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S. 3307—INTRODUCTION OF A BILL RELATING TO MEDICARE PRE- MIUMS

Mr. MONDALE, Mr. President, inflation is one of the greatest burdens borne by our senior citizens. Not only are their fixed incomes hurt the most by rising prices, but they pay a disproportionate share of some of the fastest rising costs in our economy.

Nowhere is this problem more severe than in the squeeze between meager and declining incomes of senior citizens, and the escalating costs of their medical care.

And in no way has this problem been more dramatically revealed than in the recent announcement by the administration of a 33-percent increase in premium costs to participants in medicare's supplementary medical insurance program. The Secretary of Health, Education, and Welfare has directed that costs, originally \$3 per month and now \$4, be raised to \$5.30 a month, for a new annual increase of \$15.30 per participant.

For the great majority of the 20 million medicare beneficiaries, such an increase would be intolerable. For most of the remaining participants, it would be a substantial burden. Most of our older citizens are now receiving shockingly inadequate incomes and almost all of them are bearing extremely heavy medical expenses.

Persons over age 65 constitute only about 10 percent of our population. But 20 percent of the poor people in the United States are over 65. Older persons pay 20 percent of all prescription drug costs in America. Approximately 3.8 million elderly persons spend more than \$100 a year on prescription drugs alone, and if they must go to the hospital, they have to pay a \$52 deductible and substantial additional sums if their stay is an extended one. They also must pay a significant portion of their physicians' fees.

Since medicare went into effect in 1966, there have been very substantial increases in the deductible portions of hospital and extended care charges which participants must pay. For example, the hospital deductible was initially set at \$40, the payment per day after the 60th day at \$10, the individual's share of the lifetime reserve days was \$20, and the payment per day for extended care facility charges after the 20th day was \$5. The Department of Health, Education, and Welfare has just increased these charges, effective January 1, to \$52, \$13, \$26, and \$6.50, respectively.

Senate

In short, the administration is seeking to lay the full burden of inflationary medical costs upon those who have the greatest need for medical care and the least capacity to meet these added burdens.

For, while the administration now plans to increase costs by 33 percent in part B premiums and has already increased costs by 18 percent in deductible and per diem payments, they sought to hold increases in social security payments to a grossly inadequate 10 percent. Congress did manage to enact a 15-percent increase, but it is clear that social security payments have barely managed to keep up with overall inflation, and cannot begin to keep up with inflation in the medical sector.

Perhaps, if social security beneficiaries had a good deal of additional outside income, as some fortunately do, these increased burdens under the medicare program would be tolerable. However, only about 17 percent of social security recipients have any outside resources. Millions of social security beneficiaries are paid only the minimum monthly payment which was just raised from \$55 to \$64.

Including the social security increases just enacted, the minimum benefit for a man and his wife is \$1,152 a year. This is less than one-half the \$2,671 per year estimated by the U.S. Bureau of Labor Statistics as necessary to permit existence at the poverty line for a retired couple.

The significant increase in deductibles and per-day payments will constitute a nearly crushing burden on many of those beneficiaries who receive benefits at or near the minimum, if they must be hospitalized. For those who have attempted to protect themselves against this risk by private health insurance to supplement the hospital and medical coverage under medicare, the picture is no better. For example, premiums for the medicare supplementary insurance offered by Blue Shield in Minneapolis have recently been increased from \$7.95 a month only a year ago to \$14.90 a month today. Thus, these costs have increased by 87 percent in the past year.

Seven million people age 65 and over are living in poverty or near poverty, many of them receiving no income except social security benefits. We have recently succeeded in amending our tax laws so that those living in poverty can be freed of Federal income taxes. It

makes no sense to levy an increase of \$15.60 a year on a person living in poverty just because it is calculated as some kind of "share" of the medical insurance program. This has the effect of saddling those already in poverty with the cruel costs of inflation. We must find a better way.

Indeed, the average social security benefit meets only about one-third of the needs spelled out in the Bureau of Labor Statistics "retired couples budget." So it is not just a question of protecting a small minority of aged persons from a heavy increase in medicare premiums. What we have to do is protect literally millions of aged social security annuitants from having an already inadequate standard of living further impaired in order to finance this program.

I think there is a better way. When this program was established, it was decided that half of the cost would be borne out of general revenues of the Federal Government. The other half was to be borne by the participants. Had the cost of living remained reasonably stable, this would have been tolerable. But, in the face of recent and continuing inflationary developments, we cannot ask these poor, aged beneficiaries to pay even one-half of the increased physicians' charges that have been experienced since medicare went into effect.

Furthermore, the administrative costs under this program appear to be inordinately high. I do not think it is fair to ask the elderly to pay these administrative costs of the Government.

I am introducing legislation which will freeze the present \$4 per month premium through June 1971. The additional cost to the Government to prevent the \$1.30 per month increase which the Secretary of Health, Education, and Welfare has announced, will be approximately \$301 million. Effective July 1, 1971, my bill will return the monthly premium for part B to \$3 a month, as it was in 1966 when the program was initiated. This additional cost of about \$230 million will also be paid out of the general fund.

As I have indicated, the medicare part B premiums are only one aspect of the increasing burden of medical care costs for the poor and the elderly. But we can deal with this problem immediately and directly.

The Government cannot deal so readily with the rapidly increasing medical care costs which are reflected in the increasing premiums for private insurance programs which supplement medicare. However, it can reduce these costs indirectly by avoiding increases in the deductible and per day costs to be borne by the participants.

I will be developing further legislation to roll back the increased deductibles and to make other badly needed improvements in the medicare program. I believe the program should be expanded to cover those on disability retirement under the social security program, even though they are under age 65.

I think it is vital that we eliminate the requirement that medicare participants provide, at their own expense, the first three pints of blood which they may require. Similarly, I think it is essential that we provide for coverage of a substantial portion of out-of-hospital prescription drugs for those under medicare. Finally, I think we should consider alternative methods of financing the entire participants' share of medicare part B. We should strive to eliminate the monthly premiums charged to the participants entirely. Through general fund financing, or increased payroll taxes, or some combination, it should be possible to eliminate these significant deductions from the monthly social security benefits checks.

Mr. President, I feel that the fight against inflation is our paramount task today. We must seek economy in Government. We must act to resist unjustified price increases. We must seek fiscal restraint, while protecting against unemployment or unfair burdens on particular sectors of the economy.

But we cannot simply shift the problem of inflation over to that sector of our population least able to stand the burden.

The announced increases are "responsible neither to our economy nor to our people."

They are, rather, discriminatory and unfair.

I hope that this measure will be acted on promptly by the committee. I do not think we can afford to wait for comprehensive social security amendments. Action is required before the July 1 effective date for the new premium rates. I will welcome the cosponsorship of my colleagues of this important measure.

I ask unanimous consent that the text of the bill be printed in the RECORD.

The PRESIDING OFFICER. The bill will be received and appropriately referred; and, without objection, the bill will be printed in the RECORD.

The bill (S. 3307) to prevent further increases in the monthly premium pay-

able for supplementary medical insurance under part B of the medicare program established by title XVIII of the Social Security Act, and for other purposes, introduced by Mr. MONDALE, was received, read twice by its title, referred to the Committee on Finance, and ordered to be printed in the RECORD, as follows:

S. 3307

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) subsections (a) and (b) of section 1839 of the Social Security Act are amended to read as follows:

"(a) The monthly premium of each individual enrolled under this part shall be \$4, in the case of any month after June 1970 and prior to July 1971, and shall be \$3, in the case of any month after June 1971.

"(b) The Secretary shall, during December 1970 and of each year thereafter, estimate the dollar amount necessary to defray the total costs (including administrative costs) of providing benefits payable under this part for the 12-month period commencing July 1 of the succeeding year and the aggregate amount of the premium payments which will be paid into the Medical Insurance Trust Fund during or with respect to such period. In estimating such total costs for any period, the Secretary shall include an appropriate amount for a contingency margin. Whenever the Secretary, pursuant to the preceding sentence, makes an estimate of such costs for any 12-month period he shall make a public statement setting forth the amount of the costs so estimated by him, together with the actuarial assumptions and bases employed by him in arriving at such estimate."

(b) Subsection (a) (1) of section 1844 of such Act is amended to read as follows:

"(1) a Government contribution equal to the amount by which the total costs (including administrative costs) of providing benefits payable under this part for any period exceeds the aggregate amount of the premium payments which will be paid into the Medical Insurance Trust Fund during or with respect to such period, and"

(c) The amendments made by the preceding subsections of this section shall take effect July 1, 1970.

Sec. 2. In addition to sums authorized under other provisions of law to be appropriated to the Federal Supplementary Medical Insurance Trust Fund, there are hereby authorized to be appropriated to such fund for the fiscal year ending June 30, 1971, such sums as may be necessary to place such Trust Fund, at the end of such year, in the same position in which it would have been at the end of such year if the first section of this Act had not been enacted.

the preservation, study, and development of the nation's estuaries.

It also presents the respective responsibilities which should be assumed by Federal, State, and local governments, and by public and private interests, in the management of our Coastal Zones. This is most important, given the failure of our present institutional arrangement to protect these areas.

I have not yet had the opportunity to review this study in depth. Legislation based on it was very recently introduced in Congress. While I have not yet decided if this bill is exactly what we need, I would like to suggest briefly before closing, some considerations which must be accepted in any legislative effort to obtain a workable and effective coastal management system:

1. The state must be recognized as having the primary role in coastal zone management. It can provide the link between Federal incentives and research, and local requirements and desires. The state is neither too close to the coastal resource, nor too distant.

2. The state must possess the institutional arrangements sufficient to protect the coastal zone. This means adequate financial resources, administrative machinery and enforcement authority. It means a single agency, that is not merely a conglomeration of other agencies, but one with power to deal with overlapping jurisdictions and to develop and regulate a master plan for the state's Coastal Zone.

3. At the same time, the federal government has a definite role in the coastal zone. It has the specific responsibility for national security and navigation. It should as well develop goals and criteria for resource management. And it should encourage, if not force, the states to act in protecting our Coastal Zones.

4. The Federal Government must also coordinate and place in focus its own activity relating to the Coastal Zone. The Marine Science Council has detailed the vastness of this activity. The Council should be upgraded to ensure that a federal policy exists and is effected.

5. The large scale destruction of our wetlands must stop. They are too valuable ecologically and too important recreationally for the present drainage rate to continue. A better balance is needed in this area.

6. Generally, the multiple-use philosophy must prevail for present and future planning. The exploitation of a single resource or use that is contrary to, or irreversibly precludes other desired uses, must be discouraged. At certain times it cannot be avoided. In these instances counterbalancing uses of similar resources must be ensured.

7. Certain small areas of the coastal zone must be fenced off as ecological preserves. We must provide our scientists with conditions for long-term analysis of the coastal zone under natural condition.

If these considerations are implemented in a national, state-federal cooperative effort to develop our coastal zone, this important natural resource can be protected. We can reverse the degradation of our limited shoreline and realize the full benefit of being a coastal nation.

RISE IN MEDICARE FEES

Mr. MONDALE. Mr. President, since the first announcement of my intention to resist the rise in medicare fees, I have received a great deal of support as well as many personal testimonials regarding the burden which these added costs would place upon our senior citizens.

I ask unanimous consent that a few illustrative items be printed in the RECORD.

There being no objection, the items were ordered to be printed in the RECORD, as follows:

MONDALE IS CORRECT

TO THE EDITOR:

I was glad to read of Sen. Mondale's interest in medicare fees. With a raise of 15 per cent in monthly benefits and medicare fees raised to \$5.30, minimum check recipients wouldn't benefit much.

My Social Security check now is \$48.70, plus 15 per cent more would be \$56. Taking off the \$5.30 for medicare would leave \$54.70, less 10 cents for cashing the check leaves \$54.60.

In case of hospitalization the first \$52 would have to be paid, which would leave only \$2.60.

Many older folks (through no fault of their own) have their savings used up. Higher taxes, higher prices for everything necessary, are still with us. Hope Sen. Mondale will have success in bringing about a change.

(Name withheld by request.)

[From the Little Falls (Minn.) Daily Transcript, Jan. 8, 1970]

MEDICARE FEE HIKE MEETS OPPOSITION

In a United Press International news story yesterday Sen. Walter Mondale reported that he was "encouraged by the support shown for his proposal to put a \$4 per month ceiling on payments old people must pay for Medicare." The senator said he will introduce a bill to keep payments at \$4 per month when Congress reconvenes later this month.

"This is a cruel increase and it will hit many citizens who already are in a desperate situation," he said. "Also, it may force many to drop out of Medicare and it is essential that we keep these people in the program."

The Minnesota senator suggested that the additional money needed to finance the program—some \$300,000,000—could come out of general revenue.

Medicare has been under-financed since it began in July 1966. The monthly premium then was \$3 and the government matched it with an equal amount. The premium was raised to \$4 in 1968.

An attempt to raise it again, when it was still found to be running behind, was rejected by then Secretary of Health, Education and Welfare Wilbur J. Cohen, who issued orders aimed at holding the line on payments for doctors' charges.

Robert H. Finch, who now heads the department, has raised the monthly fee to \$5.30, beginning July 1. With the government's matching share, this would bring the total monthly cost of medical coverage for the 19.3 million Americans covered by the program to \$10.60.

As probably could be expected, the action by Secretary Finch already has aroused congressional intervention. There also has been some sentiment for scrapping the Medicare premium plan and combining Medicare with hospitalization. The elderly then would be covered under Social Security.

The average Social Security retirement check now is \$116 per month for a single person under terms of the new law although increased pension checks will not be in the mail until April. The average retirement check for a couple is \$170 per month. While these amounts provide for only a subsistence level of living for the elderly, there are many others who receive considerably less with the result that a \$5.30 or \$10.60 monthly Medicare bill makes a big hole in an already pitifully small check.

The result many times is that the elderly are forced on the welfare rolls and a consequent heavy burden on property taxpayers. The government may save some money but the rest of us will have to fight that much harder to pay our property tax bills. In other

words, the action by the administration is much in the order of "robbing Peter to pay Paul."

MONDALE SEEKS LIMIT ON MEDICARE CHARGES

Legislation to prohibit any increase in the present \$4-a-month premium charged to the aged participating in the nation's Medicare program will be introduced shortly in the Senate by Minnesota's Walter F. Mondale. The \$4 premiums are scheduled to be raised to \$5.30 beginning July 1, 1970, by the present administration.

Senator Mondale was highly critical of the proposed \$1.30 per month raise in Medicare premiums. His reasoning is that most senior citizens are losing in the battle with inflation.

"At a time when inflation is robbing our senior citizens of their hard-earned retirement benefits, it is unfair to require them to pay higher fees for the medical care they so desperately need," said the Senator.

Mondale further pointed out that it is inconsistent on the part of the present administration in Washington to request a 15 per cent across-the-board increase in Social Security benefits on the one hand and a 33 per cent increase in contributions to Medicare by the aged on the other hand.

In view of the widespread abuses of the Medicare program uncovered during the past year, the position of Senator Mondale seems eminently reasonable. Rather than taxing the already severely limited purchasing power of retired people with fixed income, some effort to eliminate gouging by medical people should assume first priority.

Other than tightening administrative procedures to insure that there is no overcharging of patients receiving help under Medicare, it seems not fair to expect Medicare to be self-supporting or even largely self-supporting.

Medicare was intended as an aid to relieve the elderly of a prime worry of their declining years, the worry of financing medical bills at a time in life when medical care is most often needed and the ability to pay is at its lowest.

Senator Mondale's bill not only provides for a freeze of the monthly fee at its present \$4 level but provides for a systematic reduction in the fee over the next several years. The slack in the cost of the program would be taken up by increased contributions from general revenues as well as contributions from the Social Security payroll tax.

POLLUTION—A PRIME PROBLEM

Mr. MONDALE. Mr. President, pollution takes center stage as a prime problem as we enter the 1970's. The threat that man might soil his nest to such an extent as to make it almost uninhabitable becomes more credible with each passing day.

But there is still time to stop the trend toward destroying our environment and with it the quality of our lives. Despite the activities in recent years of certain legislators, such as my colleague Senator GAYLORD NELSON, Congress has come to recognize pollution as a matter of national concern only in the past few months.

That recognition is being fostered and heightened by the work of our communications media. I shall cite one outstanding example: A series of articles by Roberta Hornig and James Welsh which appeared in the Washington Evening Star from January 11, 1970 through January 18. The thoroughly researched and dramatically written articles describe the

Atlantic Ocean as a sewer—in the words of adventurer Thor Heyerdahl—and America as a trash can. It quotes an expert as saying man is in danger of becoming a vanishing species.

I ask unanimous consent that the series of articles be printed in the *Record*.

There being no objection, the series was ordered to be printed in the *Record*, as follows:

A WORLD IN DANGER—1: THE ENVIRONMENT: IS IT PROBLEM NO. 1?

(By Roberta Hornig and James Welsh)

(NOTE.—Many scientists concerned with environmental pollution fear that the 1970s will be the dawn of Doomsday. This is the first of seven articles examining what man has done to his world, and what he can do to save it.)

John Heritage's job begins to close in on him long before he gets to the office.

As a 31-year-old staff aide to Wisconsin's Sen. Gaylord Nelson, Heritage specializes in the environment. On a typical workday, he hasn't driven far from his home in Alexandria when these troubles begin coming at him, one after another.

His car inches through a crowded interchange onto Shirley Highway. It is a gray, heavy day. The cars stop, inch forward, stop. The fumes hang over the highway.

The cars, thousands of them, sputter through Arlington's apartment wonderland, past the Pentagon and toward the 14th Street Bridge.

As he approaches the bridge, a jet swings into its landing approach to National Airport. It approaches from upriver.

Heritage knows that as he crosses the bridge, the plane—perhaps even two—will pass not far overhead, engines screaming and dumping oily black grit on top of the exhaust-laden air he is breathing.

The Washington skyline should be clearly in view now. Some days it is, but today it is not. The accumulation of smoke from cars, buses, trucks, planes and smokestacks is too heavy; the skyline is blurred in a pastel haze.

Beneath the bridge, the Potomac flows dirty and sluggish, logs and dead fish floating in the murky brown.

Heritage crosses the bridge and the traffic passes a densely built-up urban area. There is construction nearly everywhere—buildings and highways.

The noise and confusion reach a peak as he hears the Rayburn House Office Building. There, a pile driver is banging away at full steam.

John Heritage has driven from a famous suburb to the Capitol of the United States. The trip is past, but not forgotten. He has to drive home tonight, and back to work tomorrow morning, and he wonders what Washington will do to right man's wrongs against nature.

"You have to wonder what's happening to people," he observes. "Call it irritation if you want, but anyone can sense on a trip like this what is meant by the contention that our quality of life is going down."

"The environmental problem is no longer an issue of saving trees, of conserving natural resources. It's part of daily life. To go from one place to another in our cities is to pass through an unhealthy cross-section of pollution."

Heritage and his fellow Washingtonians are far from alone. Countless thousands across the country are wondering and worrying about their own communities—not just the big towns of New York and Los Angeles, but also the middle-sized cities of Oakland, Salt Lake City, Denver, Wilmington, Providence, Buffalo, Chattanooga, plus smaller towns and even rural areas.

And if other Americans remain relatively unconcerned, the sweep of current develop-

ments and trends may be giving them second thoughts.

People in Cleveland apparently had decided they could live with the Cuyahoga River. But one day last June the river caught fire. The blaze from an ignited oil slick soaked five stories high and caused \$50,000 damage to two railroad trestles. Clevelanders are more "aware" now.

Around San Francisco, a city justifiably proud of its good looks, it has been fashionable to look down on Los Angeles as a monument to tastelessness. Northern Californians like to think of LA's air pollution, which has set off 71 emergency alerts since 1955, as typical of the kind of mess Southern Californians are capable of making. But now in the San Francisco Bay area, the smog is so thick that the Northern Californians can't see across the bay.

Lake Erie was murdered, the victim of industrial and municipal waste disposal. It now harbors new life—a mutant of carp which lives off poisons.

Death is also coming to more of the nation's once clear waters.

So much sewage from upstream communities is coming down the Eagle River in the Colorado Rockies that trout fishermen, if they still go there, catch toilet paper, not fish.

In Northeastern Pennsylvania not too long ago, acid drainage from a mining operation leaked into some abandoned, uncapped gas wells, eventually polluting the underground water serving seven counties. In some parts of the area, the only way to get water was to truck it in.

Incidents and problems like this are piling one atop the other.

The days are gone when concern for the land, the air, the water was the sole province of the conservationists, the wilderness enthusiasts, the bird watchers and a few far-seeing scientists, authors and public officials.

Last spring the National Wildlife Federation arranged for a public opinion poll, on the subject of conservation. It showed 85 percent of the American people worried about the state of the environment.

The problems they worry about, of course, vary in severity from place to place.

Washington, for instance, is about average for a city of 800,000 and a metropolitan area of nearly 3 million. Like similar areas, it suffers from air pollution caused chiefly by auto exhausts and burning fuels.

But Washington is not too typical because, as a government town, it has little industry to add to air and water wastes.

A good question then is why the Nation's Capital stands in the middle rather than the low end of the pollution index.

But solutions are as elusive as the air, and relatively little has been done.

As an issue, the environment began gathering true momentum in 1969. This year, it could well elbow its way to the top of the list of issues of major national concern, perhaps overshadowing the war in Vietnam. Students are planning protests; President Nixon is planning new programs.

There are reasons.

Everyday pollution is becoming more evident to the senses. As Heritage puts it: "It's real because you can smell it, touch it, see it, hear it."

Beer cans and other debris float by boaters far down the Chesapeake Bay. Signs warning "No Swimming—Polluted Water Not Recommended for Bathing" crop up in more and more places.

Airline passengers can spot metropolitan areas ahead by the banks of smog enveloping them. If they don't notice, their pilots, who are increasingly hampered by lowered visibility, are likely to tell them about it.

Besides commonplace pollution, dramatic "accidents" and attention-getting examples of pollution dangers are occurring more frequently.

The Cuyahoga River fire is just one example. Its effect was small in comparison to the breakup of the American tanker *Torrey Canyon* off the coast of England, leaving oil smeared across miles of British and French coasts, and killing tens of thousands of birds and fish.

More recent environmental "happenings" range from oil spills from a drilling platform off the Santa Barbara coast, to scientists' reports that human mothers' milk contains more DDT than the federal government permits in cow's milk sold for human consumption, to the death of 6,400 sheep on isolated Utah rangeways from nerve gas the Army was testing.

Evidence has piled up that no corner of the world is safe from pollution.

Poisonous pesticide residues have been found in penguins in the Antarctic.

Thor Heyerdahl, who sailed across the Atlantic last year, said the ocean "looked like a sewer."

In Greenland, traces of lead from industry and gasoline have been found in cores taken from the ice.

In Europe, acid rain frequently falls as far north as Sweden.

The Rhine is a contender for the world's most polluted river. Athenians call their air "Marshall Plan smog" for the fumes pouring from industry. In Venice, it's a tossup whether air pollutants or the flooding caused by excessive landfill operations will destroy a good part of the city's art treasures.

And as the pollution mounts, journalism is putting a higher news value on the environment.

Bigger headlines are going on stories like oil spills and smog alerts. Scientists' reports get into print and over the airwaves. There is a new breed of reporter's "beat"—the environment.

Newspapers are devoting long stories and series to the over-all problem. Time magazine now runs an environment section. Last year Look magazine devoted much of a whole issue to the environment. Newsweek has something similar in the works. So does Fortune.

Partly because of this kind of coverage, and partly because they are better organized, scientists are getting the message across as never before. And it is a sober message.

Increasing credibility is going to people once regarded as extremists for warning that the human species could become extinct unless it learns to live in harmony with nature.

Dr. Barry Commoner of Washington University in St. Louis is now considered a prophet for the doom-crying he has done for years—that "it's a matter of survival to be scared."

And ecologist LaMont Cole of Cornell University is now getting audiences besides other ecologists when he warns that pollution, because it kills forest and water plants supplying the world its oxygen supply, amounts to a time-bomb that may be impossible to defuse.

In a curious way, the Apollo space flights have helped galvanize public opinion. Mail to the White House on the environment doubled after last year's first moon landing.

To many, the flights raised the question of where technological priorities should be directed—into space or back on the earth?

The critics weren't alone. Astronauts joined them, some of them saying that from space, air pollution was so visible it cut into the joy of seeing Mother Earth from hundreds or thousands of miles away.

And the warnings are coming across. In New York, mini-skirted women are picketing shops that sell coats made from the skins of leopards, a diminishing species.

In Minnesota, a Mothers' Day protest march on the site of a planned nuclear-powered generating plant on the Mississippi.

In fairly conservative Santa Barbara, residents led by a former state senator formed

GOO (Get Oil Out), and with power and sailboats moved to block an oil company from setting up an oil-drilling platform like the one that earlier had blackened their beaches.

Students are forming environmental "action groups" on campuses across the country.

At Berkeley and Minneapolis, they held mock funerals for internal-combustion engines to protest auto air pollution.

At Richmond two weeks ago, students from Maryland to North Carolina met to protest the pollution of Virginia's rivers. The federal government sponsored their meeting.

None of this has been lost on the politicians.

It's a far different climate than a few years ago when Maine's Sen. Edmund S. Muskie was quietly cranking out landmark air and water pollution legislation or when Wisconsin's Gaylord Nelson was practically alone in talking of alternatives to the gasoline-powered internal combustion engine.

Now, Interior Secretary Walter J. Hickel put it, the environment has joined motherhood and the flag as good politics. In legislation passed last year—and more legislation no win the works—various members of Congress are outdoing themselves over who becomes identified with the push to save the environment.

President Nixon was slow off the mark on this issue but he is trying to catch up.

"There are more people in the White House now working on the environment than on any single issue, and that includes Vietnam," says one of the President's staffers.

The President will devote a major part of his State-of-the-Union message Jan. 22 to the environment. He has said it will be among top-priority items in his 1970 programs.

In the broadcast sense, the problems of pollution tie directly to the march of civilization, to the many forces at work in industrial society, each heightening the effects of the others, all of them accelerating in intensity.

The first force is people—the sheer numbers of them.

As long as man's numbers were few, and his way of life simple, he could live compatibly with the world around him.

But the world's 3 billion people, which took millennia to produce, will double by the end of the century. The U.S. may add its third 100 million people by that time. As a result, the relationship between men and nature will change radically.

It wouldn't be too bad if the population were distributed more evenly across the land. But the economics of industrialized society doesn't work that way. Industry congregates in urban areas where it can draw upon a wide range of resources, knowledge and skills. People migrate to the cities for more money and a wide choice in the employment market. Service industries follow the people. The urban areas grow bigger.

But as industry and people become more concentrated, so do their wastes—to the point that it becomes extremely difficult and expensive to keep the air and water clean, to dispose of the trash, to preserve any open space.

Prosperity only aggravates the problem.

On the one hand, it provides increased leisure time and the mobility to get away from it all.

But the more people try to get away from it all, the more they run into each other. Today, in what were once remote vacation spots, it is often tent-pole to tent-pole, boat to boat, bumper to bumper. And because of so much use, some vacation areas themselves have become pollution trouble spots.

More important, western civilization's unprecedented prosperity is dependent on an increasingly high order of technology. Man has become the super consumer, demanding more resources, more products. Some of these products, autos especially, add to pollution.

And the technology that underpins our prosperity cannot continue to grow in quality and quantity without giving off larger amounts of waste products.

Today's technology is turning out new orders of pollutants—plastics that don't corrode but continue to pile up, and synthetic chemicals that are what the scientists call "non-biodegradable" in that they do not break down easily.

The advance of knowledge and techniques has led to the 100,000-ton tanker and the giant pipelines that can be, and probably will be, laid across the fragile tundra of northern Alaska.

New knowledge and technology have enabled the exploiters to become more efficient.

As just one example, European fishing fleets, after discovering the major migratory route of the Atlantic salmon off Greenland, have so depleted this great sport fish that spawning grounds in Canada, Maine, Norway, Scotland and Ireland are now almost empty.

Even with the best of intentions, the application of technology often is preceded by little or no calculation of its environmental consequences. And so what Dr. Commoner calls "ecological backlash" is a growing phenomenon.

Perhaps the most vivid example of this backlash can be found in Egypt, where the giant Aswan Dam controls the Nile River, holding back a reservoir of water some 300 miles long.

Because the Nile's downstream flow has been slowed, waters of the Mediterranean Sea are now flooding the Nile Delta 600 miles below the dam, covering thousands of acres of fertile farmland. Because rich nutrients no longer flow below the dam, Egypt's fishing industry is collapsing. On mammoth Lake Nasser behind the dam, evaporation may claim as much water as the Nile was supposed to send downstream for irrigation. And medical specialists fear that snails that carry schistosomiasis will invade the lake and irrigation canals, eventually infecting thousands of peasants with that painful and crippling disease.

In its conception and construction, the Aswan Dam was seen as providing enormous benefits to the Egyptian people and economy. It may become a monument to environmental disaster.

If technologists have been short-sighted, so has government at every level.

In this country, for instance, two decades of housing, and transportation policy led to the suburban sprawl evident now in every metropolitan area, to dependence on the auto, to the great amounts of smog that autos produce.

On other fronts, while the Interior Department was trying to save northern wetland breeding grounds for waterfowl, the Agriculture Department was subsidizing their drainage for farming.

Over the years the federal, state and local governments have spent a lot of money in pollution abatement. But in the prevention of pollution, the record is a dismal one. In one area after another where the pressures for "progress" have confronted concern for the environment the environment has lost.

To put it another way, one agency after another created to help protect the environment gets caught up in a bureaucratic conflict of interest. As Muskie put it in a recent speech:

"The Congress has assigned responsibilities for pesticide control to the Department of Agriculture, which also promotes the use of pesticides for increased agricultural production.

"The Atomic Energy Commission supervises radiological protection from the uses of nuclear energy, which the commission promotes.

"The Corps of Engineers is responsible for some pollution control on navigable rivers,

which the Corps dredges and into which it authorizes the dumping of spoil."

But now the situation has become so serious that practices and policies—a whole way of life—are being questioned sharply. People are beginning to care, and beginning to hope it's not too late.

A WORLD IN DANGER—2: POLLUTION TOTALS TON A YEAR FOR EACH OF US

(By Roberta Hornig and James Welsh)

While in orbit during the Apollo 7 flight, astronaut Walter Schirra should have been able to see Southern California 124 miles beneath him.

He could see a portion of its coastline. But then California disappeared in a shroud of smog that extended for about 100 miles eastward.

As soon as he got back, Schirra sent pictures he had taken to the National Air Pollution Control Administration—and to Gov. Ronald Reagan.

Schirra's three space voyages have made him militant on pollution control: "The moon is not hospitable, Venus is not hospitable, Mars is not hospitable. We'd better do what we can to clean up Earth, because this is where we're going to be."

Astronaut Donn Eisele was on Apollo 7 flight with Schirra. His reaction: "Earth generally is very pretty, but you can see smog in the clouds. It was pretty evident that there is considerable air pollution. It's most discouraging."

Col. Frank Borman's Apollo 8 orbit of the moon at Christmas 1968 had a similar effect on him: "There is no question in my mind that regardless of the economic considerations, we must take immediate steps to preserve our atmosphere."

The astronauts had a special view of planet Earth. But people back on the ground are getting worried, too.

A Gallup poll conducted a year ago for the National Wildlife Federation showed that of all forms of pollution, air is the one people care about most.

And for good reason.

Man must have decent air in order to live. But he is mistreating his air—as he can tell just by looking at it, or smelling it in many areas—and science doesn't know just what that mistreatment is going to do to man.

Air is made up roughly of one-fifth oxygen, four-fifths nitrogen, a bit of argon, minute traces of other gases and water vapor in varying amounts. It is a delicate mixture.

Each year, in the United States alone, 173 million tons of man-made waste products are released into the air. That's close to a ton for each man, woman and child. Worldwide, the estimated figure is 800 million tons.

The National Air Pollution Control Administration officially recognizes nine pollutants in the air: Sulphur, dust particles, carbon monoxide, "photochemical oxidant" (the gases loosely called smog), hydrocarbons, nitrogen oxides, lead and pesticides. It has also let out a contract to study 30 other air pollutants, including asbestos and cadmium.

Scientists know only some of the things these pollutants do.

They corrode metals; they soil clothing and curtains; they make stockings run; they injure and kill crops and flowers; they reduce visibility, endangering air and highway transportation, and they blight man's surroundings, making life less enjoyable.

But more importantly, air pollution affects health. At its worst, it can kill.

Its potential became apparent in London in 1952. Four thousand more persons than the normal died that year because of a three-day blanket of killer fog.

The comparable American pollution horror tale came in 1948 in Donora, Pa., a small steel and chemical plant town. A four-day "fog" killed 19 and sickened almost half of the 14,000 townspeople.

The same thing happened in each case: Normal fog, heavy with moisture, trapped poisonous chemicals—pollutants which normally drift off into the atmosphere. In London, fog trapped sulphur caused by coal-burning; in Donora, it blanketed the town with a chemical mixture from the industrial smokestacks.

In normal conditions, air pollution's effects on health are less easy to document. But more and more, scientists are warning that there is a relationship between dirty air and what happens to people.

As Dr. Jesse L. Steinfeld, deputy assistant secretary of the health, education and welfare, put it:

"Its full impact on our health is not known, but there is abundant scientific evidence that exposure to polluted air is associated with the occurrence and worsening of chronic respiratory diseases, such as emphysema, bronchitis, asthma, and even lung cancer."

While not so dramatic as the London and Donora episodes, air pollution reached such high levels in the New York area three Thanksgivings ago that it was later found to have at least shortened, if not claimed, the lives of 168 persons, mostly old people or those prone to respiratory illnesses.

There were no "body counts," but last August in the St. Louis area and in November in the Chicago area, air pollution reached seriously high levels.

The increasing concern over air pollution as a health hazard last year led the Los Angeles County Medical Association to recommend that "students through high school... should be excused from strenuous indoor and outdoor activity" when smog concentrations rise above certain levels.

And in the same county, the smog capital of the nation, physicians are estimated to have told some 10,000 persons suffering from respiratory ailments to move elsewhere last year.

What makes air pollution even more insidious, though, are the things scientists don't know about it.

No one knows what will happen if man continues to haphazardly pour compounds into the atmospheric test tube, permitting them to accumulate. Many results are feared. The weather is affected, studies show.

Tulsa, Okla., has grown from a town to a city since 1900. With its growth has come a steady increase of dust particles in the air. And with that growth, there has been an increase in the annual rainfall.

In Louisville, Pittsburgh and Buffalo, it doesn't rain as often when industries are shut down. The snow pattern in Toronto is similar.

In LaPorte, Ind., 30 miles downwind from the heavy industrial complex around Chicago, precipitation has increased significantly since 1925. And the precipitation peaks have coincided with peaks in steel production in the Chicago area.

In America alone, about 12 million tons of simple dust are put into the sky every year. And scientists are concluding that it amounts to a virtual and involuntary cloud-seeding.

But air pollution also can have an opposite effect.

In some cases, the dirtier the air gets, the less rain falls. Clouds get so overseeded that moisture can't grow to raindrop size.

This weather-backlash in scattered locations has led meteorologists to wonder what dirty air is doing to our global climate.

Some say it's cooling the Earth's temperatures—a process that could lead to a new ice age. Others argue that it has a "greenhouse effect," raising the world's temperature at a rate fast enough to melt the polar ice caps and flood the coasts of the continents.

But all this seems rather academic to the busy urban dweller who notices air pollution only casually.

He more likely thinks about the way the air smells and looks. He may notice that when he's in a traffic jam he gets a headache, that his responses aren't as good as they might be, and that when there's smog, his eyes smart.

He is becoming more aware of air pollution, past the point where he cracks jokes about Los Angeles' smog.

Federal air pollution officials have even gotten up a dubiously distinctive "Top 10" list, headed by New York, then followed by Chicago, Philadelphia, Los Angeles, Cleveland, Pittsburgh, Boston, Newark, Detroit and St. Louis.

Washington made the second "Big 10" out of the list of 65, falling just behind Jersey City.

But dirty air seems to be everywhere. Even in New Mexico the Weather Bureau is issuing air pollution forecasts.

As a consequence, people are asking hard, central questions: What and who is responsible for air pollution and what's being done about it?

Almost all dirty air comes from some kind of burning or combustion—from gasoline in auto engines; from coal, oil and other fuels in industrial, generating and heating plants; from garbage and trash incineration and from jet airplane exhausts.

The "what" and "who" of it depends on where you live.

In Bishop, Md., population 500, for example, the offender was a single rendering plant. In the New York-Newark area, the polluters are a mixture of industrial plants, utilities, oil refineries, municipal incinerators and the fuels used to heat homes and apartment buildings.

Way out in front, though, is "transportation." It accounts for 94.8 percent of the country's bad air.

This is pollution caused by cars, planes, buses, trucks and other vehicles. Its effect varies according to location.

The automobile, for example, accounts for an average of 60 percent of the air pollution nationwide, but its effect goes as high as 90 percent in Southern California, and as low as 25 percent in Buffalo, where industries do the job.

And the automobile is now the No. 1 target of the scientists, technicians and politicians who are fighting air pollution.

Cars dump 90 million tons of pollutants into the air each year, double the amount of any other single contributor.

The 4 million motor vehicles in Los Angeles basically cause that city's smog. And the 1.1 million vehicle trips here in Washington daily don't do much for the air in the Nation's Capital. And unlike other cities of its size, Washington doesn't have heavy industry to blame.

It was not Washington but Los Angeles that fingered the car as the chief culprit.

After several air pollution scares in the early 1940s—including a day in September 1943, cited by the Los Angeles Times as a "daylight dimout"—Los Angeles clamped down on just about every air pollution source it could control. It went after domestic, commercial, industrial and municipal incinerators, and all open burning.

Afterward, there was little left to account for the growing smog except the growing number of cars and other motor vehicles.

California has, in fact, always been ahead of the nation in trying to cope with auto air pollution. By the early to mid-60s, however, other states were in the act, and so was the federal government.

Out of all this came federal requirements that Detroit beginning with '69 models build in devices to limit hydrocarbons and carbon monoxide emitted by new cars sold across the country. California went further, insisting that the devices should also control nitrogen emissions.

Yet in its war on cars, California has met with just about the same kind of success as the rest of the nation: Not much.

One of the reasons is that the 1965 law regulating automobile emissions only applies to about a fifth of the cars being driven on the nation's roadways now—the 1969 and '70 models.

Another reason is the testing procedure on the control devices set up by the National Air Pollution Control Administration. At its Ypsilanti, Mich., lab, prototype automobiles undergo tests under very favorable circumstances. They "move" standing still, and the assumption is that the prototypes are like all the cars Detroit is producing. Critics say this test has little relation to actual driving conditions.

More importantly, the law controlling the car devices has no provision for testing after the cars are sold and on the road.

The New York Scientists' Committee for Public Information states flatly that the control devices are not reliable.

The committee, set up to inform the public on the conditions of the environment in general, says that 63 percent of a sample of cars equipped with pollution control devices in California in 1966 "failed to meet... the standards... after only 2000 miles of driving." They're supposed to work for 50,000 miles.

Many say the solution is to find an alternative to the internal combustion engine.

This seems to be the route the Nixon administration is taking. The President's Council on Environment Quality last month announced it will spend \$45 million to look into a different kind of car. New York City and California already are.

Plenty of publicity has gone to some of these alternatives—the steam engine car, the electric car, the car powered by natural gas, or cleaner gasoline.

But none yet provides the answer.

Meanwhile, Detroit is sticking with the internal combustion engine. It would take untold millions for the automakers to tool up for any other kind of propulsion unit.

A spokesman for Ford said his company thinks the internal combustion engine is still the best bet. Ford, he said, has 24 virtually "smog-free" cars "in the concept stage on the test tracks," and that's the route Ford will take.

Critics, led by Sen. Edmund S. Muskie, D-Maine, contend that Detroit is interested in keeping a "status quo (that) may run counter to the public interest."

The struggle to find a non-polluting car is shaping up as one of the big research races in the 70s—Detroit versus outsiders, with government incentives probably going to both.

Another big industry, the airlines and manufacturers, has committed itself to the best pollution control devices on the market so far—after the state of New Jersey took seven airlines to court last fall.

Until then, the airplane industry had denied it was an important polluter. Its argument was that, nationwide, airplanes' particulate emissions account for only 1 percent, or 78 million tons, of the nation's air pollution by weight.

But these figures don't impress people living near airports. In New York, for example, planes pump 1½ tons of pollutants a day. In Los Angeles, it's almost a ton a day and in Washington, the filthy particles come to 1,200 pounds a day, or 602,000 pounds a year.

The new devices should cut some of this down. But it's only part of the solution.

Considering that it was pretty apparent the air was dirty, and getting more so in more places, the federal government was late getting into the air pollution field.

The landmark law, the Air Quality Act devised by Muskie, didn't come until 1967. It is a combined federal, state and local approach setting up air quality regions nationwide—the first one was the Washington metropolitan area—on the grounds that

air doesn't neatly confine itself to political boundaries.

The law also for the first time hit at "stationary" sources, such as industry and power plants, that belch black smoke into the sky.

On the books the law looks good. It gives the federal government a handle in getting after states that aren't policing the air.

But the legislation also has serious drawbacks. The most important one is that it has built-in time-lags. For all practical purposes, it gives polluters, and the states going after them, as well as federal institutions, a five-year break.

It will be two years yet before its results can be seen.

And, at this point, with the environment so spotlighted, it's questionable whether the results will be sufficient.

To make the air fit to breathe, it's going to take money, for research and new technology, tighter laws and enforcement.

Ironically, as forms of pollution go, and particularly compared with the costs of clean water, it will not take all that much money to restore our air, the experts say.

Federal air pollution officials estimate they could get it back in shape within the next five years for less than \$5 billion.

But, they point out, even with all the attention being paid to air pollution these days, Congress in the last session appropriated only \$88 million for air pollution. About the same time, it authorized \$85 million for the supersonic transport plane—which conceivably could have some insidious side effects on the atmosphere.

A WORLD IN DANGER—3: OUR RIVERS ARE GOING DOWN THE DRAIN

(By Roberta Hornig and James Welsh)

The nation's waterways run in not-so-glorious color. Name your color; it's there.

On the Potomac, beginning not far below Washington and extending for miles, the surface can turn a thick blue-green, the color of the algae that thrive on nutrient chemicals rushing from the metro area's big Blue Plains treatment plant.

Out on the Chesapeake Bay and in some of its small tributaries, the same concentrates of nutrients feed plants called dinoflagellates. In this case the color spreading across the water is bright red.

For white, try some of the Southern rivers where textile and carpet mills pour milky wastes that float lazily downstream.

For black, try the goo that spills from oil companies on the Delaware.

Yellow is the color of mine acid. You can see it on the headwaters of the Monongahela and some of the streams that feed into the Potomac and Susquehanna. Rusty red also is the color of mine acid. In the Ohio's section of southwestern Pennsylvania not long ago, mine acid got into a stream, and a place called Cucumber Falls ran red for a year and a half.

Blue? Sure. In Clarion County, Pa., a printing plant reprocesses used paper. As a result, the Clarion River runs inky blue.

Where industry pours a variety of wastes into the water—the Buffalo on its way to Lake Erie, the Calumet near Chicago, the Ohio at Memphis, Tenn.—the colors run the spectrum.

Then, too, a river can look perfectly clear, but be filled with a pollutant such as oil-well brine, which is so strong it can corrode ship bottoms.

Are there no clean rivers?

Asked to name one relatively clean major river system in the United States, federal officials just shake their heads. There is none. American rivers generally fall into three categories—dirty, very dirty and dirtiest.

Staffers at the Federal Water Pollution Control Agency (FWPCA) prepared this list of the nation's 10 dirtiest rivers: The Ohio; the Houston Ship Canal; the Cuyahoga in Ohio; the River Rouge in Michigan; the

Buffalo; the Passaic in New Jersey; the Arthur Kill near New York City; the Merrimack in New Hampshire and Massachusetts; the Androscoggin in Maine, and the Escambia in Alabama and Florida.

A runner-up list of 10 very dirty rivers also is available. The Potomac made this list. So did the Mississippi, the Missouri, the Hudson and the Connecticut.

All this is not to say that every American river is getting progressively more polluted, or that nothing is being done about cleaning up the rivers and lakes.

Water pollution is an old story in this country, and so is the fight to stem it. Over the last dozen years, governments at all levels have spent \$5.4 billion to attack water pollution, and industry has spent billions more. And the effort has achieved a measure of success.

The Potomac is one example of a river that is cleaner than it used to be. At the turn of the century, the Potomac was the source of typhoid infection. Just a few years ago the Blue Plains treatment plant, which serves the District and suburban Maryland, was removing only 40 percent of organic pollutants. Now it's removing 60 percent.

But this kind of progress brings little comfort to the nation's water-pollution specialists. They look instead at the mountains of waste still pouring into U.S. waterways, at the backlog of treatment-plant construction, at new breeds and sources of pollutants, and at the increased amounts and concentration of pollution that will accompany future growth.

The complexity of the task facing the experts can be illustrated in this oversimplified example:

Putting up a better sewage treatment plant in a city might cut the amount of pollutants going into the river by half. But if, after a number of years, the increase of municipal and industrial wastes doubles, that city's river is just about as polluted as it was before.

Then, too, water pollution is spreading to new and dangerous battlefronts.

A river might very well be more free than in decades of such traditional pollutants as sewage.

But American industry, it has been estimated, turns out a new chemical compound every 20 minutes. Some of these substances are highly toxic and difficult to treat.

Industry also turns out that modern wash-day miracle, the detergent, which depends on the nutrient chemicals phosphate and nitrogen. In the water, they serve as food for plant life—and eventually can choke waterways. Scientists call this eutrophication.

On top of this comes the threat of pesticides in the water—and radiological emissions from atomic-generated plants.

A further threat to water quality comes not from a waste but from heat, or what is known as thermal pollution. Heated water used for industrial cooling is returned to the nearest waterway, often disrupting the balance of aquatic life.

Pollution is no longer limited to surface waters. Only in the last year have the scare stories begun to spread of what's happening to the underground water supply. Deep disposal wells leaked, or "blew out," sending their contents—brine in Texas and Kansas, cyanide near Buffalo, a variety of chemicals near Denver—into the water supply.

And pollution is no longer limited to inland waterways. Oil spills, offshore dumping, and pesticides carried by winds have raised a new spectre—pollution of the world's oceans.

David Dominick, the young chief of the FWPCA, is alternately gloomy and optimistic over the water-pollution problem.

He sees little or no progress having been made in the last decade, but with a greater commitment by all concerned, believes the

nation's waters could be significantly improved in the '70s.

But with no greater commitment than the nation is now making, he believes the most serious consequences would follow.

"We could get to the point where water no longer would be an economic resource," said Dominick. "Our industry would be crippled, our municipalities would be crippled."

In terms of what worries scientists, public officials and the public, water and air pollution are the big two of the environmental problems. But the two cannot be equated.

In one sense, polluted air is more insidious because it is impossible to contain. The reverse of that proposition is that water, since it is more contained, can get incredibly dirty. No given volume of air is poisoned to the extent that Lake Erie is poisoned.

Then, too, the sources of water pollution are numerous, disparate and frequently indirect in nature as to defy coordinated attack.

For example, a chemical firm might install waste-treatment devices at its plant along a California river, and the river would not be polluted. But that company's products are sold across the country and, after used, may end up being discarded in thousands of rivers and lakes.

Pesticides and detergents are the most obvious examples of this form of indirect pollution.

A final distinction between air and water pollution boils down to one word: Money.

Up to now, government and industry have spent far more money on water pollution than on all other forms of pollution combined. And if the nation makes a commitment to clean up the environment, by far the greatest part of the money involved will have to go to the water program.

Two years ago the FWPCA, which is part of the Interior Department, put out a document saying that to bring our waterways up to federal standards by 1973, it would cost some \$20 billion. This estimate, now perhaps too low, included only municipal and industrial waste treatment. It excluded the costs of controlling a wide range of other contaminants such as sediment, animal feedlot runoff and acid mine drainage. (Just to halt mine acid runoff, other studies have shown, might cost \$6 billion.)

And the report ignored the cost of separating sewage lines from storm drainage lines in the many cities where they are combined. This cost never has been calculated, but its enormity is indicated by one estimate for Washington alone—\$1 billion.

Whatever the grand total, it is formidable. Certainly, the nation has not shown it has been willing to spend anything close to that amount.

Partly because of that, partly because the environment has become such a visible issue, and partly because of sheer political antagonisms, water pollution promises to shape up next year as one long fight over money.

Congress passed the landmark Water Quality Act of 1965. It directed the states to draw up water quality standards for their municipalities and industries, and promised these states steadily increasing amounts of money to help finance waste treatment plants.

Some of the states—Maryland, New York and Michigan among others—took Uncle Sam at full faith and charged ahead with ambitious antipollution programs.

But the promised federal money failed to come along.

For fiscal 1968, Congress had authorized a prior authorization of \$450 million, three times what had been spent the year before. But with the Vietnam war and other budgetary strictures, the Johnson administration asked for, and Congress appropriated, only \$200 million.

The advance authorization for fiscal 1969 was \$750 million. All that came along was \$214 million. For this fiscal year, the advance authorization was \$1 billion. But both the

outgoing Johnson administration and the new Nixon administration chose to hold the line. They asked for only \$214 million.

But this year, with the White House and congressional leadership split along party lines, the revolt came.

Congress appropriated \$800 million for water pollution grants, far more than the President wanted to spend. A question now is how much of this money the administration will release, or how much it will seek to hold back in the campaign against inflation.

If Congress' actions were in part motivated by politics, they also came in response to growing pressures back home. The failure of federal funding promises in the last several years had triggered bitter reactions at the state level, particularly in those states that had jumped out ahead in water-pollution programs.

Maryland, for instance, had launched a 4-year, \$150 million program making one guarantee after another to local communities for the construction of treatment plants. Under the federal legislation, it had counted on up to 55 percent federal matching grants. But the federal subsidies so far have run about 10 percent.

Not yet through its third year, the program is just about out of money.

There's little secret about what the President wants to do for his 1971 program. With no elbow room in the budget, with inflation yet unconquered, the war not yet ended, he wants to replace direct cash grants with the promise to help pay off bonds for sewage treatment works over a long period of time.

Under this plan, municipalities would float some \$10 billion in bonds, with Washington paying off all the principal but none of the interest, over 20 years.

The argument for it is that communities throughout the nation could begin work now on the facilities they need. Moreover, by spreading out its obligation, the federal government would spend at most \$500 million a year, far less than that in the first year or two.

But even before the plan is announced, arguments are building up against it. A number of congressmen, including Maine's Sen. Edmund Muskie, chief architect of the Water Quality Act, are poised to fight it, and to go for big cash-grant appropriations.

From the states, the reaction to the tentative federal plan is far from enthusiastic.

"It's unrealistic to expect the locals to play banker for the federal government," said James Coulter, deputy chief of Maryland's Department of Natural Resources.

The smaller and poorer the community, the more trouble it will have trying to enter today's tight bond market, argued Coulter. He further said such a plan would about cut in half the 55 percent federal subsidies promised under the Water Quality Act.

Meanwhile, until more money comes along, and as the bond market tightens, the backlog is growing.

Two years ago, according to FWPCA, 44 percent of the nation's urban population was served by less than adequate treatment facilities, or no facilities at all. For many states, the figure was far higher—New Jersey, at 75 percent, Michigan at 79 percent, Maine at 93 percent.

"I think we're even worse off now," said Dominick.

The FWPCA chief is pinning some hope on new technology—notably a method of treating municipal wastes through activated carbon and other chemicals. It will be given a try at Washington's Blue Plains plant.

Said Dominick: "If it works, it should be much simpler and cheaper than the usual secondary treatment process. It should do for waste treatment plants what transistors did for radios."

But it will be 18 months before results can be properly assessed. Meanwhile, Domi-

nick reports running into resistance, in Washington and elsewhere, from the waste-treatment industry.

"I think what we've got on our hands is a sewage-industrial complex," he said.

But for all the debate to come over big sums of money, many of the people directly concerned, from top federal officials to men like Coulter and a growing number of local officials, realize that money alone won't eradicate water pollution.

First, there is good reason to believe that money now going into waste treatment plants across the country could be spent far more efficiently.

Two months ago, in a tough report, the General Accounting Office told Congress that the benefits from billions of dollars of spending on some 9,400 treatment plants in the last 12 years "have not been as great as they could have been."

GAO's reasoning gets to the heart of the traditional grant-in-aid process.

Consider a river lined by two dozen communities and a lot of industry. Administrators in possibly five of those communities know the bureaucratic application route well enough to get money for treatment works. But the river remains dirty because all the other communities and the industry continue to pour untreated waste into the river.

Said the GAO report: "The program to date has been administered for the most part using a shotgun approach—awarding construction grants on a first-come, first-served or readiness-to-proceed basis. Little consideration has been given to the immediate benefits to be attained by the construction of individual treatment plants."

Ralph Widner is director of the Appalachian Regional Commission, serving an area sorely beset by both water and air pollution. He puts it this way: "What we have is the accidental consequences of the grant-in-aid approach. There has been no systematic attack."

If Congress listens to GAO and other critics, it may insist on the application of systems techniques, leading to treatment systems serving large areas.

Said Maryland's Coulter: "It has to come. Just as we have state highways and interstate highways, we'll have the state-run sewage system and regional purification works."

"But none of this will come cheaply. It will cost enormous amounts of money."

The GAO report didn't say so, but there are other reasons why money for cleaner water can go down the drain.

One is that the agencies of government often work at cross purposes.

What happened on the Ohio River is a case in point. With a population of 24 million and some 38,000 industrial plants in its 10-state drainage area, the Ohio has been the target of the biggest cleanup effort ever directed at a major American river. Nearly \$1 billion has been spent in the last 20 years.

But over the years, too, the Army Corps of Engineers has been busy improving the river for navigation. In effect, the Ohio has been turned into a series of reservoirs.

These reservoirs were given little flushing capacity. Waste, along with heat from thermal pollution, builds up. Aeration is low.

Over-all, these projects have offset a good part of what the clean-water program promised to accomplish.

Water pollution specialists also agree that beyond money, enforcement of tough standards is the key to cleaning up the waters.

In the past, the federal government has for the most part relied upon the states to "get tough" with local governments and industry.

One federal official describes why this so often hasn't worked:

"At the state government level, industry can be politically potent. Often the biggest

firms, maybe the biggest polluters, are the biggest contributors. What's more, the states traditionally have competed for new industry. They're more scared of driving industry away than they are of water pollution."

Lately, on interstate waterways, the federal government has shown a willingness to bear down. After extensive hearings last year, it threatened to sue the city of Toledo and four industries in Toledo and Cleveland for not taking steps to end the pollution of Lake Erie. It remains to be seen whether Toledo and the four firms comply with clean-water standard—and if not, whether the FWPCA refers the matter to the Justice Department.

Dominick and his aides say that among each of the major industrial groupings—steel, chemicals, oil, forest products—there are good guys and bad guys, firms that get plus ratings, and firms that act with what one official calls "19th Century abandon."

In the steel industry, for example, U.S. Steel gets good marks. It's not perfect, but it spends money and tries hard. Republic Steel is on the other end of the FWPCA scorecard. One of the four Ohio firms the agency threatened to sue last year, Republic refused to testify at the hearings on grounds the issue was strictly a state matter. (Interestingly, the state of Ohio refused to testify on the same grounds.)

Dominick is seeking legislation that will make it simpler to crack down on violators. But even if that comes, the question is how much farther Washington will go to crack down, to play the heavy. Said Dominick:

"If we get the type of national priority commitment that cleaning up the water deserves, it will be clear mandate to go after the offenders."

As a whole, industry is spending just about the amount called for in the Water Quality Act goals. At last count, it was on the order of \$600 million a year.

Industry no doubt will be called on to spend more in one way or another. Public pressure is growing. Congressional pressure is growing. Wisconsin's Sen. William Proxmire, for example, following on the heels of the GAO report, introduced legislation that would place a user tax on industry, depending on the amount of waste it dumped in the water.

Higher product prices? We're already paying them—not only for what industry invests to treat its own wastes but also what some firms, notably in the medical and food fields, must invest to treat dirty water even before they use it.

As the nation's water pollution fighters go about their business, they face the prevailing problem of setting priorities. What should come first?

Widner, thinking of Appalachia with its strip-mine runoff and acid-laden abandoned deep mines, its old industry and impoverished towns still pouring untreated wastes into the river, talks of the issue in these terms:

"We have this tremendous legacy of neglect, all the problems from the past, that are still with us. It would take more resources than we have to eliminate them. And even if we tried, there are all the new problems coming along."

For Interior Secretary Walter J. Hickel, Dominick and their aides, many of these problems are pressing in more swiftly than anyone could anticipate even a year or two ago.

Consider the eutrophication menace, only recently recognized by scientists.

Last month, Rep. Henry Reuss, D-Wisc., held a series of hearings that wound up with a scolding of scientists, both in government and industry, for failure to find a pollution-free detergent. Now FWPCA is stepping up its research efforts in that field.

The pollution of underground waters is something else. It will not be solved by research. It will be solved by regulation.

"It's a treacherous problem—out of sight, out of mind," says Dominick.

Now this form of pollution is growing more visible—and so are demands to do something about it.

Until now, the federal government has largely ignored it, permitting industry and the military to multiply the number of deep wells for disposing of poisonous wastes.

Dominick now promises that a strong federal policy will be coming along soon.

Ocean pollution is something else again. No one nation can deal with it. It's a problem with scientific, diplomatic and legal implications that environment specialists and public officials are only beginning to come to grips with.

A MEASURE OF POLLUTION: BLACK RING MEANS POTOMAC SEAGULL

Donald Lear knows a Potomac seagull when he sees one; it has a black ring around its middle.

"It dips down only so far for food," he said. "The muck on the surface collects in the same place on its body."

Lear notices any number of things like that. He is chief of the ecology section of the Federal Water Pollution Control Administration's Chesapeake Field Station.

Not long ago, at The Evening Star's request, he was out on the Potomac, at Tantalum about a dozen miles below downtown Washington, trawling for fish. The purpose of the venture was simple—to test the effects on fish of polluted water in the Washington area, particularly at summer temperatures. Lear looked around him.

"You know, what's hard to measure around here is what we don't have, forms of life we used to have."

SWANS DISAPPEAR

Swans used to come to the Potomac, said Lear. The underwater grass they fed on is dying.

Fish life is less abundant in the Chesapeake Bay tributaries than it used to be. This is particularly true of the Potomac near Washington.

Among the species that have declined in recent years are the Atlantic croaker, the spot, the American shad, the bluefish, the Atlantic sturgeon, the menhaden and the sheepshead.

Other species are hardier, some of them tolerant of pollution. They include the white perch, which is what Lear eventually caught—several dozen of them, alive and well.

The test water came from two places upstream—off Kennedy Center, near the confluence of Rock Creek, and from the channel just below the Blue Plains treatment plant. At both places, with favorable winter temperatures, measurement showed enough oxygen in the water to support fish life.

Back at the field station in Annapolis, it was a different story. Lear knew what would happen. The fish weren't all that hardy.

He put about four fish each in various containers, with water from each of the two sources at both winter and summer temperatures, and with some of the water forcibly aerated and some of the water left alone.

After 14 hours, all four fish were dead in the tanks where water from both the Kennedy Center and Blue Plains had been raised to summerlike 82 degree temperature.

"It was simply lack of oxygen," Lear reported.

The effect of raising the temperature of water is to reduce the solubility of gases, thus lowering the amount of dissolved oxygen that water life needs. At the same time, the need of organisms for oxygen increases. Pollution hurts, since it raises what is called the biological oxygen demand, a measure of the demand on the water oxygen to break down organic wastes.

ABSOLUTE MINIMUM

Biologists consider four parts of dissolved oxygen per million parts of water a standard of what fish require. Two parts per million, they say, is an absolute minimum.

When Lear began the test, the Kennedy Center water contained 8.5 parts of dissolved oxygen, the Blue Plains water 5.9 parts. Fourteen hours after the water was heated, both tanks of water tested at less than one part of dissolved oxygen per million part water.

Some of the other fish died, too. For instance, in the tank with heated but aerated water, with the dissolved-oxygen rating still at 5.5, two of the four fish died after 21 hours. Why? That's uncertain.

According to Lear, for the last several years, fish kills have occurred in the lower Potomac in the third week of May. He expects another one this year.

"We still don't know why," said Lear. "One year we suspected pesticides, another year we had the fish tested for disease. All the lab tests proved negative."

Fish can die, even in large numbers, through natural as well as man-made causes. For this reason, dead fish are not always the evidence of polluted waters.

But Lear and his fellow scientists are the first to say that cleaning up the water is the key to keeping more waterlife healthy and to permit fish to populate waters, like the Potomac through Washington, where they no longer live.

THE WARY ALLIES IN THE POLLUTION FIGHT (By Mary McGrory)

The White House and the campus youth are a little surprised to find themselves on the same side of a question. On the matter of clean air and clean water, however, they are agreed—although neither expects too much of the other.

The White House is naturally gratified that anti-war demonstrations no longer constitute a real and present danger. Their fear is that their prospective efforts in pollution control will be considered insufficient by their new allies, who will quit the field in frustration.

The young people suspect that President Nixon may be more inclined to talk than to act in what they regard as an emergency, but they think the issue may help to reduce the antagonism between the generations and give students a more positive reputation.

NOT JUST A PROTEST

The young say they are in the anti-pollution field to stay.

"This is not just a protest movement," says Wellesley senior Joan Entmacher, who mimographed speeches for Sen. Eugene McCarthy, D-Minn., during the 1968 campaign. "A lot of us are going into law, engineering and business school and intend to make careers out of improving our environment."

The White House, which has always been dubious about the commitment of youth, except on the war, thinks that ecology may be a passing fancy.

"Pollution today is like poverty in 1964," says a cautious White House aide. "Everybody was against it, and they thought community action was the answer. I hope they don't make the same mistake on pollution. If it has to be late mothers and students marching on a paper factory, government is not adequate. We've got to have regulations that will enable the industrialist to change his ways and still not be at a disadvantage with his competitor."

POGO IS QUOTED

Both sides agree there is no clear enemy in pollution.

Miss Entmacher quotes Pogo to make the point: "We have met the enemy, and they are us." We all drive cars and we are all consumers, and we've all bought the idea we

have to keep increasing our Gross National Product."

A "statement of purpose" from "Environment!" a New York-based young people's organization, and one of many, puts it this way:

"The only natural resource left on this planet that man seems unable to reduce to the disaster level is the capacity for discontent. Our organization is designed to harvest this resource and apply it to the complex problems of survival . . . We are sophisticated enough to know that Vietnam, civil rights, Biafra and all of the other apparently consuming problems of our time will be academic if the environments our planet lose their integrity and their power to support the lives of men."

The young people are using the skills acquired in 1968, organizing, canvassing and petitioning teams, speakers' bureaus and leafletting squads to meet what one Boston group calls "this grave ecological crisis." "Dump-ins" to dramatize bad trash collection and the non-returnable bottle problem are planned.

All activity is pointed toward the April 22 teach-in, a nationwide, nonpartisan effort initiated by Sen. Gaylord Nelson, D-Wis. Rep. Richard Ottinger, D-N.Y., a pioneer "ecofreak," as the new activists call themselves, is organizing his whole state for participation.

He has contacted about 4,000 students, urged them to take "pollution inventories" in their districts and encouraged law students to take down existing anti-pollution statutes with a view to bringing action against polluting factories. He himself successfully sued the Pennsylvania Central Railroad and the Corps of Engineers for pouring oil in the Hudson River under an 1888 law.

In his first newsletter to campus workers, Ottinger said, "Most organized abatement efforts so far have tended to deal with the broad issues in a 'statesmanlike manner'; no name-calling; no direct action." The fact is that, in spite of laws and good intentions, most of the polluters, public and private, will go right on polluting until someone blows the whistle on them individually and makes it either too expensive or too embarrassing for them to continue."

The youth and the President will now be watching each other to see which of them has the muscle and the commitment for the long haul to make the country habitable.

A WORLD IN DANGER—4: GARBAGE PILES UP AND UP, AND UP, AND—

(By Roberta Hornig and James Welsh)

Before affluence, people did not have much to throw away. Last year, Americans threw away 7.6 million television sets.

Housewives used to find a use for coffee cans, jelly jars, and other containers. Last year, with so many containers on store shelves that even the most economy-minded were overwhelmed, Americans threw away 50 billion cans, 30 billion bottles and jars and about 4 million tons of plastics.

During World War II days, old cars went to the scrap yards and the metal was salvaged. Last year, Americans junked 7 million cars and trucks. In New York City alone, about 1,000 vehicles a day were simply abandoned.

America is not just a consumer economy. It is a throw-away economy, which by its very nature is creating problems of avalanche proportions.

It was officially recognized by Congress in 1965 as the "third pollution," following water and air pollution. And because no one can think of a better name for it, it is called "solid wastes."

These are the solid discards that are neither liquid nor gas. Besides everyday garbage and trash, these range from old refrigerators to

dead animals, to the immense amount of scrap and wastes that industry and farmers no longer want.

What happens to them? After they're thrown away, left for the municipalities to pick up, the municipalities usually throw them away too—into dumps.

It is old fashioned, but open dumping still accounts for 85 percent of the way this country is "disposing" of its wastes.

People do not think about garbage very much. They don't want too; they don't like to see it around.

But, dumping uses up a lot of land. Experts say garbage has damaged about 7,000 square miles of the country—a country in which land is becoming scarcer, particularly in the metropolitan areas.

And as metropolitan areas grow, dumping grounds get farther away—making trash transportation cost more than it does already.

What are the alternatives?

Burning is the most common one.

Some communities still permit "open burning" at dump sites, but there is increasing pressure to stop it because it contributes to air pollution.

Incineration appears a more logical step, but even incinerators are undergoing a rash of criticism. Between 8 and 10 percent of the nation's garbage is burned in incinerators. A study by the Public Health Service in 1967 revealed that 75 percent of these are unsatisfactory because they dirty the air.

Many of them don't do a very good job, either. Gerald F. O'Leary, president of Boston's City Council, told a Senate committee recently that in his city "You can put a telephone book in the incinerators and come out and read it."

Larger metropolitan areas are turning to burying garbage. It is called "sanitary landfill," which is a refinement of the open dump. In some places, including Washington, these are fairly sophisticated.

Properly planned, landfills cover each day's garbage load with six inches or more of compacted earth and in such a way as to prevent ground and water pollution.

Washington went this way, and now it has one of the model landfills in the nation.

Just two years ago, the Kenilworth Dump, located about four miles from the Capitol, was rated by the Public Health Service as the worst air-polluting, open-burning dump in the nation.

Today, after being filled in with a half million tons of trash and with the help of a federal grant Kenilworth is about to become converted into a 300-acre park.

Washington is already on its second landfill, at Oxon Hill. In about two years, it will become a golf course.

But landfills, which handle about 5 percent of the nation's garbage, cannot be considered a final solution. Besides posing a possible water pollution threat, they are a land-gobbler.

New York, Philadelphia, San Francisco and Boston will be running out of garbage burial grounds within the next five to 10 years.

Washington is going to have to turn to Prince William County, at least 20 miles down the Potomac River, for its next landfill operation. This one will be the most up-to-date of its kind, with garbage baled, then barged, to burial.

Some garbage already is barged for burial at sea. A recent study by an oceanographer at the Stony Brook Marine Resources Center on Long Island says that 8.6 million tons of material are thrown annually into the Atlantic Ocean, up to five miles out to sea from the New York area. The effects of this practice are as yet unknown, but frowned on by federal officials.

At the present rate, this country is throwing out 3.6 billion tons of solid wastes a year.

On the average, every man, woman and child in America generates 5.3 pounds of

garbage a day. The rate in the 1920s was 2.75 pounds per person, and experts predict that in 10 years, the figure will leap to 8 pounds each.

This is a faster growth rate than our population. In fact, the U.S. garbage growth is double its population growth.

Much of the reason for the garbage heap is the nation's new affluence: More money equals more goods equals more trash—and more complicated trash at that.

Some of the goods and gadgets finding themselves on supermarket shelves are not for burning. They won't burn.

And some of what people buy won't deteriorate under any normal circumstances. Throw a cardboard carton away and it eventually disappears through natural biological processes. Try the same thing with some of the plastics and they will be there almost forever.

Garbage is a problem everywhere in the country.

Where people are poorer, and the communities poorer, different orders of garbage problems appear.

The report of the National Advisory Commission on Civil Disorders to President Johnson in 1968 pointed to the effects of garbage—which mostly amounts to food wastes—on the inner cities.

"It must be concluded that slum sanitation is a serious problem in the minds of the urban poor," the report states, pointing to the "peculiarly intense needs of ghetto areas for sanitation services."

But country areas have their garbage problems as well.

In Kentucky, for example, the local municipal units are so small that there is no standard trash collection. So people dump anywhere.

A few years ago, following the lead of Mrs. Lyndon B. Johnson's beautification program, Kentucky started a "beauty program" of its own, and created roadside rests with litter barrels.

The public's assumption was that litter barrels were placed for trash. Soon after the program began, so much trash accumulated that the litter barrels were hidden.

Nationwide, trash collection is an extremely expensive proposition.

John F. Collins, former president of the National League of Cities and one-time mayor of Boston, puts municipal waste disposal costs at \$3.5 billion annually.

This would make solid wastes the third largest municipal expenditure, behind education and highway construction.

It took a long time for Congress to become concerned with it because, like other people, garbage was not uppermost in the mind.

Garbage caught the attention of Sen. Edmund Muskie's air and water pollution subcommittee when it was discovered that garbage burning in open dumps and incinerators was causing much of the nation's air pollution.

Almost as an afterthought, prodded by Muskie, Congress added the Solid Waste Disposal Act of 1965 to the Clean Air Act.

It called for finding and developing better ways of handling garbage and for grants to states through 1970. The authorization was for \$100 million. But the Vietnam war costs got in the way and less than \$20 million was actually appropriated.

Muskie's subcommittee has drafted a much more sophisticated law—the Resource Recovery Act—which will come up this new session of Congress.

If passed, this legislation would earmark \$800 million over five years for research and construction grants to come up with new technology to recover, reuse and recycle what now is just thrown away.

The general theory behind the proposed law is that in its inefficient methods of disposing of wastes, the country is wasting valuable national resources.

Richard D. Vaughan, director of the De-

partment of Health, Education and Welfare's Bureau of Solid Waste Management, goes along with the general philosophy behind the new Muskie proposal.

For the last few years, waste-equipment manufacturers have been rushing into production with garbage shredders, pulverizers, grinders, compressors, compactors, balers and collection trucks with new gadgets.

The Reynolds Metal Co. has a highly successful project going on in Los Angeles and Miami, and is paying ½ cent a can for the return of beverage cans. These cans, which cause problems when dumped because they don't "degrade," are then "recycled" by the company and converted into a new use as secondary aluminum products. The project will be expanded soon.

Paper companies are trying to recycle their wastes. The Crown-Zellerbach Corp. reports that about 20 percent of corrugated boards are returned to the manufacturing process.

Glass technologists have also been experimenting with several ideas for using scrap glass.

One of the problems facing industry is that there are not many secondary industries around to buy, and reuse, products.

The Solid Waste Management Bureau has recently let out a contract to the Midwest Research Institute in Kansas City to look at available and potential markets.

In New York, the bureau is testing a "vacuum collection system" in an apartment house. This device picks up garbage like a vacuum cleaner, eliminating the need for collection.

Other research involves a super-incinerator that could produce electricity while it burns garbage at even, high temperatures. The most modern incinerator in the world—in Dusseldorf, Germany—generates electricity.

At Clemson University, work is underway on a new kind of bottle that dissolves in water.

The bureau also is trying to come up with ways to use wastes. For example, it is throwing old tires into the Atlantic for fish breeding beds.

The Interior Department's Bureau of Mines also is in the solid wastes research business.

Among its projects is making building blocks out of garbage, a scheme similar to one in Japan. Under the Japanese method, raw garbage is compressed into a block under pressure.

Some experts are dubious about this scheme, however, and are warning that it is possible the garbage-blocks could build up methane gas and explode.

Thus far, though, Vaughan's answers to the nation's junkpiles boil down to the necessity for moving on many fronts at once.

An obvious one is an attempt to improve trash collection methods to get away from the trash-and-carry method. Research contracts are being let to this end.

Another is better incineration. Incinerators will probably be around for a long time. Sanitary engineers are working toward getting ones that burn trash better and that have a secondary use, reclaiming some of the energy the burning gives off.

Another answer, Vaughn believes, is recycling products—that is, getting trash, such as metals and paper, back to a base state and finding a new, secondary use for them.

Alternatives to the "non-biodegradables," like plastics, that don't break down naturally also should be found, he says.

Ultimately, Vaughan says, the housewife may have to change her habits and learn to separate trash, keeping bottles and papers, say, separate from food wastes.

But most important of all, Vaughan says, is to cut down the sheer volume of wastes.

The war on garbage may also ultimately require reusing everything from milk bottles to equipment on old cars, or even a tax on

the amount of wastes the consumer generates.

All the answers add up to greater costs—to someone. The question is: will the consumer get caught in the middle?

SOME GARBAGE IS UNTOUCHABLE

Sometimes, trash comes to Washington's O Street Incinerator in portfolios and briefcases.

Call it America's super-secret disposal. It cuts down slightly on solid wastes; it adds slightly to air pollution.

Ever since World War II one of the burners at the 1st and O Street SE Incinerator has been reserved pretty much for hush-hush stuff—at least the stuff that isn't filed somewhere.

It's one of the public services Washington provides in a city that's full of agencies with secrets.

Almost everyday, limousines, private cars or government trucks drive up—sometimes with armed guards—and deliver trash. It comes by portfolio and briefcases, in paper bags, even cardboard cartons.

The delivery man, often dressed in a business suit, "checks in," then sits by the fire to make sure the trash burns.

The fire-watching can last anywhere from a half-hour to most of the day.

The incinerator's biggest customer now is the State Department, Foreman Charles Brown says.

But customers also include military agencies, the Federal Bureau of Investigation and, at times, the Central Intelligence Agency—although the latter has its own "self-destruct" unit.

Besides the government sources, the trash burner is also used at times by lawyers and private firms, most of them dealing in research.

"I guess they don't want the other fellow to know what they're doing," Brown surmises.

At one time, embassies used to make use of the hush-hush burner, but now they use it rarely—and then it's only by the British.

Some countries, of course, want to make sure their garbage doesn't fall into enemy hands. The Russian Embassy, for example, is believed to have its own incinerator at the embassy. But this is hard to confirm; the Russians don't want to talk about what they do with their trash.

Brown says that the Washington secret trash load has gone down considerably since the great war, although he doesn't keep a tonnage count.

People sometimes have to stand in line now, but not too long, he says.

But in World War II days, the line often went around the block.

Once during the war, Brown recalls, the Washington city government got a complaint that sugar, then being rationed, was being burned.

What caused the rumpus, he says, is that the old OSS used to deliver its secrets for burning in sugar sacks.

A WORLD IN DANGER—5: THE DAY LBJ WAS ALMOST SPEECHLESS

(By Roberta Hornig and James Welsh)

Not long after he died in 1967, poet Carl Sandburg was honored at a ceremony at the Lincoln Memorial.

President Johnson sat there while one dignitary after another rose to speak. Johnson couldn't hear much of what they said. Almost all he could hear was the jets overhead, coming down the Potomac on their landing run to National Airport.

As his own turn to speak approached, Johnson turned to Interior Secretary Stewart Udall.

"Get rid of those jets," he ordered.

A startled Udall spoke to the nearest Secret Service man, who quickly telephoned the presidential command to the airport. By the time Johnson rose to speak the noise

had stopped. And throughout his address, the jets remained miles upriver, circling.

As the story goes, this is a big reason Washington became as involved as it now is in trying to curb excessive noise. It wasn't long after the Sandburg ceremony that federal officials began speaking out much more strongly about "noise pollution" than they had in the past.

More substantial reasons aren't difficult to find. Largely they stem from the widespread introduction of jet aircraft to places like National Airport, and the fact that if a citizen is bothered by the sound, he can't order the jets turned around like Johnson did.

Protests and lawsuits over noise have been on the rise. Major lawsuits are under way contesting airport noise in New York, Chicago and Atlanta.

And so noise has become the latest environmental hazard to get the federal government's seal of disapproval. Springing from 1968 legislation, a new noise-abatement office is operating from the Department of Transportation. And a few of the states have similar offices.

But should noise, which is usually defined as unwanted sound, be equated with the widely prevalent and publicized forms of pollution?

Yes, say some specialists. They cite the warning of Nobel Laureate Robert Koch some 60 years ago: "The day will come when man will have to fight merciless noise as the worst enemy of his health." They warn that if noise levels continue to rise as they have in the recent past, what is now a threat could be lethal.

No, say others. In order of magnitude and concern, noise is not in the same class as what's happening to the air and water, they say. And it is not, in a technical sense, a pollutant, since to pollute means to soil or dirty. Noise does not soil or dirty, nor does it accumulate as waste accumulates.

Yet there is general agreement that excessive noise, if not pollution, nevertheless can be a menace to health and well-being.

Moreover, if it does not threaten the environment, it lowers the quality of the environment.

The same thing is often said of other by-products of modern life, especially urban life. The billboards protrude; the power lines and freeways cut across the land; roadside commercial blight spreads; open land diminishes; ugliness prevails.

All of these things relate to the question of what can be done to make urban living more pleasant. It's a question that can lead to endless debate.

The answers are not easy. For example, if highway construction is halted, it creates greater traffic congestion. Or if housing development is blocked over a huge area, it drives prices up and contributes to the density of other areas.

One thing is certain: Concern for the amenities is assuming greater importance. It is inseparable from the over-all environmental issue.

Noise, unlike ugliness and blight, can be measured with great precision. For purposes, it is measured in decibels (db), which are units of acoustic pressure levels.

The numbers can be deceptive. The sounds inside a quiet residential home might average 40 db, the sounds of a busy downtown street 80 db, the sound of a pneumatic air hammer 120 db.

But this doesn't mean the street is twice as noisy or the air hammer three times as noisy as the home.

Decibels rise by logarithmic ratios, so that a 50 db noise is 10 times as intense as a 40 db noise. For each additional 10 db, multiply by 10. The busy street, then, is 10,000 times as loud, the air hammer 100 million times as loud as the quiet living room.

Not long ago, Malcolm C. Hope, the Dis-

trict's associate director for environmental health, and Harry Gilbert, his specialist for noise problems, took a ride through the Washington area.

Inside the car on upper Connecticut Avenue, the needle of Gilbert's audiometer flickered in the 50 db range. Quiet enough. A window was opened; the needle went past 60 db, and when a truck passed, it went to the mid 70s.

"This is nuisance level, nothing dangerous," said Gilbert.

On to Washington Cathedral. Very quiet. Inside, the audiometer measured the hushed sounds at about 40 db, until the organ began playing. At the cathedral's great crossing, the organ measured 72 db.

Back downtown, the window open at Connecticut and K Street, the needle pointed up toward 80 db, higher when horns were sounded. It hit 95 when a bus revved up.

Hope noted that tribes in Africa living in a quiet isolated environment were found to have near-perfect hearing.

"Our 'normal' is really abnormal," he said. Around to other parts of town:

From nearly 100 yards away, a pile driver in the Southeast measured about 100 db. On the Southwest Expressway, sounds ranged in the 80s. And at the 14th Street Bridge, it went into the 90s as a plane passed overhead.

Finally, to Gravelly Point in Alexandria on the direct landing pattern to National Airport. As a jet came over, the audiometer needle swung to 114. Afterward, the needle dipped, but not too much, for the airport itself is a noisy place. The meter registered 108, 102, 105, then back to 115 as another jet swung overhead.

"Let's face it, the jet is a noisy engine," said Hope. "Exposure to that kind of noise for any period of time is dangerous."

The effects of noise generally fall into four categories.

Noise annoys. A dog barking, a siren screaming, a motorcycle tearing around a corner—any or all can be an irritant. This is not a danger, but it helps degrade the quality of urban life.

Noise disrupts. Above 50 db, it can interrupt sleep. And it can make studying difficult. Above 80 db telephoning can be next to impossible.

Noise can cause loss of hearing. Federally adopted standards say a steady 85 db is about all anyone should be asked to absorb over the length of a workday. At 95 db, the listening limit should be four hours, according to Gilbert. At 115 db, it is more like 15 minutes.

Dr. Hayes Newby, head of the Maryland University speech and hearing clinic, says "There is no doubt of the damage that can be done. What is deceptive is that the noise levels that can cause damage are well below what is painful or uncomfortable."

Dr. Lloyd Bolling, of the George Washington University speech and hearing clinic, says an increasing number of people are reporting trouble hearing many of them older persons. "Medical science is prolonging life," he said, "but the hearing mechanism deteriorates at the same rate. And we know that exposure to high levels of noise can help speed that deterioration."

Noise may be injurious to physical and mental health. But on this point, the specialists are in sharp disagreement.

The moderately alarmist side begins from this premise:

Man evolved in a relatively quiet world. When noise did occur, it could produce a healthy response. It was both signal and warning.

Now noise abounds, with the abnormal, as Hope suggested, the normal.

Britain's Dr. John Anthony Parr, asked if man has become used to higher noise levels and whether he can get used to more, replied: "Yes, that is true, but only at a price. One cannot ignore a noise, only put oneself in a condition in which we do not make any

obvious reaction. It means keeping all the muscles tense so that we are not jumping up and down like a human yo-yo, and keeping ourselves in this state of permanent tension leads on to mental stress."

But some specialists go farther.

At the annual meeting of the American Association for the Advancement of Science recently, a panel of scientists presented papers suggesting that sonic booms threaten the health of unborn babies and that noise may contribute to heart trouble and blood cholesterol. In other studies, noise has been blamed for a wide range of problems—from indigestion to an increase in the divorce rate.

But there is a conservative view, too, and it's widespread.

Drs. Newby and Bolling, for instance, say many of the claims that noise produces various ailments are highly speculative. Many scientists, too, question the validity of the research that led to these claims.

Dr. Leo J. Beranek of the Massachusetts Institute of Technology has long been one of the nation's leading acoustic experts. He believes that many people are unusually susceptible to noise, but many of the reports of the effects of noise are overplayed.

After talking with a reporter for some time, Beranek said:

"Maybe you've found I'm disappointing to interview. The stories that people might wind up dying in the streets with blood running out of their ears might be more exciting."

Beranek believes that 10 to 15 percent of any group of people are highly sensitive to noise. If they are unable to adapt, they should not live near sources of loud noise, he said.

All the experts agree that the world is getting noisier. Jets fly to once-quiet islands. Urban life and noise chase the suburbanite. The farmer uses loud new machinery.

Yet Beranek is one specialist who believes the noise levels in some cities—notably New York and Chicago—are leveling off.

"Transportation is the biggest source of rising noise levels—the planes and the road traffic," he said. "If some cities are getting no noisier, it's because they've absorbed all the traffic they can."

What angers the specialists in this field is that except for the sonic boom, excessive noise produced by technology can be suppressed by technology, and by regulation. The noise problem can't be completely solved, but it can be ameliorated.

A number of European nations are ahead of this country in reducing urban noise levels. (Not all of them, to be sure; Rome, for instance, is regarded as noisier than any American city.)

But the Swedes and the Danes, the British and the Swiss have set limits for such noise producers as motorbikes and machinery used outdoors. Moreover, while it's still a joke in this country to talk of paper-thin apartment house construction, much of the European housing industry is doing a good job with noise-cutting components.

Quieter jack hammers, air compressors and pile drivers are available. Blating can be muffled. So can much of American industrial machinery. And the cost frequently is low.

Beranek estimates it would cost no more than \$25 a car, in mass production, to turn out quieter mufflers, better enclosed engines and quieter tires to cut down on road noise.

Col. Charles Foster, chief of the federal Noise Abatement Office, believes the cost would be somewhat higher—but not by much.

Why not require such sound-softeners? "It's a subject of debate at present," said Foster, "and it isn't that simple."

"Setting federal standards for cars would mean getting into all manner of maintenance problems—the question of how a muffler, for example, performs after the car is older."

Foster's office now is discussing the problem with the auto industry. It hopes to produce noise-muffling recommendations upon

which the government could, at the least, specify that when it purchases new vehicles for its own use they have the sound-softening devices.

Working with the National Bureau of Standards, the Noise Abatement Office also hopes to turn out recommendations and ratings for tires, which account for a big part of road noise at high speeds.

But that won't be easy either. A total of 654 tire-tread patterns are on the market today. Some are noticeably quieter than others. Foster fears that the quietest treads, avoiding horizontal indentations, will not be the safest treads.

For regulatory purposes, Foster's office currently is in business for only one reason: to cut down aircraft noise. With its authority spelled out in the 1968 legislation, it requires all new planes to be equipped with quieter engines.

Will noise around airports go down? No. For the foreseeable future, it will go up. Foster is the first to concede that.

All but the newest planes are as noisy as ever. To refit America's jet fleet with quieter engines—up to \$5 million a plane for a 15db noise reduction is one estimate—would be economically prohibitive.

Beyond that one factor, the number of planes in the air will increase. To accommodate them, smaller airports will grow bigger and new airports will crop up.

"We're not going to improve this part of the environment fast enough to please the public," Foster said. "Someday, we may have planes making little noise at all. But right now it's tough. I think we'll see more complaints, more lawsuits."

Militancy is rising on other fronts where urban amenities are threatened. Local conservation groups are battling what used to be considered inevitable forces of development.

As often as not, open land is the focus of conflict.

In Montgomery County, Washington's wealthiest suburb, highway planners couldn't figure a better route for the new Northern Parkway than to run it through a lovely stream-valley park and Wheaton Regional Park. Public hearings in the last few days indicate a massive amount of citizen resistance.

This kind of save-the-land militancy goes beyond the crowded urban areas.

The Potomac Edison Co. wanted to build a 500 kilovolt transmission line across the Potomac about an hour and a half's drive from Washington. Citizen protests—contending the line would have ruined the scenic view of the Antietam battlefield—stopped it.

Now the power company, with the permission of the Interior Department, wants the power lines, with towers more than 100 feet high, to run adjacent to the proposed Potomac National Park. The public outcry continues, reaching a peak this week at congressional hearings.

Nationally, much of the concern for what's happening to the land focuses on parks and recreation holdings—preserving them and adding to them. This is a situation with bleak prospects.

The problem could be called simple—too many people, too few parks. And there isn't enough money to buy new parks.

This is another of the environmental issues that boils down to a question of what the government is willing to spend.

The Bureau of Outdoor Recreation has estimated it would cost more than \$300 million to acquire national parks, including Point Reyes near San Francisco and Cape Cod National Seashore, that already have been authorized. This is to say nothing of the money required for such proposed new parks as the Potomac National River and Connecticut River National Recreation Areas.

This year the Nixon administration asked for \$124 million—half of it to go to the states—and that's what Congress appropriated, despite congressional guarantees of last year earmarking \$200 million a year for parkland purchases.

From what Budget Director Robert P. Mayo told congress, the administration apparently intends to ask no more than the \$124 million in the next fiscal year. And he told Congress in effect: Don't bother authorizing any new parks since it will take years to buy the land for those already authorized.

It's uncertain whether President Nixon, now increasingly aware of public concern for the environment, will raise the ante for buying parklands.

A WORLD IN DANGER—6: DOOMSDAY—IS IT JUST AROUND THE CORNER?

(By Roberta Hornig and James Welsh)

As the environment has come on strong as an issue, so have the Jeremiahs, the prophets of doom.

From all over come the warnings of catastrophe, of man "on a suicidal course," of man "choking on his wastes," of man on his way to "destroying himself and his world."

The time-scale of this doom-crying is not on the order of a thousand nor a few hundred years. It is more on the order of a generation or two, or of the 30 years left until the end of the century.

Dr. Barry Commoner, director of the Center for the Biology of Natural Systems at Washington University in St. Louis and a prolific writer, is in demand at environmental conferences across the country. He had this to say last year:

"My own estimate is that we are unlikely to avoid environmental catastrophe by the 1980s unless we are able by that time to correct the fundamental incompatibilities of major technologies with the demands of the ecosystem."

The urge to warn of disaster is spreading. As likely as not, scientists and public officials discussing environmental problems will lead off their papers or speeches as one did recently:

"Man, in the way he is abusing his environment, is in danger of becoming a vanishing species."

From other quarters, both within and out of the scientific communities, come reservations, somewhat more conservative views and expressions of skepticism.

"The ecologist," said one top federal official, "must maintain a professional posture: It is to view with alarm."

The skeptical position goes further. It holds that since doom-crying gets headlines, those who want headlines cry doom. It holds, too, that the emergence of the environment issue has led to something of a "my pollution is more dangerous than your pollution" competition among specialists.

Many specialists, sincerely alarmed over what man is doing to his world—and what he is capable of doing as his numbers grow—feel they are caught in a dilemma: Warn reasonably or talk doom? Their speeches and writings often reflect this dilemma.

For instance, the state official who led off his speech with reference to man as a vanishing species was saying on page three that "doom and gloom" must give way to hard work, and by page seven, the speech was referring to "reasons for optimism."

Asked about this, he said: "Well, I guess a lot of us feel it's necessary to shake the public up."

Then the scare talk is overstated?

"No, not a bit," he said. "If we don't get this environment situation turned around, we could be in for an awful time."

Through all these contradictions, what is the public to believe? Is disaster around the corner? Disaster of what kind, what scope? Which of the doomsday warnings is backed

by hard evidence, and which come under the heading of informed—or misinformed—speculation?

The seriously held predictions of widespread disaster fall into two broad areas—climate and population. Briefly they can be put this way.

Increasing atmospheric pollution, partly in connection with ocean pollution and possibly in tandem with natural forces, could bring about radical changes in the Earth's climate—disruptions in the heat balance, in weather patterns and in the atmospheric mix upon which all life depends.

The sustained population increase of this country, aggravating the problems of the environment already present, could bring on serious health problems and a lower standard of living. On top of that, the world's population is increasing so rapidly that, because of food and mineral shortages and inevitably greater pollution, the Earth may not be able to sustain the 6 billion to 7 billion of people who will live on it just 30 years from now.

Large differences exist between these two sets of disaster predictions.

The first, relating to climate, is tougher to prove.

Increasing evidence, some of it in the form of hard data, shows the volume and variety of pollutants going into the air and the oceans. But there is too little data to conclude decisively what will happen to the climate as a consequence.

"These forces are very difficult to sort out," said Peter Weyl, oceanographer at the University of New York at Stony Brook. "The natural system is complex enough even without trying to measure man's mucking with it."

A world cooling, a world warming, a world where precipitation is determined by pollutants rather than acting to cleanse the air of them—all are mentioned.

But large differences of opinion exist, not only among men crossing disciplinary lines but within single fields, including meteorology.

"We are singing different songs, and that's one of the problems," said Dr. A. Murry Mitchell, a meteorologist with the Environmental Services Administration.

Why, then, should climate rate special concern among the environmental disaster predictions?

Because, say those who are studying it, the atmosphere and oceans—the complex linkage of air-water-land organisms called the ecosystem—is so vital to life. It directly influences the climate and is directly influenced by it.

And because, in light of this, they say, "We don't know."

"What I'm mainly worried about," said Weyl, "is our lack of knowledge." This kind of statement reverberates up and down the environmental scene.

"We are inadvertently engaged in a frightening experiment—with our ecosystem, our life support system," said Dr. Fred Sargeant, dean of the University of Wisconsin's new College of Environmental Sciences.

The population worry is something else.

The numbers are there, available in the form of population counts and virtually certain trends.

Calculations also abound of what resources—food, energy and raw materials—will be necessary to meet varying levels of living standards for the coming billions.

This evidence is enough to turn optimists into doomsters.

Yet there is a paradox here; the experts have never been so divided as they now are on the consequences of overpopulation.

The traditional fear of worldwide famine recently has been challenged from a number of fronts.

Many now say there will be enough food.

The environmentalists, meanwhile, have come charging onto the scene, warning that multiplying numbers, together with any real attempt to raise the world's living standards, will result in massive worldwide pollution.

Others warn that before the world runs out of food, it will run out of the minerals and fuels necessary for a decent standard of living.

A battle is shaping up over whether famine or another danger will strike first. It brings no comfort to the experts. Even if they disagree, they see overpopulation as a Hobson's choice: If one thing won't lead to disaster, another will.

But fear of overpopulation is what fuels just about every other environmental fear.

Beyond the global concerns, many scientists believe a localized or regionalized disaster could occur any time in the '70s.

They say, for instance, that with a given set of conditions—stable weather, temperature inversion (cold air trapped by warm air above it) and a deadly mix of pollutants in the air—a city or an urban region could suffer a huge loss of life. Said one of these scientists: "It's partly projection of trends, partly the laws of probability. You can take your bets on the city. My own pick is Tokyo—you have to see the problems there to believe them."

On yet another front there are those who fear that selective hazards, arising from the climbing presence and long-range dangers of air-water contaminants—pesticides, lead, and mercury, for example—could result in the shortening of millions of lives.

Conclusive data is lacking here. These scientists say "we don't know, but should fear the worst."

Even so, in all the disaster statements, on whatever front, there is careful hedging. The predictions are really just warnings. No one is saying that man is doomed no matter what he does. Even men like Commoner hedge their warnings.

And Lamont Cole, Cornell University ecologist, after ticking off a long list of possible environmental disasters, answered a question: "Oh, yes, I'm optimistic. People are listening now."

Other contradictions are apparent in the thread of the disaster warnings. One of them can be explained this way:

A scientist can simply extrapolate trends and projects what would happen if they continued over a number of years. He would be the first to say that long before his projection runs its course, some other force could forestall it. His speech or article, however, can get misinterpreted and blown way out of proportion.

And the scientist can make mistakes that get reported over and over.

Cole, for instance, wrote an article on thermal pollution and the Earth's radiation balance for *BioScience* magazine in November. He calculated that, on the basis of man-made and Earth-generated energy emissions, the world would become too hot for habitation in 980 years.

But later he said: "The proposition was sound, but I made a mistake in arithmetic. It should have been 130 years."

Even so, he was asked, isn't disaster likely to befall the earth before then? "Oh, of course," he said.

The growing alarm over what could happen to the climate and the ecosystem is based on simple biological relationships.

Plants on land and in the water absorb solar energy and, through photosynthesis, convert carbon dioxide and nutrient chemicals to food, simultaneously releasing oxygen to the air. Animal life consumes the food. Animal and other organic waste is converted by micro-organisms to carbon dioxide and other inorganic nutrients that become ready to begin the cycle again.

The air, the land vegetation and the oceans act within this cycle as huge, mutually de-

pendent converting systems. Pollution, so the fear goes, would prevent those systems from doing their job.

As Dr. F. Fraser Darling, vice president of the Conservation Foundation, put it: the oxygen-carbon dioxide cycle is "a system of great age and stability which we are now taxing with the immense amounts of carbon dioxide which we're adding from the fuel we burn."

Ordinarily, more carbon dioxide would favor greater tree growth, locking up the carbon dioxide for a time. But man is cutting down trees in many places.

Another buffer is the immense amount of ocean plant life, particularly the tiny organisms called phytoplankton.

But here, another villain enters: Pesticides.

In laboratory experiments, Dr. Charles F. Wurster, a biologist at the University of New York at Stony Brook, conducted experiments, later backed up in tests at four other labs, showing that pesticides inhibit photosynthesis in the phytoplankton.

Wurster warns that pesticides in the oceans, building through the life chain of deposit great amounts in the bodies of animals, "pose an enormous threat to marine life."

Many species of bird life already are on the decline—the peregrine falcon, the brown pelican, the copper hawk and march hawk, the herons, the shearwater, the albatross. In the sea, said Wurster, the pesticides are selectively toxic, with the danger of species replacing species to the point of large ecological changes.

Wurster predicted the situation will only get worse as pesticide pollution will reach a peak ocean effect 10 to 20 years from now—"sheer madness," he said.

Meanwhile, other scientists and laymen saw in the phytoplankton experiments reason to predict large changes in the oxygen-carbon dioxide cycle. Some went so far as to suggest, as one California professor testified before Congress, that oxygen may run low and that by the year 2000 people will be "gasping for a last breath of air."

Leading meteorologists dismiss that fear. "I can't think of a more remote possibility," said Dr. Walter Orr Roberts, director of the Center for Atmospheric Research in Boulder, Colo.

He and his colleagues say there is more than enough oxygen in the atmosphere—and with no evidence of oxygen depletion, even to a small fraction of 1 percent.

But over the last several decades, carbon dioxide has risen from just under 3 tenths of 1 percent to 3.5 tenths of 1 percent of the atmospheric mix. And the increase is accelerating.

Carbon dioxide is no threat to health, but in the atmosphere, it interferes with infrared radiation returning from earth to the air, thus leading to a warming of the atmosphere—what is called "the greenhouse effect."

Dr. Helmut E. Landsberg of the University of Maryland estimates that, with this factor acting alone, the Earth could warm about two degrees by the end of the century—enough to begin melting some of the polar ice. But he isn't very concerned about that. The earth is now cooling, not warming. Since 1940, it has cooled about a half of 1 degree.

The explanation is that a buildup of particles in the atmosphere is occurring. They act to block radiation from the sun.

But the experts disagree on what to blame. It's man-made pollution, say some—dust from bad land management together with industrial and auto air pollution.

Dr. A. Murray Mitchell, of the federal Environmental Science Services Administration, believes otherwise. Natural forces are far more to blame, chiefly the rise of volcanic activity since 1940, he said.

A new ice age? Nothing to get excited about, according to Roberts, Mitchell and

others. But Weyl warned that a further cooling of the Earth's temperature by one or two degrees would lead to fierce winter weather in many parts of the world.

Some scientists, Landsberg and Roberts among them, are worried about air pollution for other reasons. They warn of changing and potentially disruptive patterns of precipitation.

Dr. Vincent J. Schaefer, a pioneer in cloud-seeding who is now at the State University of New York in Albany, said that a big danger is the buildup of lead particles from auto exhausts. They combine with iodine vapor to produce lead iodide—nuclei for the formation of large concentrations of ice crystals downward of big-city smog blankets.

The result, said Schaefer, is to form cloud layers but reduce local rain or snow. But when a large supply of moist air moves into the region, the weather could go the other way around—"a massive cloud-seeding phenomenon" triggering long and violent storms.

The magnitude of the population problem can be seen in a few numbers. It took the world until 1800 to reach a population of 1 billion. The second billion came by 1830, and the third billion by 1960. Today's population is 3.5 billion, and this is likely to double in 30 years. Unchecked, it would keep on doubling every 30 years, the experts say.

The cause of this headlong acceleration is not rising birth rates but declining death rates. Better health and agricultural practices across the globe, especially since World War II, have meant a greater percentage of babies growing to adulthood to produce more babies.

For years the spectre of overpopulation has been associated with food resources, with the standard argument that a growing but impoverished population would literally starve. It is still a leading argument of many population experts.

But it now faces challenge.

Three years ago the United Nations Food and Agricultural Organization was warning of famine. Two weeks ago, its annual report appeared—saying the world's food problem in the future is more likely to be huge surpluses than starvation.

Technological breakthroughs, including the use of high-yield "miracle" grains, and the commitment of nations such as India to this technology, have led to the reversal, said FAO.

Still, many of the population forecasters reply that the technology will provide only temporary relief.

But optimism over food production is growing.

Dr. Jean Mayer, the nutritionist who serves as President Nixon's special consultant on hunger, told Congress last year that agricultural developments promise a food supply that will keep up with and surpass population growth.

Mayer has a different fear: "I am concerned about the areas of the globe where people are rapidly becoming richer. For rich people occupy much more space, consume more of each natural resource, disturb the ecology more, and create more land, air, water, chemical, thermal and radioactive pollution than poor people."

Other scientists are joining him to warn that the world can't have it all—greater numbers along with the standard of living associated with technologically advanced countries.

Dr. Preston Cloud, a biogeologist at the University of California at Santa Barbara, has estimated that if the world's 7 billion people expected by the year 2000 were to have a standard of living Americans now enjoy, mineral and fuel production would have to multiply 200 to 400 times.

"It might be done, but it couldn't last," said Cloud, "The world has only so much in the way of these raw materials."

Arguments like this have given new impetus to concern over population in this country. Dr. J. George Harrar, president of the Rockefeller Foundation, says:

"In many respects, an advanced industrialized society such as ours with a comparatively low birth rate uses up its natural resources and upsets its environmental equilibrium at a much faster rate than does an underdeveloped poor country with a high birth rate."

To top that, as Cloud points out, this nation, with only 6 percent of the world's population, now uses nearly 50 percent of the raw materials the world now produces. The choice, he said, is whether to slow American economic growth or to continue using the materials underdeveloped nations will need for their own growth.

The other alternative, of course, would be to limit American's numbers. How, and by how much, is the question—one of explosive moral, political and scientific implications.

Nevertheless, most of the authorities in the field agree that it could be easy compared with the task of cutting into the runaway population growth in the world's underdeveloped regions.

A WORLD IN DANGER—7: THE ROUGH AND COSTLY ROAD AHEAD

(By Roberta Hornig and James Welsh)

From President Nixon to industrial leaders, housewives and students, Americans want to clean up the environment.

But it will cost billions of dollars, and thus far no one appears ready to pay for it.

And the price will go far beyond dollars. Some of America's traditional values will be called to account—relationships within the federal system, the freedoms of private enterprise, even the habits of the housewife and commuter.

A nationwide poll last year showed 85 percent of the public "concerned" about the environment. But when people were asked how much they were willing to pay each year to improve the environment, 51 percent said they would pay \$10 or less, 18 percent said \$50, 4 percent said \$100, 9 percent said they wouldn't pay anything, and 18 percent said they didn't know.

Calculating from the poll, the American people were willing to spend \$1.4 billion a year in tax money—more than the amount the federal government has been spending annually on environmental programs.

But to really clean up the environment it probably would cost far, far more. Some put the total at \$100 billion to \$125 billion from government and industry over five years.

And it would mean a lot more to the taxpayer than higher taxes.

It would shrink the consumer dollar. A considerably quieter aircraft engine, for example, could bring higher air fares. For the electric power industry to install equipment sufficient to prevent thermal pollution of waterways will mean higher electric bills.

It could mean lower product performance. A slightly grayer washday collar might be the price of getting a pollution-free detergent.

A little less getaway power might be the price of a pollution-free auto engine. And it might not go as far on a gallon of gas.

It could mean inconvenience—a return to returnable soda bottles, for instance, or traveling to airports sufficiently far out to avoid the worst of the air and noise from big jets.

It could mean a further shift of governmental power toward the center. States are likely to assume greater control of the use of the land, a matter heretofore left to local governments. Washington will assume greater control over air and water standards, now largely the domain of the states.

It could mean tighter regulation of what industry and people are free to do. This would begin with very minor controls—"No Dumping Here" for instance. Before very

long, they could range to unprecedented measures such as government-science panels testing new products before they are permitted on the market.

And a growing number of people say something far more dramatic must be included in the price—a set of measures calculated to slow down or bring to a halt the growth of the American population.

Such steps won't come at once. There will have to be a beginning.

Congress returns to Washington tomorrow, many of its members poised for battle over what the beginning should be, what legislation should be passed, what money should be spent.

It will be, in part, a political circus with many side shows. Hearings, speeches, press statements, claims and counterclaims will run the gamut of this vast and complicated subject.

From pesticides to use of the land, from electric power demands to foodpacking standards and family planning, the political jostling will be fierce.

On Thursday it's President Nixon's turn. At 12:30 he will go before Congress and the American people with his first State of the Union message. Environmental issues will comprise a big part of the message.

Already Nixon is being second-guessed by congressional Democrats, some of them eager to paint the administration as talking big but doing little to bring pollution to an end.

On the Senate side it just so happens that three men long and closely associated with environmental issues are at least potential dark-horse candidates for the presidency in 1972. They are Sens. Edmund S. Muskie of Maine, Gaylord Nelson of Wisconsin and Henry M. Jackson of Washington, and each is ready for battle. Of the three, Muskie has been the most willing, Jackson the least willing, to tackle the President head on.

But it will be in successive messages that Nixon will show more of his hand. The budget message is the key, for money is at the heart of his dilemma over exactly what to propose.

Last year Nixon requested \$214 million for helping communities put up sewage treatment plants. Congress appropriated \$800 million.

It's still under debate at the White House whether to spend the extra money or to impound it, although the betting is that Nixon will spend it. If he doesn't spend it, he will be open to attack, not only from Congress but from local and state governments. Yet if he does spend it, his budgetary problems will increase, and he may be in a position of saying he will ask for less money next year.

Such relatively small issues, of course, approach the basic question: What would it cost to clean up the environment?

The dollar figures fly, and the range of estimates is wild.

The upper end of this range is between \$100 and \$125 billion, a great deal from government, some from industry.

To get into that upper range, it is necessary to assume an attack on all fronts and to assume that where estimates vary, the highest should be used. (The most glaring example: To separate sewer lines and storm drainage lines across the country could cost anywhere from \$15 billion to \$49 billion.)

Water pollution control accounts for the largest part of cost. It includes perhaps \$25 billion for municipal and industrial treatment plants and equipment, the money for sewer line-storm line separation, \$6 billion to eliminate acid-mine drainage, and billions more for pollution arising from pesticides, fertilizers and animal feed lots.

Add nearly \$5 billion for air pollution control over five years; another \$3.5 billion the government has estimated for solid-waste treatment work and research over the same period; a couple of billion for refitting ships

to control waste; several billion on national parks and urban-area parks; and assorted millions for research in fields like oceanography and climate monitoring.

If all of this were to be attempted in a five-year plan, it would mean spending \$20 to \$25 billion a year.

No one in the Nixon administration is thinking in these terms now. Even though the government wouldn't be paying all of it, there just isn't that kind of money around.

With "uncontrollable" expenditures like welfare payments and farm subsidies on the rise by \$8 billion a year, with the tax cut bringing in less revenue than expected, with the financial community expecting restraint because of inflation, the President has about as much budgetary flexibility this year as an \$8,000-a-year commuter facing a stack of unpaid bills.

"There isn't much room to maneuver," a Budget Bureau official laments.

And so the President and his aides are in search of priorities, of more sensational but less costly solutions.

According to insiders, Nixon's program in '70 will include the following:

Air pollution—An increase in federal spending. A 50 percent or even 100 percent increase in funds would not be prohibitive, since federal spending this year amounted to less than \$100 million. And it would go to combat what the public believes to be the most serious environmental problem.

Water pollution—The administration will emphasize municipal waste treatment plants in a plan calling for about \$10 billion in bonds. Cash obligations would be strung out over 20 to 30 years, with the federal share going no higher than \$500 million a year. The plan also is expected to carry new financing arrangements to help municipalities cope with today's tough bond market.

Parks—A park-purchase plan is planned, with the emphasis on open space in and around big cities, mostly in the East. Spending on parks is relatively low and comes from non-tax money.

It represents part of the income from special charges, including park fees and offshore oil-drilling leases.

Some insiders expect Nixon to announce some sort of "pilot project" for an urban park, possibly in the Washington area.

Government reorganization—This is the cheapest route to begin tackling problems of making the air and water cleaner, and he is likely to take it.

For years, several government officials and congressmen have been arguing for putting responsibility for water, air and solid wastes in one place, since decisions on one often affect another. The Interior Department is in charge now of cleaning up the nation's waterways and the bets are that it will also assume stewardship over the two more forms of pollution—air and solid waste—now the responsibility of the Department of Health, Education and Welfare.

And he is expected to rename Interior as the Department of National Resources.

Because of budgetary strictures, other pollution battlefronts may be virtually ignored. They include soil erosion and other agricultural runoff, the sewer line-storm sewer separation, and mine-acid drainage.

On some fronts, the way to attack pollution is not through governmental spending but governmental toughness. Moreover, the tighter the budget, the greater the temptation for government to go this route.

For Nixon to crack down on big industry may run against the grain of Republican orthodoxy. But it could produce real and visible results, especially where products are involved that undeniably pollute the air or water.

Three conspicuous examples are the automobile with its internal combustion engine the nutrient-rich detergents, and the chemical pesticides. Already two of the most toxic

pesticides—DDT and dieldrin—are under a measure of federal restraint.

In all three cases, accelerated research is necessary to find safer versions, or safe substitutes. For research now underway, government already is picking up part of the bill. Industry, especially the big auto firms, also is spending millions. It may be called on to spend much more.

But the consumer eventually will pay for it, both in taxes and undoubtedly in higher product prices.

Other dilemmas face the administration in approaching the environmental issue. One of them is reflected in the letter a young man sent the White House:

"Stop pollution now," he said, and the word "now" was repeated 60 times.

No one can stop pollution now. As Dr. Lee DuBridge, the President's top aide on science, puts it, to bring pollution to an end immediately would bring the economy, and civilization, to an end.

Vehicles would have to stop moving. Industry would close down. So would power plants. Farmers couldn't protect their crops.

"We will not," says presidential adviser Daniel Patrick Moynihan, "reverse the tendency of a century in the space of one administration or two, or like as not, the next five."

It's this view of the problem that gives pause to administration staffers as it comes time for Nixon to go before the American people. Says one staffer: "We don't want to oversell the problem and undersell the magnitude of the difficulty of dealing with it."

Sen. Muskie, whose rhetoric has not been lacking on the issue, says "It's necessary to develop a sense of alarm without creating a sense of terror."

With emotions on the rise, with the economic and technical complexities of environmental issues so stubborn, paradox and contradiction are inevitable.

An example is one of the classic conservation flaps—the decision by Consolidated Edison, New York's power company, to build a plant along the Hudson River at Storm Mountain.

A participant recalls that from the storm of protest, "you would think the plant was going to be built in a great wilderness area. In fact, the site amounted to a waterfront slum."

Yet as a result of public opposition, the argument eventually reached the U.S. Court of Appeals. It handed down a historic decision, ruling that the Federal Power Commission must take scenic, historical and recreational values into account in licensing power plants.

Two weeks ago—five years after the fight began—an FPC hearing examiner ruled the site to be the right one after all. It further ruled, though, that Con Ed must put both the plant and the transmission lines underground.

Thus a fairly illogical, emotional argument by conservationists brought good results, in this case the Supreme Court ruling.

But the results—in this case the underground site—can be very expensive. New Yorkers will see this in their electric bills.

The Con Ed case is not isolated. In fact, the issue of where to put power plants, and what kind of power plants they should be, promises to be one of the big environmental fights of the coming year.

Americans have a heroic appetite for electric power. In 10 years, the experts say, the output must be doubled. In 30 years, if the population grows to 300 million, Americans will need nearly five times the current 325-million-kilowatt capacity.

This will require more and bigger power plants. If they don't come along the likelihood will increase of power failures such as the major blackout of the Northeast five years ago.

Plants fired by coal and other fossil fuels

are a major contributor to air pollution. Besides, future growth threatens big shortages of these fuels.

Nuclear power plants are the alternative. They don't pollute the air. And with new "breeder reactors" on the way, no shortage will develop of uranium and thorium fuel.

But thermal pollution of waterways is a colossal problem, and the more nuclear plants there are, the worse the problem gets.

In addition, the "nukes" arouse fear. People become alarmed over possible radiological emissions and over the possibility of an accident, in addition to protesting on grounds of thermal pollution and aesthetics.

From the Atomic Energy Commission and power industry come statements of reassurance. One Westinghouse nuclear energy consultant says the radiation effect from a nuclear power plant on the population within 20 miles "is the equivalent of wearing a radiant dial wrist watch three days of the year."

But many disagree. Within the federal government there are specialists who hold the AEC's standards for radiological emissions should be tightened tenfold.

This thorn alone is polarizing the environmental issue throughout the country, and public officials are worried about it.

Some, recognizing the scope of public fear and resistance, urge extra-heavy emphasis on standards and available technology to eliminate radiological hazards and cut down thermal pollution.

But Rep. Chet Holifield, D-Calif., whose Joint Congressional Atomic Energy Committee held hearings on the subject last year, says that "Unless the demands for clean water and air are kept in perspective, the anti-technologists and singled-minded environmentalists may find themselves conducting their work by the flickering light of a candle."

On other fronts, industry is increasingly on the defensive. It is reacting in disparate ways.

Some industrial groups and firms remain hard-nosed.

Industries can be found bending over backwards to please. Commented an official of one Massachusetts firm: "We put in equipment that wasn't even necessary—just to please the public."

Detroit's big auto firms are conspicuous among the industries that are now racing to catch up with public opinion and the possible thrust of governmental crackdown.

Last month Henry Ford II, calling air pollution the industry's most serious problem, pledged manpower and millions of dollars to help solve the problem. Last week, Edward N. Cole, president of General Motors, went Ford one up by predicting his company will turn out "essentially pollution-free cars" by 1980.

Other companies try to advertise their concern for the environment—while taking a slower pace in reform.

And some are still basically ignoring the issue.

A major reason why conflict and confusion have mounted over environmental questions is that until now no one on the federal level has already been in charge. Agencies dealing with environmental problems are scattered. The White House has touched on the problems in piecemeal fashion. Information is often contradictory, often lacking.

This could change.

Many observers see great promise in the National Environmental Policy Act of 1969, drafted and shepherded through Congress by Senator Jackson and signed by Nixon Jan. 1.

The legislation sets two precedents: It establishes national policy, directing every executive department to weave environmental considerations into all new programs and to make sure old ones conform with clean-environment goals. And it creates a

Council on Environmental Quality at the top level.

Nixon has yet to name the three-member council. He may do so in the State of the Union address. Reportedly, he wants to avoid dominance by scientists and will seek to fill possibly two of the positions with generalists who will take a broad look at the problem.

As spelled out in the 1969 law, the council will do an inventory of the nation's natural resources and prepare an annual report on the "state of the environment" for Congress.

Its reports will have a major impact on what happens to the environment in the 1970s.

Given a rising public and private commitment, if not an all-out attack, here is what some experts believe will come in the decade.

Air pollution, after worsening through the mid '70, may well diminish to the point that the air in 1980 will be cleaner than it is now.

The air problem lends itself more readily to reasonably priced technology than other problems. The biggest uncertainty is how soon automotive air pollution can be licked.

A combination of tough standards and a lot of money could improve water quality standards—but not uniformly.

What's called "point-source" pollution, where industry or municipalities pour big amounts of waste in the water, could come under control. But the water will remain dirty. General runoff and erosion, especially in rural areas, will see to that.

The problem of where to put mountains of rubbish and other solid waste could be abated, or it could become a monster. Mere money won't help. More degradable products won't help much. The hope here lies in technology—the pollution-free incinerator, and recycling of products. But that isn't around the corner.

The problem of too much noise could go like air pollution. The technology is there; all that's required is the sensitivity and the will to use it. If that happens, noise, after mounting as a problem, could level off or recede.

Other urban amenities will be far more difficult to improve. With exceptions (putting power lines underground is one) technology won't help much. It won't help settle fights over what land to develop, what to keep open.

"Government will be hard put to legislate beautiful hot dog stands," says one observer.

Where there is no easy answer, the environment battle will get hotter. The use of urban-suburban land, and the effort to preserve places of great natural beauty, is in this category. The location of airports, and power plants and not-so-clean industry will be continually at issue.

Beyond all these things lie what some people believe are the overriding necessities—channeling urban growth in new directions, selectively limiting consumption habits, placing stringent curbs on population growth.

But at this point, for practical purposes, these are likely to be second-stage issues, issues to be treated gingerly or put off or avoided.

To Congress, the President, and so many others who will become embroiled in this recently dramatized issue, the task at hand can be summed up in the phrase "quality of life." It will be a task of cleaning up, of making the air and the water and the land healthier and more enjoyable.

Over the decades, as Americans have built a richer economic standard, they have run up a huge bill to the natural world around them. The bill is overdue.

To pay it off in large part, to make sure it runs up no more, could generate a new ethic, the ethic of man as part of a living, interdependent organism called Earth, the kind of ethic necessary to cope with the bigger problems of the future.

NIXON SPEECH APT TO STRESS POLLUTION (By Garnett D. Horner)

President Nixon's State of the Union message Thursday is expected to call for prompt action by Congress to help keep America's water and air fit to drink and breathe.

The President, who returned here from Camp David last night, also undoubtedly will stress the need to keep a tight hold on federal spending to curb inflation when he speaks before a joint session of the Senate and House at 12:30 p.m. Thursday.

Aside from action to improve the quality of America's environment, which he has described as a "now or never" proposition, the President is unlikely to call for any major new programs, largely because of the overriding necessity, as he sees it, at keeping the federal budget out of the red.

As a major reform step, he is considering a proposal to change the Interior Department to the Department of Natural Resources and make it the leader of the government's battle against pollution.

Where Interior now has responsibility only over the water pollution phase of the battle, the new department would get control over efforts to combat air pollution and over solid-waste disposal now vested in the Health, Education and Welfare Department.

The President has been working alone on his State of the Union message at Camp David the last few days, and it could not be learned whether he has decided to approve the Interior Department change in this message or save it for later.

Nixon served notice on New Year's Day when he signed a bill creating a three-member Council on Environmental Quality that he would have more to say later—presumably in his State of the Union message—on the need for prompt action to keep the American environment livable.

JACKSON TO ATTACK "LAND POLLUTION"

Federal standards are a familiar story for air and water. One of the new "pollutions" Congress is ready to take on this session is land—how it is being fouled up by lack of good planning.

Land-use decisions are almost entirely the province of local communities now.

Sen. Henry M. Jackson, chairman of the Senate Interior Committee, wants the states to be in the driver's seat, with the federal government as watchdog. He intends to move in this direction by pushing for a "national land-use policy."

Decisions on land use now, the senator from Washington said, "are made on the basis of expediency, tradition, short-term economic considerations and other factors which are often unrelated to what the real concerns of land-use management should be."

Jackson has in mind legislation that would give states money to hire and train people with competency in over-all planning.

States also would be encouraged, through incentives, to develop statewide environmental, recreational and industrial land-use plans. If states do not, "it may be necessary to consider a provision to the effect that if a state should fail to enact an acceptable land-use plan, certain other federal funds would be reduced or denied," Jackson said.

When interior secretary, Stewart L. Udall long complained about how the nation's land is being spoiled by lack of planning. He calls it "aesthetic pollution."

In a recent tour of Washington, Udall pointed out how freeways in wrong places can act as artificial barriers between neighborhoods that should naturally blend together—for example the E Street Expressways ramps make it impossible for a pedestrian to get to the new Kennedy Center.

A GLOSSARY FOR THE ECO-MANIAC

"There are fashions in words," a veteran conservationist noted recently, and "ecol-

ogy... is being bandied about until people are growing sick of it before they know what it means."

Here's a set of definitions of environmental terms that will crop up frequently as the environment becomes more of a popular issue.

Environment—The sum of all living and non-living factors affecting organisms, including man.

Ecology—The study of the relationship of living things to their living and non-living environment.

Ecosystem—A complex of plant, animals and their physical environment, interrelated in such a way that changes in one affect the other.

Pollution—The addition to an ecosystem of substances in a quantity sufficient to produce undesirable changes.

Biosphere—The thin skin of water, air and soil which surrounds the earth and contains life.

Atmosphere—That portion of the biosphere made up of air.

Lately, mutant word-strains, with "eco" as prefix, are emerging. Seen in print recently were "eco-catastrophe," "eco-activist" and "eco-tactics."

Can "eco-maniac" be far behind?

ANALYSIS OF STATE LAWS GOVERNING MARIHUANA

Mr. MATHIAS. Mr. President, I ask unanimous consent to have printed in the RECORD a compilation of the various State laws governing marihuana. My staff has just recently completed this survey of State law as of December 31, 1969. I know of no such current compilation; the most recent survey was based upon 1966 law and it is hopelessly out-of-date. I believe this new compilation will be of interest in connection with both S. 3246, the new drug bill, and S. 3071, the District of Columbia drug bill, of which I am a cosponsor.

I invite attention to several of the trends that are illustrated in this survey. It will be noted that 20 States at present classify the simple possession of marihuana as a misdemeanor. Eighteen of these 20 States have made this revision in their laws in the past 3 years, and there are similar legislative proposals pending in a number of other States. S. 3246 takes a similar approach to the treatment of simple possession of marihuana.

It should also be noted that 16 States do not restrict or prohibit the mitigation of sentencing by suspended sentences, probation, or parole. Only one State prohibits mitigation in every marihuana offense; 48 States allow suspended sentences and probation in the first offense of possessing marihuana. I agree with the Attorney General that the limitations in Federal law against such mitigation is unfortunate; the mandatory minimum sentences have been one of the most criticized aspects of the Federal drug laws. S. 3246 does away with many of the prohibitions against mitigation of sentences, and reflects the State trend in this respect.

Some 24 States have substantially revised their marihuana laws in the past 3 years. Only 2 of the 24 have increased the general penalty structure. The remaining 22 have reduced the penalty schedule, in most instances rather substantially. S. 3246 reflects this modern



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No. 10

Senate

S. 3356—INTRODUCTION OF A BILL MAKING ADVANCE PAYMENTS TO PRODUCERS UNDER THE FEED GRAIN PROGRAM

Mr. MONDALE. Mr. President, I introduce for appropriate reference a bill requiring the Secretary of Agriculture to make advance payments to producers under the feed grain program.

Joining with me as cosponsors is a distinguished group of Senators who share my concern that a recent decision by the Nixon administration might well cause the program's effectiveness and popularity to fade.

Cosponsors include Senators BURDICK, HUGHES, MANSFIELD, MCCARTHY, MCGEE, MCGOVERN, METCALF, NELSON, PROXMIRE, YARBOROUGH, and SYMINGTON.

Last year slightly more 97,000 Minnesota farmers were enrolled in the popular feed grain program administered by the Department of Agriculture.

I am convinced that the decision announced by the Secretary of Agriculture to eliminate advance payments to farmers participating in the 1970 program is wrong for a number of reasons.

First, halting such payments is not a cost savings to the Government, but simply a shift in funding to another fiscal year.

Second, it will place a new financial burden on our farmers who must now borrow money at today's high interest rates in order to finance crop planting and operating costs.

Last year Minnesota farmers received over \$31 million in advances and about \$39 million in late summer. For farmers to borrow the equivalent of \$31 million for 6 months—assuming they could find 9 percent loan funds—would saddle them with nearly \$1.4 million in interest charges. The on-paper savings to the Federal Government in the current fiscal year does not seem adequate reason for imposing a new financial burden on family farms.

Third, the advance payments program has been working well for 7 years. It is directly responsible for encouraging many farmers to sign up and divert acreage. Under the program those farmers who elect to participate receive an advance on their diversion payments in the spring, with the balance paid in August. Without benefit of advances, farmers may well choose not to sign up, thus planting heretofore diverted acres, with resultant lower grain prices this summer and fall.

In 1969 a total of 97,009 farms with a base of 7,009,171 acres participated in the feed grain program. Over 3 million acres were diverted which brought Minnesota farmers \$69,984,893 in diversion payments. Some 3,274,742 acres were under price support which yielded an additional \$70,336,619. Thus, the feed grain program meant income of \$140,-321,512 in Minnesota farmers.

A change in the advance payment portion is wrong. Earlier, I wired Secretary Hardin urging, in the strongest possible terms, that he reconsider the decision.

I have not heard from the Secretary of Agriculture.

We did receive a press release in which he promised to make all final payments as early as possible, hopefully in July in certain areas.

I feel this does nothing to solve the problem and I am therefore introducing legislation to require the Secretary of Agriculture to make advance payments to producers under the feed grain program. My bill would amend existing legislation requiring the Secretary to make not less than 50 percent of any payments under the program to producers in advance of determination of performance.

Farmers in my State of Minnesota are equally concerned over any elimination of advance payments for wheat. Legislation similar to that which I am introducing today, but pertaining to wheat, is being offered by the able Senator from North Dakota (Mr. BURDICK). I will join as a cosponsor of that measure.

Mr. President, to illustrate the vital and deep impact which a termination of advance payments will have on Minnesota farmers, small businessmen and our communities, I ask unanimous consent to have printed in the Record a cross section of letters received on this issue.

The PRESIDING OFFICER. Without objection, it is so ordered.

(See exhibit 1.)

Mr. MONDALE. Mr. President, to show the effectiveness of the feed grain program in Minnesota, I ask unanimous consent to have a county-by-county summary of this program for 1969 printed in the Record.

The PRESIDING OFFICER. Without objection, it is so ordered.

(See exhibit 2.)

Mr. MONDALE. Mr. President, I hope that this bill will be acted on promptly. Action is required immediately and I welcome the cosponsorship of my colleagues on this important measure.

The PRESIDING OFFICER. The bill will be received and appropriately referred.

The bill (S. 3356), to require the Secretary of Agriculture to make advance payments to producers under the feed grain program, introduced by Mr. MONDALE (for himself and other Senators), was received, read twice by its title, and referred to the Committee on Agriculture and Forestry.

EXHIBIT 1

U.S. DEPARTMENT OF AGRICULTURE,
AGRICULTURE STABILIZATION AND
CONSERVATION SERVICE,
Farmington, Minn., January 14, 1970.

Senator WALTER F. MONDALE,
U.S. Senate,
Washington, D.C.

DEAR SENATOR MONDALE: The Dakota County Agricultural Stabilization and Conservation Committee called on the Community Committeemen to aid in developing the conservation program for the year and also to train or inform these committeemen of all programs carried out in the county.

The annual Feed Grain and Wheat program was discussed and the announcement of no advance payment brought a quick discussion and a motion that the advance payment be restored. The motion was seconded. A further discussion followed. It was pointed out that the advance payment received by farmers would not mold in the pockets of that farmer, but would be used to pay for some of the high cost of planting a crop. The local townspeople would benefit and on down the line to the processors or manufacturers. A vote was taken of the fifty (50) people in attendance and it was unanimous that the advance payment be made available.

We, the County Committee, have seen reduction in farm income in many areas such as reduction in diversion payment, reduction in Price Support loan rates, increased diversion with no payment for Wheat program eligibility, increased interest rates on storage structures and an increase in loan fees. All these, coupled with higher cost of farm operation and production cost, are leading the way for America's loss of private enterprise. We need to explain that farm programs are far more than farm programs. These programs are really "The People's" program administered at the farm level.

The farmer is really the starter of our whole economy, and the family farmer has proven the world over to be the efficient one. But, if he is squeezed out, then all Americans are in trouble.

We urge you to take a good look at farm programs and maybe think of them as not costing the government but as stimulus to the economy of our country.

Sincerely yours,

A. T. SCHAFER,
Chairman, Dakota County ASG Committee.

CO-OPERATIVE OIL CO.,
Minneota, Minn., January 22, 1970.
Hon. WALTER MONDALE,
U.S. Senate,
Washington, D.C.

DEAR SIR: Our Cooperative has taken action to request that the advanced payment under the feed grain program be reinstated as it has been operating since 1961. We believe this can only be a handicap and hardship on the American farmer. In most cases the farmer has geared his operation to use these funds for his seasonal farm purchases. In our opinion these funds are not inflationary because of the nature in which they are used, such as buying seed, fertilizer and fuel for farming operation.

With the increased rate of interest and the short money problem, this exemplifies the problem to a greater degree. How is the

farmer and the small town businessman going to survive under these circumstances? Farmers that are operating under a heavy financed operation now, how is he to get additional credit? The businessman will either have to find a means of providing credit or carry the farmers account on accounts receivable.

We are a strong Cooperative, but we are in no position to increase our accounts receivable. While visiting with some of the other businessmen in Minneota, they feel as we do, something's got to be done and now.

We unanimously request and urge you to restore the advance feed grain payment immediately.

Sincerely,

J. H. GISLASON,
President.
S. FRANK JOSEPHSON,
Vice President.
NORBERT LANNERS,
Secretary.
ALBERT BORSON,
Director.
DONALD BOERBOOM,
Director.

JANUARY 15, 1970.

DEAR SENATOR MONDALE: I am enclosing clipping from the Belle Plaine Herald pertaining to Feed Grain Program stating we will not receive any advance payment this spring. The Feed Grain participants need this payment to help finance the crop in the spring. Hoping you can do what you can for us in this.

One of the many farmers that has looked forward to this. I know you are a friend of the farmer and labor.

Best wishes,

WILLIAM DIERS.

FARMERS AND MERCHANTS SUPPLY CO.,
Minneota, Minn., January 24, 1970.
Hon. WALTER MONDALE,
U.S. Senate,
Washington, D.C.

DEAR SIR: Our Cooperative is very concerned and have taken action to request that the advanced payment under the feed grain program be reinstated as it has been operating the past years. In most cases we believe it can only be very detrimental to the farmer who has a heavy finance load at this time. We believe also that this included a very high majority of American farmers according to our conversation with them. In our conversation, our farmers have been telling us this money is used for purchasing their spring operating needs such as feed, seed, fertilizer and fuel for their operation.

By cutting this payment off, they are going to have to look elsewhere for credit. In this period of high interest and tight money, where are they going to get this money necessary for their operating capital?

Accounts receivable is our greatest problem in our elevator operation. This can only make it a lot tougher. We are not able or are we capitalized to extend more credit than we are at this time without putting us in a financial bind.

We unanimously request and urge you to restore the advance feed grain payment immediately.

Sincerely,

O. J. WIGNESS, President.
JOE BREWERS, Vice President.
MARVIN HELEGSON, Secretary.
HARRY MOORSE, Treasurer.
FRED GUDMUNDSON,
ELMER FURGESON, Director.
JOE JOSEFSON, Director.

WATERVILLE, MINN.,
January 8, 1970.

Senator WALTER MONDALE,
Senate Office Building,
Washington, D.C.

DEAR SIR: I was very disappointed to hear that there will be no advance payment on land diverted from feed grain for the year 1970. Do to the tight money and very high interest rate it is going to cause hardship to the already hard pressed farmers.

If it would at all be possible to fit this in the farm program it would be a great help.

Sincerely,

ROLAND CRAM.

January 22, 1967.

DEAR SENATOR MONDALE: Am writing in regards to advance feed grain payments. If we don't get advance payments in Big Stone County this spring this could amt to \$250,000 and it would be a hardship to our farmers if they don't get this payment.

Thank you for any help you could give us.

Yours truly,

ALFRED SCHIRM,
Vice Chairman, Big Stone County A.S.C.

WELLS, MINN.,
January 12, 1970.

Senator F. MONDALE,
U.S. Senate.

SENATOR: Thank you very much for the reports to Minnesota you sent me and a bit late I want to wish you a happy New Year. I hope you can continue your good work you are doing for us, in particular about the advance payments from the Farm A.S.C. program. We all need the money to pay for our spring work expenses and I should think the government can advance this payment rather than wait till next Sept. Thanking you again and may you have much success in your work. I remain

Sincerely,

NORBERT CHIRPICH.

HAMEL, MINN.,
January 2, 1970.

HON. WALTER MONDALE,
Senate Office Building,
Washington, D.C.

DEAR SIR: We are writing to express our concern on the matter that the Department of Agriculture may discontinue the eight-year practice of prepayment for participating in the soil conservation program.

As one who lives and works among farmers it is our observation that many of them are concerned about the discontinuance of this practice which would create a hardship for them in paying for seed and taxes in the spring.

Whatever assistance you can give in this area will be appreciated.

Rev. ARTHUR G. EMERSON.

JANUARY 10, 1970.

Senator MONDALE,
Washington, D.C.

DEAR SIR: This is an individual protest against the Presidents rejection of advance payments for agriculture program this year.

Farmers have been depending on that payments for putting in their crops and lot of farmers have to borrow at 8 or 10% to keep going, if they can't, they just have to quit.

I am 62 years and farmed all my life. This is the only way we the silent majority can show our feelings.

Thank you,

BENNIE C. VEUM.

MINNEOTA BUSINESSMEN'S
ASSOCIATION, INC.,

Minneota, Minn., January 22, 1970.

HON. WALTER MONDALE,
U.S. Senate,
Washington, D.C.

DEAR SIR: The Minneota Businessmen's Association, has taken action to request that the advanced payment under the feed grain program be reinstated as it has been operating since 1961. We believe this can only be a handicap and hardship to the American farmer. In most cases the farmer has geared his operation to use these funds for his seasonal farm purchases, but this also saps his financial structure to purchase other things regardless of their nature.

With the increased rate of interest and the short money problem, this exemplifies the problem to a greater degree. How is the farmer and the small town businessman going to survive under these circumstances? Farmers that are operating under a heavy financed operation now, how is he to get additional credit?

We are a strong community, but this can only weaken our position to continue as we have in the past, giving service to the people of our area.

We unanimously request and urge you to restore the advance feed grain payment immediately.

Sincerely,

HAROLD JACKSON,
President.

JANUARY 22, 1970.

DEAR SIR: Please try to get farmers an advance for signing up in the Feed Grain Program. It is going to be very hard to get a crop in the ground if we can't get the money in the spring.

Yours sincerely,

Mr. and Mrs. CARL WITTELSTADT.

EXHIBIT 2

U.S. DEPARTMENT OF AGRICULTURE, AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE

1969 FEED GRAIN PROGRAM—MINNESOTA—FEED GRAIN, PARTICIPATING FARMS, BASE, DIVERSION AND PRICE SUPPORT ACRES AND PAYMENT, TOTAL PAYMENT, PLANTED ACRES AND SUBSTITUTION

County	Participating Farms No.	Base acres	For which payment computed (acres)			Diversion			Payment computed (dollars)			Price support		Total diversion and price support payment	Planted acreage	Substitution (acres)	
			At 20 percent	At 50 percent	Total	For which no payment computed (acres)	Total (acres)	At 20 percent	At 50 percent	Total	Acreage	Payment	Feed grain for wheat			Wheat for feed grain	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
Aitkin	220	2,465	444	1,659	2,103	35	2,138	\$5,975	\$50,562	\$56,537	192	\$3,264	\$59,801	211			
Anoka	652	17,100	1,502	8,185	9,687	1,737	11,424	23,140	296,740	319,880	4,114	84,319	404,199	4,402			
BecRer	1,078	51,445	1,882	12,867	14,749	8,107	22,856	20,031	330,278	350,309	20,418	203,418	553,727	25,247	93	793	
Beltrami	216	2,778	465	1,814	2,279	61	2,340	4,000	36,312	40,312	217	2,400	42,712	247		9	
Benton	809	26,840	1,664	9,743	11,407	3,560	14,967	23,523	320,342	343,865	9,214	166,708	510,573	10,862			
Big Stone	943	84,777	347	19,657	20,004	16,431	36,435	4,487	602,645	607,132	41,527	650,263	1,257,395	46,770			
Blue Earth	1,982	168,327	909	35,466	36,375	31,579	67,954	20,650	1,973,060	1,993,710	82,894	2,398,935	4,392,645	98,420	41	3	
Brown	1,662	149,653	281	33,903	34,184	29,101	53,285	5,745	1,689,118	1,694,863	74,077	1,914,216	3,609,079	83,258	10	1	
Carlton	29	287	58	217	275		275	718	6,371	7,089							
Carver	846	37,823	1,379	9,188	10,567	5,875	16,442	27,808	423,245	451,053	15,620	377,052	828,105	19,276	8	9	
Cass	511	9,690	1,256	5,652	6,908	547	7,455	15,266	158,147	173,413	1,394	21,975	195,388	1,455			
Chippewa	1,567	142,625	414	27,368	27,782	27,537	55,319	7,687	1,183,498	1,191,185	70,594	1,568,550	2,759,735	85,556	95	103	
Chisago	1,075	23,989	2,338	11,462	13,800	2,329	16,129	41,554	466,306	507,860	6,102	133,634	641,494	7,029			
Clay	1,127	107,651	921	17,057	17,978	20,437	38,415	9,786	487,472	497,258	49,625	489,226	986,484	59,318	47	5,291	
Clearwater	353	8,173	724	3,392	4,116	848	4,964	6,067	69,011	75,078	1,879	17,448	92,526	2,076		179	
Cottonwood	1,714	175,093	301	42,203	42,504	34,200	76,704	5,546	2,057,224	2,062,770	86,803	2,220,067	4,282,837	96,297	5		
Crow Wing	301	7,711	776	3,619	4,395	683	5,078	10,127	111,585	121,712	1,800	34,626	156,338	1,999			
Dakota	1,055	65,910	1,326	18,337	19,663	11,262	30,925	21,393	751,431	772,824	29,187	625,543	1,398,367	33,966	116	7	
Dodge	1,092	73,177	1,067	19,030	20,097	13,258	33,355	22,637	964,601	987,238	33,827	887,674	1,874,912	38,347	3	6	
Douglas	1,218	51,032	2,043	15,216	17,259	7,834	25,093	25,988	462,853	488,841	20,191	307,407	796,248	23,386	43	174	
East Otter Tail	1,495	57,280	2,738	20,415	23,153	8,253	31,406	32,461	560,905	593,366	21,100	304,707	898,073	23,259	15	7	
East Polk	928	37,149	1,742	12,063	13,805	5,520	19,325	15,296	275,314	290,610	13,047	132,332	422,942	14,506	54	1,439	
Faribault	1,794	181,012	205	34,050	34,255	34,289	68,544	4,984	1,958,710	1,963,694	90,082	2,706,622	4,670,316	110,630	12	5	
Fillmore	1,395	80,930	1,335	20,484	21,819	14,686	36,505	27,323	1,016,825	1,044,148	37,233	960,929	2,005,077	43,437	8		
Freeborn	2,104	176,489	1,003	41,223	42,226	33,476	75,702	21,371	2,178,800	2,200,171	85,893	2,383,208	4,583,379	99,075	17	9	
Goodhue	1,407	70,214	1,649	17,618	19,267	11,878	31,145	32,625	856,158	888,784	31,430	785,139	1,673,923	37,620	61	2	
Grant	969	99,406	639	22,744	23,383	19,072	42,455	8,258	719,995	728,253	47,329	575,635	1,303,888	52,825	17	1,580	
Hennepin	915	28,050	2,124	11,550	13,674	3,214	16,888	38,162	477,886	516,048	7,941	176,554	692,602	8,976			
Houston	791	32,001	1,085	7,480	8,565	5,274	13,839	25,795	418,076	443,871	14,065	407,786	851,657	17,489			
Hubbard	403	13,648	875	5,787	6,662	1,717	8,379	9,354	145,185	154,539	4,209	56,337	210,876	4,397			
Isanti	1,038	23,336	2,436	11,888	14,324	2,044	16,368	43,079	485,488	528,567	5,547	126,776	655,343	5,988			
Itasca	24	350	57	216	273		273	573	4,653	5,226							
Jackson	1,907	199,575	233	39,214	39,447	39,297	78,744	4,650	2,055,826	2,060,476	99,319	2,750,443	4,810,919	118,499	32		
Kanabec	684	14,045	1,755	7,309	9,064	954	10,018	27,019	256,194	283,213	2,875	57,241	340,454	3,312			
Kandiyohi	1,787	139,958	1,237	33,835	35,072	26,113	61,185	20,741	1,537,752	1,558,493	66,471	1,611,234	3,169,727	76,668	55	2	
Kittson	724	93,508	618	22,698	23,316	17,864	41,180	4,028	370,489	374,517	37,524	285,822	660,339	41,378	10	5,860	
Koochiching	71	1,045	177	724	901	16	917	1,023	10,069	11,092							
Lac qui Parle	1,939	166,893	489	37,081	37,578	32,316	69,886	7,777	1,414,001	1,421,778	82,209	1,657,635	3,079,413	94,308	42	90	
Lake of the Woods	131	2,519	271	1,275	1,546	166	1,712	1,524	16,170	17,694	219	1,381	19,075	269	3	90	
Le Sueur	1,281	73,960	1,527	19,116	20,643	12,686	33,329	35,092	1,049,132	1,084,224	33,980	960,471	2,044,695	39,019	32	13	
Lincoln	1,243	119,392	279	30,000	30,279	23,386	53,665	4,205	1,044,370	1,048,575	58,674	1,073,642	2,122,217	64,080	7	1	
Lyon	1,584	199,733	240	42,052	42,292	39,265	81,557	3,826	1,612,554	1,616,380	99,287	1,995,470	3,611,850	116,189	26		
Mahnomen	441	29,098	522	6,230	6,752	5,152	11,904	4,836	162,527	167,363	12,733	128,964	296,327	14,769	53	1,124	
Marshall	1,585	129,229	1,940	27,609	29,549	23,518	53,067	13,974	481,511	495,485	51,637	389,137	884,622	56,555	8	11,559	
Martin	1,843	218,420	203	44,306	44,509	43,388	87,897	4,830	2,483,085	2,487,915	108,769	3,206,484	5,694,399	127,881			
McLeod	1,313	72,056	1,178	15,372	16,550	12,758	29,308	23,639	726,333	749,872	34,223	833,198	1,583,070	41,401	46		
Meeker	1,340	90,333	1,087	22,473	23,560	16,605	40,165	18,282	993,289	1,011,571	42,518	988,125	1,999,696	48,635	18	13	
Mille Lacs	679	14,598	1,598	7,235	8,833	1,226	10,059	21,963	226,259	248,222	3,297	59,940	308,162	3,772			
Morrison	1,466	40,980	3,132	16,562	19,694	4,763	24,457	44,425	539,170	583,595	12,766	227,383	810,978	14,811	7		
Mower	1,924	152,361	1,187	39,301	40,488	28,790	69,278	24,324	1,889,604	1,913,928	73,097	1,799,419	3,713,347	81,177	23	2	
Murray	1,743	180,823	186	39,491	39,677	35,667	75,344	2,913	1,506,107	1,509,020	89,949	1,802,774	3,311,794	103,760	1		
N. St. Louis	7	174	15	101	116	20	136	103	1,529	1,632							
Nicollet	1,051	98,272	253	22,059	22,312	18,760	41,072	5,710	1,209,534	1,215,244	48,542	1,372,254	2,587,498	56,123	7	3	
Nobles	1,808	176,632	259	29,039	29,298	34,638	63,936	4,867	1,202,207	1,207,074	87,643	2,057,303	3,364,377	110,222	24		
Norman	1,083	110,364	869	20,853	21,722	21,004	42,726	9,062	586,586	595,648	50,939	495,108	1,090,756	59,603	112	5,158	
Olsted	1,315	75,239	1,702	20,869	22,571	13,058	35,629	35,161	1,032,335	1,067,496	32,944	845,691	1,913,187	38,166	6	11	
Pennington	584	23,051	1,154	8,156	9,310	3,289	12,599	8,098	144,657	152,755	7,346	55,791	208,546	7,910			
Pine	875	14,774	1,980	8,366	10,346	885	11,231	31,350	301,793	333,143	2,541	50,598	383,741	2,829			
Pipestone	1,146	104,038	149	18,824	18,973	20,540	39,513	1,993	631,110	633,103	51,628	917,155	1,550,258	62,718			
Pope	1,146	75,617	1,292	19,193	20,485	13,090	33,565	16,711	605,676	622,387	33,834	578,712	1,201,099	39,769	91	183	
Ramsey	33	831	93</														



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