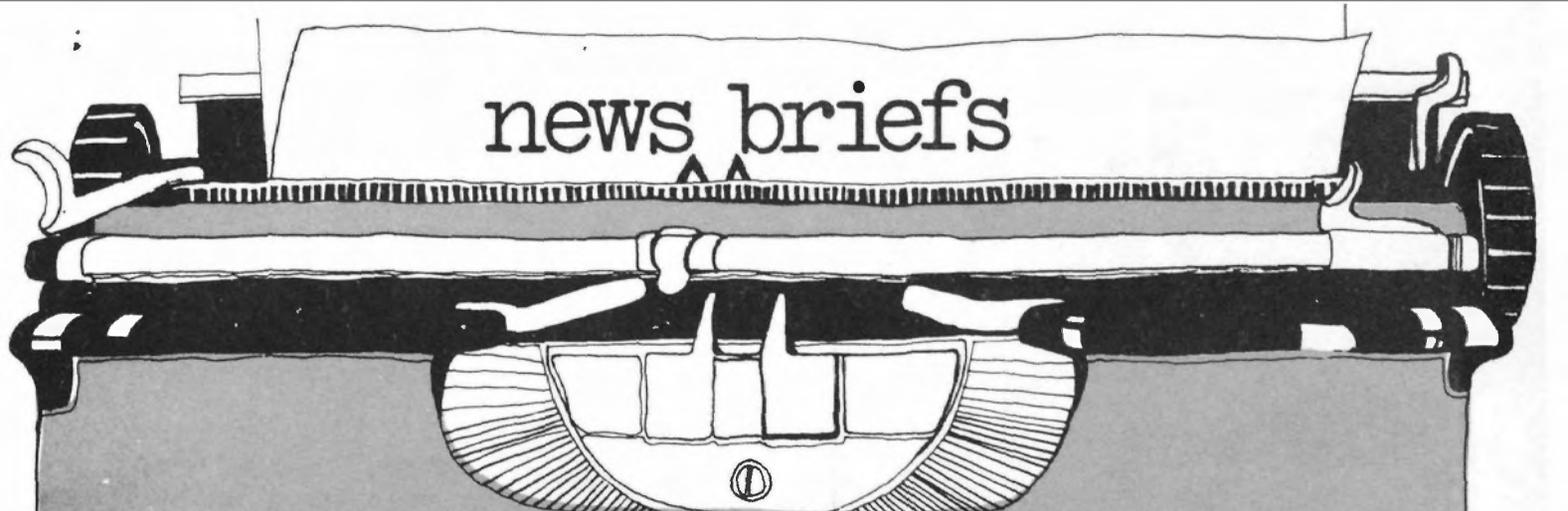
More information about these events and EPA's participation in them is available from Sue Sladek (202) 426-4188.

Current Issues on Environmental Regulation of Nuclear Power Facilities, sponsored by the Atomic Industrial Forum, October 11-14 at the Capitol Hilton, Washington, D.C.

American Environmental Forum, with Deputy Administrator Barbara Blum in Madison, Wisconsin, on October 25, to be carried by WHA-TV, a Madison TV station.

The American Public Health Association, annual meeting October 30-November 3, Washington, DC. Administrator Douglas M. Costle will address the meeting on November 1.

National Solid Waste Management Association, annual meeting, November 14-16, Washington, D.C.



news briefs

THE 1978 GAS MILEAGE FIGURES

As of this month, EPA's newly released fuel economy guide for 1978 model year vehicles should be available in new car showrooms. "The best way to use these miles-per-gallon figures," Administrator Costle said, "is to recognize that if Car A gets 20 percent better fuel economy on the test than Car B, then any owner can reasonably expect to get 20 percent better fuel economy in Car A." Last year's overall winner, the Honda Civic CVCC, has not yet been certified by EPA, but of those which have, the top three by class were: the Datsun B-210 (minicompact; averaging 40 mpg), the Volkswagen Rabbit Diesel (subcompact; 45 mpg), and the Peugeot 504 Diesel (compact; 30 mpg).

CLEANER AIR

In its annual report to Congress on air pollution prevention, EPA states that atmospheric levels of particulates (dust) have been reduced four percent a year since 1971, resulting in 33 percent fewer Americans breathing dangerous levels of this pollutant in 1976. Also, levels of sulfur dioxide have been cut 30 percent in urban areas from 1970-1975. Although levels of carbon monoxide, photo chemical oxidant (smog), and nitrogen dioxide have not been monitored as long as the other pollutants -- making national trends difficult to establish -- encouraging evidence suggests that progress has also been made in varying degrees in reducing levels of these contaminants.

PUBLIC MEETINGS ON HAZARDOUS WASTES

EPA will hold three public meetings this month to explain the probable content of guidelines and regulations being developed for the management of hazardous wastes -- those wastes such as radioactive and toxic substances which present special dangers to public health and the environment. The meetings will be in Arlington, Va., on Oct. 11-12; St. Louis on Oct. 13-14; and Scottsdale, Ariz., Oct. 17-18. Registration times, exact location, meeting times, and summaries of the materials to be reviewed are available by contacting EPA's Office of Solid Waste, (WH-462), Wash. D.C. 20460 (Phone: (202) 755-9157).



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A Gunboat for EPA

A patrol gunboat, of a class rated "pound-for-pound the deadliest" warships in the U.S. Navy, has been given to EPA and will patrol the Great Lakes as a floating water quality laboratory.

The former USS Crockett, PG-88, was turned over to the Agency late in July at Norfolk, Va. A hired crew sailed her to the Naval Ship Research and Development Center, Annapolis, Md., to have her guns, range finder, and gas turbine removed. They then took her to Milwaukee, Wis., via the St. Lawrence Seaway and Lakes Ontario, Erie, Huron, and Michigan.

Conversion of the vessel will be completed this winter, according to George R. Alexander Jr., Regional Administrator of EPA Region V, Chicago. Monitoring cruises are expected to start in the spring when the ice breaks up and Great Lakes navigation opens. The ship will be based in Cleveland, Ohio.

"We are very grateful to the Navy for giving us the Crockett," said Alexander. "She will be the largest U.S. research vessel on the Great Lakes and will greatly help in our studies and enforcement efforts toward improving the Lakes' water quality."

The former gunboat is 165 feet long, 25 feet wide, and in naval service drew nine and a half feet of water. Her hull and main structure are aluminum. Glass fiber is extensively used in the above-deck housing and superstructure.

As a patrol gunboat, the Crockett also had a gas turbine—an adaptation of the J79 aircraft engine—providing 13,300 shaft horsepower and a top speed of 40 knots (about 46 mph), but such speed is not needed in a research vessel.

The two 725-horsepower 12-cylinder diesels that remain in the ship are so geared to the twin, adjustable-pitch propellers that either engine alone can drive the vessel.

The space left after removal of the gas turbine will become the ship's main chemical laboratory, 30 feet long and 18 feet wide, Alexander said. The former radar room will become the "wet lab."

The refitting and conversion will include installing cranes for lowering instruments and



sampling gear, modification of the ship's radar, depth-finding, and navigation equipment; installing laboratory equipment; and refitting living quarters for the scientists and technicians.

According to Robert Bowden, Chief of the Great Lakes Surveillance Branch, the ship will probably have a crew of about eight persons, employed by a firm that will operate the ship on contract to EPA's Region V.

The monitoring work will be performed by from eight to 15 scientists and technicians. The number will vary according to the work to be done on any one cruise. "The ship will be available for research by universities in the Great Lakes area as well as by EPA and its contractors," Bowden said.

The Crockett will be the fifth vessel in Region V's Great Lakes "fleet", which includes the Roger R. Simons, a 122-foot former Coast Guard buoy tender, and three smaller vessels now on loan to two universities and to EPA's Office of Research and Development.

The converted gunboat is faster and roomier than the Simons and should be more economical to operate and maintain.

As Edward McClain, of EPA's Headquarters Contracts Office put it: "The Simons, with all four engines running and jumping off their pads, can go 12 miles per hour, if we're lucky. The Crockett can cruise at 16 miles per hour on her two diesels."

The Crockett will be used for the next two years for an intensive survey of Lake Erie, according to Chris Timm, Director of Region V's Surveillance and Analysis Division, to analyze changes since the last major survey done in the 1960's. She will then move to Lake Huron.

The USS Crockett was built in 1966 at Tacoma, Wash., and launched and commissioned in June of that year, named for the city of Crockett, Calif. She was the third of the Navy's Patrol Gunboat class that included 14 light, fast ships. All are being decommissioned.

The Crockett sailed across the Pacific, served for two years in Viet Nam waters, and later in the Mediterranean. The ship won the Navy's Meritorious Unit Commendation and was nominated as Ship of the Year among the patrolling forces in Viet Nam.

When it is fully converted to research and water testing duty, the ship will be considerably lighter than the 250 tons it displaced as a gunboat. While moored at Annapolis, the Crockett's bow rose about eight inches when a crane lifted off the forward gun and its turret, weighing more than eight tons.

Removal of the gas turbine and jet-fuel tanks also decreased the weight. The converted ship is expected to draw somewhat less than nine feet of water, permitting it to work close to shore as well as in the deepest parts of all five Great Lakes. ■