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INTRODUCTION OF ENVIRONMENTAL CONTROLS
ADJUSTMENT ACT OF 1973

Mr. Muskie:

Mr. President, I introduce today the Environmental Controls Adjustment Act of 1973, a bill to deal with the problems of economic dislocation which may result from environmental regulatory action. This bill is similar to a measure approved last year by the Senate as an amendment to the Public Works and Economic Development Act.

Blackmail is a hard word. More than 400 years ago, it had a precise meaning: the tribute exacted by pirates from small property owners. Later, blackmail came to mean any payment extorted by intimidation. Now, in the last few years, blackmail has taken on a new meaning: the threat of unemployment from a polluter who has been issued a pollution control order. That is environmental blackmail in its simplest form, and it represents the kind of choice that some would force upon us as we seek to clean up our air, water and land.

We have hard public policy decisions in the last several years that represent a national commitment to restore our endangered environment. Those decisions, principally embodied in the Water Pollution Control Act and the Clean Air Act, were based on the Congress' recognition that questions of economic and technological feasibility could not stand in the way of the public health and welfare rights to clean air and water.

We realized from the beginning that the controls that those new laws would require would force us to make adjustments in our spending, living and growing habits, but we also knew that the price had to be paid.

However, the kinds of environmental blackmail threats that were being made as pollution control orders began to take effect seemed to bear little relationship to the kinds of prices we anticipated it would be necessary to pay. We began to hear reports of severe economic dislocation, plant shutdowns and worker layoffs which allegedly resulted from the implementation of the new air and water laws.

Therefore, the Subcommittee on Air and Water Pollution began in 1970 to hold public hearings and conduct staff investigations to determine the extent of these problems and to devise ways to protect workers, plants and communities from the threat of environmental blackmail.

We have found, first of all, that every national index available suggests that pollution control will have little impact on the total national economy. Studies commissioned by the Council of Economic Advisers indicate, for example, that the cost of pollution control will depress the gross national product by less than one percent a year between now and 1976.

Similarly, a White House study of 11 major industries estimates that pollution controls may result in the loss of 50,000 to 125,000 jobs between now and the end of 1976. These figures amount to between one and four percent of the workers in these 11 industries, yet no more than 5 hundredths of one percent of the Nation's labor force in 1970. The study reached similar conclusions in a broader study of 25 industries representing 80-90% of our national factory output. And it is possible,

EPA Administrator William Ruckelshaus has concluded, that the pollution control industry will provide more jobs than are lost in these premature shut-downs.

But the classic cases of environmental blackmail occur in small towns or medium-sized cities where there may be only one or two major industrial plants. When pollution controls are imposed, or when tougher controls are considered, the word is spread that a shut down or layoff may result. In a small or medium-sized community, that kind of a threat -- whether it is warranted or not -- can have a potent effect. Especially in these days of high unemployment, and in light of the President's apparent intention to give unemployment the blessing of national policy, the threat of environmental blackmail can be devastating. Workers are led to believe that they must choose between jobs and a clean environment; they are told they cannot have both.

But we know and Congress has declared that they have both a right to a job and a right to a health environment. This legislation would prevent one right from endangering another. The bill contains the following provisions:

1. The Environmental Protection Agency would be directed to investigate on its own, or on the request of an affected worker, job losses or alleged job losses which may result from an environmental regulatory action.

2. A commercial or industrial facility seeking assistance under the Act or making an allegation of employment loss due to environmental regulatory action, would be required to disclose all the facts relating to the alleged employment loss, including projected plans and the financial condition of the affected facilities and the financial condition of any subsidiaries or parent corporation.

3. Environmental Protection Agency would have authority to issue subpoenas for its investigations with reports of the investigations to be available to the public.

4. A discrimination against or discharge of any employee for initiating an action under this law or where the alleged employment loss has been determined by the Environmental Protection Agency to be unjustified would be prohibited. Investigations under this section would be carried out by the Secretary of Labor.

5. Funds would be provided for states to assist persons unemployed as a result of an environmental regulatory action at existing compensation rates. In addition, the Environmental Protection Agency could provide direct assistance to families to prevent cancellation of mortgages or termination of leases and the Secretary of Agriculture would contribute food to persons who need it.

6. Persons would be authorized to take early retirement and retain the interest they have in pension programs as an alternative to assistance provided under point 5. Also, persons more than 55 years old would continue to receive any medical benefits to which they are entitled to for an additional period of five years.

*7. Unemployed persons would be given priority in job re-assignment by the company and receive assistance from the Labor Department in finding new jobs.

8. Owners of facilities found to have wrongly alleged that the employment loss is a result of environmental regulatory action would be required to pay compensation or some form of penalty.

9. Assistance would also be provided for creation of new industries in communities suffering employment losses due to environmental regulatory action through special assistance from the Small Business Administration or the Farmers Home Administration.

10. Local communities could receive grants for up to three years for any losses of property tax revenues resulting from the environmental regulatory action.

11. Grants or low interest loans would be available to businesses which would otherwise have to curtail employment due to environmental regulatory actions provided they make full disclosure of their financial circumstances.

"Adoption of this bill is vital to assure that decisions relating to plant closures because of environmental impact are made in a responsible manner and in full view of the workers, the local community or communities affected, and those responsible for enforcing environmental control regulations. Only with such open, above board, decision making and the authority of the Environmental Protection Agency to investigate the facts, can we be assured that the jobs and livelihood of workers, their families, and their communities are not used as pawns in industry efforts to undercut pollution control regulations."

*Mr. President, I ask unanimous consent that the text of the bill and a summary of its provisions be printed in the Record at this point.

THE COSTS AND BENEFITS OF
POLLUTION CONTROL

William D. Ruckelshaus
Administrator
Environmental Protection Agency

Never in the history of this country has any movement caught on so fast as the wave of environmentalism that has swept over our people during these last two or three years.

The average citizen -- that includes anyone who has ever breathed foul air, observed the turbid flow of our filthy rivers, or driven a car in traffic; anyone who has ever tried to find a little peace and quiet; anyone who has ever had doubts about the purity of his food and drink -- this average citizen demands action on the part of business and government to clean up the mess we have made.

And the fact is that together we have taken important initial steps and are about to do much more under the aegis of existing and proposed legislation. But just as in physics there can be no action without a reaction, so in economics there can be no benefit without a cost.

Presented to the Los Angeles Symposium - March 30, 1972
Los Angeles, California

Anyone who tells the American people that we can clean this country up cheaply or that it is practical to remove every ounce of pollution from the environment is simply practicing the same old demagoguery of overpromising, which guarantees underperforming and angry disappointment.

It has been my belief from the very beginning that the environmental, economic, social and aesthetic benefits of any government policy should be at least equal to its costs. We should undertake no action whose costs and benefits have not been carefully weighed and we should make every effort to predict the effects of a given policy on society as a whole.

Admittedly, we have just begun that kind of planning. We must examine the long-range consequences -- in terms of resources, employment, technology, population control, land-use and urban design -- of a gradual shift from quantity to quality as our national purpose.

So the question may be raised at this point whether our economy, oriented toward production and consumption per se, can accommodate new social requirements and do so at a reasonable cost.

At first glance, pollution control looks like a prohibitively expensive proposition. For example, in our annual EPA report to Congress on the economics of clean air we forecast expenditures of around \$42 billion in the period fiscal 1973-77 just to control air pollution alone. The Council on Environmental Quality estimated that the combined cost to industry and government of air and water clean-up plus better management of solid wastes would amount to around \$105 billion between 1970-75. In other words, about one percent of the cumulative gross national product in those years.

But this Administration recognized at the outset that we needed additional independent confirmation of the total dollar cost of a national effort to clean up the air and the water. Last year the Council on Environmental Quality, the Department of Commerce and the Environmental Protection Agency commissioned a task force of impartial consultants to get the answers.

The results of their computer study were released on March 13, and I think they should be reassuring to all who have wondered whether this nation can actually afford the costs of a major environmental renovation.

The panel analyzed eleven major industry groups and found that current pollution control requirements will compell the closing of 200 to 300 plants by the end of 1976. However, none of the eleven will be hurt severely as a whole.

Most of the 12,000 plants now operating will stay in business and be profitable, except for 800 that are expected to close down due to obsolescence or other reasons not connected with the environment. Our task force estimates that the overwhelming majority of plants that will close to avoid installation of expensive pollution control equipment would fold up anyway in the period 1976-1980 because they are outmoded and unprofitable.

With regard to employment, 50,000 to 125,000 jobs may be wiped out, many of them in smaller communities where the economic impact will be substantial. However, that amounts to only one to four percent of the workers in the 11 industries -- in other terms, about 0.05% (five hundreths of one percent) of the U. S. labor force in 1970.

We in EPA are already cooperating with the Labor Department to ensure that those who lose their jobs will be retrained or relocated if they wish. Federal

development loans will be offered to the communities affected.

What about other industries? Will their experience be different? We think not. The task force reached similar conclusions in a broader study of 25 industries representing 80-90% of our national factory output. Existing and anticipated pollution controls would reduce the average annual GNP about 0.6% (six tenths of one percent) between 1972 and 1980. Unemployment overall would rise one tenth of one percent, which amounts to 80 to 100,000 jobs.

However, it is possible under optional conditions that the pollution control industry will provide more jobs than are lost in premature shut-downs.

Naturally the foregoing calculations are tentative. Not all industries will be affected in the same way. The magnitude of control expenses depends to a large degree upon the nature of production technique, abatement processes, volume of pollutants, feasibility of waste by-product recovery and the size and location of a given plant.

Some companies have discovered that there is great wealth in what we throw out, burn up and pour down the drain -- possibly enough in certain cases to pay for a substantial part of control equipment. The very act of redesigning factory processes to incorporate clean technology opens up opportunities for higher productivity, expanded profits, rising real wages, better products and growing tax revenues.

Dow Chemical's experience offers encouraging evidence that well-managed companies can save money right now by controlling or recovering various effluents. At Midland, Michigan the company is building 28 cooling towers at a cost of \$7.2 million to reduce the thermal load on the Tittabawassee River. The towers will more than pay for themselves by reducing corrosion and cutting daily water intake by 100 million gallons.

Indeed, anti-pollution efforts at Midland have saved chemicals worth more than \$6 million over the past 3 years. At a Dow plant in Texas, \$900,000 put into controls saves \$265,000 worth of chemicals every year. Not every anti-pollution project results in net savings, but in a highly-competitive industry, Dow's profit margin of 24.5 percent is well above the industry average of 18.7 percent.

It should be noted that companies which find the initial control expenditures too burdensome can often finance their equipment with tax-exempt industrial development revenue bonds.

Finally, in calculating outlays we must not overlook the social and personal savings that will accrue once our air and water are reasonably pure. Air contamination alone may cost this country \$16 billion a year in damages to human health, materials, crops and urban vegetation and may rise to \$25 billion per annum by 1977. These figures are only approximate. But the AMA estimates that disease induced by the environment as a whole costs \$38 billion each year.

The overwhelming majority of the American people, as attested by the polls, believes that a cleaner environment is worth a little inconvenience and temporary expense. I'll admit this sentiment has not really been put to the test. We haven't held the ultimate consumer's feet to the fire long enough. But EPA is betting that the new public awareness is not for sale.

I think the average man and woman will look forward to a world free of smog, roadside litter, and putrid waterways, a world liberated from noise, ugliness, stench

and urban decay. And that expectation ought to become outright enthusiasm when they realize that the cash savings alone may total \$200 per year per family by 1980.

Considering the total evidence, therefore, I think all this talk about environmentalism ruining the economy is just nonsense. We are going to get back much more than we pay out. Far from retarding progress an ecological sensibility, carried to its logical conclusion, will guarantee the good life indefinitely.

However, to ensure such a prospect we must conserve and recycle our resources. The average lifetime of industrial and private capital must increase, that is we must get more for our money -- our machine tools, cars and appliances should last longer and be cheaper to repair.

Higher priority must be assigned to social equality, because discrimination and inequality are wasteful as well as immoral. Services like education, health care and creative leisure must be esteemed more than speed, glitter and gadgetry. Population growth, as the President's commission found, must stop and the sooner the better.

This is not to denigrate our achievements as a nation. Indeed, our very success compells us to drop those prodigal habits which alone can threaten what we have accomplished here. We must learn to manage the earth as one cultural and biological system.

If we boldly grasp this historic opportunity, peace and prosperity and social justice will be ours. Once restored to harmony with the natural world that gave him birth, man will be free to develop his highest intellectual, spiritual and aesthetic potentials. Our environmental investments -- generously committed -- will ensure a timely transition to a new epoch in the history of the human race.

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United States Senate

COMMITTEE ON PUBLIC WORKS
WASHINGTON, D.C. 20510

January 3, 1973

MEMORANDUM

TO: Senator Edmund S. Muskie

FROM: Leon Billings and Don Alexander

SUBJECT: Economic Dislocation Related to Environmental Controls

We are currently drafting legislation to deal with the problems of economic dislocation which may result from environmental regulatory action. This would improve on and change the name of the environmental blackmail legislation which you let Senator Williams prepare last year. We do not yet have a final draft as we are still getting suggestions from concerned persons for the final package. However, the current draft includes the following major points:

1. The Environmental Protection Agency would be directed to investigate on its own, or on the request of an affected worker, job losses or alleged job losses which may result from an environmental regulatory action.
2. A commercial or industrial facility seeking assistance under the Act or making an allegation of employment loss due to environmental regulatory action, would be required to disclose all the facts relating to the alleged employment loss, including projected plans and the financial condition of the affected facilities and the financial condition of any subsidiaries or parent corporation.
3. Environmental Protection Agency would have authority to issue subpoenas for its investigations with reports of the investigations to be available to the public.
4. A discrimination against or discharge of any employee for initiating an action under this law or where the alleged employment loss has been determined by the Environmental Protection Agency to be unjustified would be prohibited. Investigations under this section would be carried out by the Secretary of Labor.

5. Funds would be provided for states to assist persons unemployed as a result of an environmental regulatory action at existing compensation rates. In addition, the Environmental Protection Agency could provide direct assistance to families to prevent cancellation of mortgages or termination of leases and the Secretary of Agriculture would contribute food to persons who need it.

6. Persons would be authorized to take early retirement and retain the interest they have in pension programs as an alternative to assistance provided under point 5. Also, persons more than 55 years old would continue to receive any medical benefits to which they are entitled to for an additional period of five years.

7. Unemployed persons would be given priority in job re-assignment by the company and receive assistance from the Labor Department in finding new jobs.

8. Owners of facilities found to have wrongly alleged that the employment loss is a result of environmental regulatory action would be required to pay compensation or some form of penalty.

9. Assistance would also be provided for creation of new industries in communities suffering employment losses due to environmental regulatory action through special assistance from the Small Business Administration or the Farmers Home Administration.

10. Local communities could receive grants for up to three years for any losses of property tax revenues resulting from the environmental regulatory action.

11. Grants or low interest loans would be available to businesses which would otherwise have to curtail employment due to environmental regulatory actions provided they make full disclosure of their financial circumstances.

If the general direction of these proposals meets with your agreement, we will continue to work on the draft legislation.

IN THE SENATE OF THE UNITED STATES

Mr. _____

introduced the following bill; which was read twice and referred to the Committee on _____

A BILL

To authorize the Environmental Protection Agency to provide assistance for dislocations resulting from environmental controls, and for other purposes.
(Insert title of bill here)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

Sec. 101. This Act may be cited as the "Environmental Controls Adjustment Act of 1973."

Part A - Full Disclosure of Economic Impact

Sec. 102(a) The Administrator shall on his own motion or not later than thirty days from the date he receives a written request from an employee of an affected plant or industry, or his representative, initiate an investigation of an eligible employment loss or alleged eligible employment loss which results or may result from an environmental regulatory action.

(b) Such an investigation and report thereon shall include an evaluation of the nature of the enforcement action, the action necessary for compliance, the costs of compliance, the social or external costs of non-compliance, the extent to which the community would be dislocated by such an employment loss, possible alternatives to the employment loss or the enforcement action, and the economic circumstances of the particular facility involved and its owner or operator, including present profitability or marginal economic position.

(c) Whenever feasible, such investigation shall commence 6 months in advance of any anticipated employment loss, or at the earliest possible date, provided, however, that such investigation shall begin

~~Bill for S. 1000~~

within 10 days of any request for investigation from an employee of an affected plant or industry, or his representative, where the owner or operator of such plant or facility has alleged that an employment loss will result from an environmental regulatory action.

(d) The owner or operator or any representative of an owner or operator of any commercial or industrial facility [seeking assistance under Part D of this Act or] making an allegation of loss from an environmental regulatory action for which an investigation is requested in accordance with this section shall submit to the Administrator within 30 days a report disclosing:

- (1) the nature of the enforcement action;
- (2) plans to comply, including a description of the technology necessary for compliance and its cost;
- (3) the extent of potential employment loss;
- (4) alternatives to the potential employment loss;
- (5) plans to alleviate the effect of the potential employment loss on the individuals and communities involved;
- (6) the economic circumstances of the affected facility, including present profitability or marginality, and future investment and employment plans in the absence of such enforcement; and

- ~~CONFIDENTIAL~~
- (7) the economic circumstances of the owner's total enterprises (including domestic and foreign subsidiaries or parent corporations), including present profitability, market (and any changes in market patterns), the effect of foreign competition, changes in the availability of transportation, opportunity for transfer of affected personnel, capitalization, and capital availability, and future investment plans in the absence of such enforcement.

(e) At the conclusion of any such investigation, the Administrator shall prepare and make public a report on the investigation, together with his findings and determinations on the necessity or justification of any employment loss, and assistance which might be necessary to prevent or alleviate the associated economic dislocation.

Sec. 103 For the purpose of assisting in any investigation under section 102 of this Act, the Administrator may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and he may administer oaths. Witnesses summoned shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. In case of contumacy or refusal to obey a subpoena served upon any person under this section, the district court of the United States for any district in which such person

~~DRAFT FOR DISCUSSION~~

is found or resides or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Administrator to appear and produce papers, books, and documents before the Administrator, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

Sec. 104. Any reports required by subsections (d) and (e) of section 102 of this Act and any records, reports or information obtained under section 103 of this Act shall be available for public inspection, except that upon a showing satisfactory to the Administrator by any person that records, reports, or information, or a particular part thereof to which the Administrator has access under this section, if made public, would divulge methods or processes entitled to protection as trade secrets of such person, the Administrator shall consider such record, report, or information or particular portion thereof confidential in accordance with the purposes of section 1905 of title 18 of the United States Code, except that such record, report, or information shall be disclosed to other officers, employees, or authorized representatives of the United States or the Congress concerned with carrying out this Act or when relevant in any proceeding under this Act.

Sec. 105.(a) No person shall discharge or in any other way discriminate against or cause to be discharged or discriminated against any employee or any authorized representative of employees of any commercial or industrial facility at which employment may be reduced due to, or alleged to be due to, the enforcement of an order or standard for the protection of environmental quality, (1) by reason of the fact that such employee or representative has filed, instituted, or caused to be filed or instituted any proceeding under this Act, has provided information concerning any matter within the scope of this Act, or has testified or is about to testify in any proceeding related to or resulting from the administration or enforcement of the provisions in this Act, or (2) in any case where the Administrator has determined an employment loss to be unjustified.

(b)(1) Any employee or a representative of employees who believes that he has been discharged or otherwise discriminated against by any person in violation of subsection (a) of this section may, within thirty days after such violation occurs, apply to the Secretary of Labor for a review of such alleged discharge or discrimination, and a copy of the application shall be sent to such person who shall be the respondent. Upon receipt of such application, the Secretary of Labor shall cause such investigation to be made as he deems appropriate.

~~Section 151 of the Act~~

Such investigation shall provide an opportunity for a public hearing at the request of any party to enable the parties to present information relating to such violation. The parties shall be given written notice of the time and place of the hearing at least five days prior to the hearing. Any such hearing shall be of record and shall be subject to section 554 of title 5 of the United States Code.

(2) Upon receiving the report of the investigation, conducted in accordance with paragraph (1) of this subsection, the Secretary shall make findings of fact. If he finds that such violation did occur, he shall issue a decision, incorporating an order therein, requiring the person committing such violation to take such affirmative action to abate the violation as the Secretary deems appropriate, including, but not limited to, the rehiring or reinstatement of the employee or representative of employees to his former position with compensation. If he finds that there was no such violation, he shall issue an order denying the application. Such order issued by the Secretary under this subsection shall be subject to judicial review. Violations by any person of subsection (a) of this section or such an order shall be subject to the provisions of section 151 of this Act.

Part B - Assistance to Dislocated Individuals

~~Sec. 110 The Administrator shall make grants to States to provide to any person unemployed in connection with an eligible employment loss such assistance as he deems appropriate while such person is unemployed. Such assistance as a State shall provide under such a grant shall be available to persons not otherwise eligible for unemployment compensation and persons who have otherwise exhausted their eligibility for such unemployment compensation, and shall continue as long as unemployment in the area caused by such enforcement continues (but not less than six months) or until the person is re-employed in a suitable position, as determined by regulations published by the Administrator. Such assistance shall~~

~~SECRET~~

not exceed the maximum weekly amount under the unemployment compensation program of the State in which the employment loss occurred and shall be reduced by an amount of private income protection insurance compensation available to such person for such period of unemployment.

~~Sec. 111 The Administrator is authorized to provide assistance on a temporary basis in the form of mortgage or rental payments to or on behalf of persons and families who, as a result of financial hardship caused by an eligible employment loss, have received written notice of dispossession or eviction from a residence by reason of foreclosure of any mortgage or lien, cancellation of any contract of sale, or termination of any lease, entered into prior to the employment loss. Such assistance shall be provided for a period of not to exceed one year or for the duration of the period of financial hardship, whichever is the lesser.~~

~~Sec. 112 (a) Whenever the Administrator determines that, as a result of an eligible employment loss, low-income households are unable to purchase adequate amounts of nutritious food, he shall notify the Secretary of Agriculture who shall distribute coupon allotments to such households pursuant to the provisions of the Food Stamp Act of 1964 and shall also make surplus commodities available to such households.~~

~~CONFIDENTIAL~~

(b) The Secretary of Agriculture, is authorized to continue to make such coupon allotments and surplus commodities available to such households for so long as the Administrator determines necessary, taking into consideration such factors as the Administrator deems appropriate, including the consequences of the employment loss on the earning power of the households to which assistance is made available under this section.

(c) Nothing in this section shall be construed as amending or otherwise changing the provisions of the Food Stamp Act of 1964 except as they relate to the availability of food stamps in case of such an employment loss.

Sec. 113 In lieu of the assistance available under sections 110, 111, and 112 of this Act, a person whose employment has been or will be curtailed in connection with an eligible employment loss may elect early retirement with appropriate pension, under such terms and conditions as the Secretary of Labor may determine, and in any event, any rights or financial interest which such person may have in any pension program or retirement benefit plan shall vest in such person regardless of length of service or age at termination of employment.

Sec. 114 A person whose employment has been or will be curtailed in connection with an eligible employment loss and who has attained

~~SECTION 115 (a) WHEREVER FEASIBLE, A PERSON WHOSE EMPLOYMENT HAS BEEN OR WILL BE CURTAILED IN CONNECTION WITH AN ELIGIBLE EMPLOYMENT LOSS SHALL BE GIVEN PRIORITY FOR TRANSFER TO COMPARABLE JOBS IN OTHER FACILITIES OWNED OR CONTROLLED BY THE OWNER OR OPERATOR OF THE FACILITY AT WHICH THE ELIGIBLE EMPLOYMENT LOSS OCCURS.~~

the age of 55 years or more shall continue for a minimum period of 5 years after his employment has ended to have the same rights and privileges with respect to medical benefits or medical insurance as if his employment had not been terminated.

Sec. 115 (a) Wherever feasible, a person whose employment has been or will be curtailed in connection with an eligible employment loss shall be given priority for transfer to comparable jobs in other facilities owned or controlled by the owner or operator of the facility at which the eligible employment loss occurs.

(b) The Secretary of Labor is authorized to provide re-employment assistance services under other laws to persons unemployed in connection with an eligible employment loss. The Secretary shall provide assistance to any unemployed person in such an employment loss who is unable to find re-employment in a comparable position within a reasonable distance from his home, to relocate in another area where such employment is available. Such assistance may include reasonable costs of seeking such employment and the cost of moving his family and household to the location of his new employment.

Sec. 116 (a) Where the Administrator has determined that an eligible employment loss is in fact a result of an environmental regulatory action, and the owner or operator of the facility curtailing employment owns, operates, or controls other commercial or industrial

~~SECRET FOR DISCUSSION~~

facilities, the owner or operator of such a facility shall reimburse the United States Government for sums expended for assistance under this Part in any amount in excess of the costs of compliance with such an order, standard or other action, as such costs are determined by the Administrator.

(b) Where the Administrator has determined that an eligible employment loss is not in fact a technologically necessary or economically justified result of an environmental regulatory action, but where such an employment loss has been knowingly misrepresented by the owner or operator of an affected facility, or his agent, to be the probable result of an environmental regulatory action, the owner or operator of a facility curtailing employment shall reimburse the United States Government for all sums expended for assistance under this Part.

Sec. 117 A person who has suffered a loss of employment or a substantial decrease in pay, which is in fact or which his employer or his employer's agent has alleged to be the result of an environmental regulatory action, shall have a right of action against his employer for relief in the nature of any and all assistance authorized by this Part (including all rights secured by this Part), to the extent that such assistance has not been provided by the Administrator or other Federal agency. Upon request of such person, the United States Attorney for the district wherein such person resides shall bring an action on behalf

~~SECTION 115. (a) (1) The Secretary is authorized to provide such assistance as is necessary for the training of any person who has incurred an eligible employment loss as a result of an environmental regulatory action.~~

of such person for the relief authorized under this section. The district courts shall have jurisdiction, without regard to the amount in controversy or the citizenship of the parties, to enforce such a right of action and grant appropriate relief. Such a right of action shall be in addition to any other right or remedy to which such an unemployed person may be entitled.

Sec. 118 A judgment is an action brought under section 117 of this Act or in any action for reimbursement of costs authorized under section 116 of this Act shall constitute a lien on the assets of the owner or operator of the affected facility which is prior to any other lien except one for the payment of taxes.

Sec. 119 In any case where an employment loss results from an environmental regulatory action and such employment loss could have been avoided except for unreasonable delay, bad faith or misrepresentation by a corporate officer, employee, or agent of the owner or operator of an affected facility, such corporate officer, employee or agent shall be jointly and severally liable with such owner or operator under sections 116, 117, and 151 of this Act.

~~Sec. 120 (a) (1) The Secretary is authorized to provide such assistance as is necessary for the training of any person who has incurred an eligible employment loss as a result of an environmental regulatory action.~~

~~SECRET FOR EYES ONLY~~

(2) Insofar as possible, the Secretary shall provide assistance under paragraph (1) through existing programs established by law.

To the extent that assistance cannot be provided through any existing program, the Secretary is authorized to furnish such assistance through programs established by him for purposes of this part, including programs carried out through private institutions and organizations.

(3) To the extent practicable, before eligible persons are furnished training, the Secretary shall consult with such person's employer and his certified or recognized collective bargaining agent or other duly authorized representative, if any, and develop a re-training plan which provides for training to meet the manpower needs of such the employer, in order to preserve or restore the employment relationship between the person and the employer.

(b) A person eligible for training in accordance with subsection (a) shall be paid a travel allowance and a subsistence allowance, necessary to defray transportation expenses and subsistence expenses for separate maintenance, when the training is provided in facilities which are not within commuting distance of his regular place of residence. The Secretary shall by regulation prescribe the amount of such allowance for various areas of the United States.

(c) (1) A person eligible for training in accordance with subsection (a) shall not be entitled to payment of any readjustment

~~DISLOCATED COMMUNITIES~~

allowances under this part unless he has applied for assistance under this section.

(2) Any person who, without good cause, refuses to accept or continue, or fails to make satisfactory progress in training which has been provided for him in accordance with this section shall not thereafter be entitled to readjustment allowances until he accepts or resumes, or makes satisfactory progress, in such training.

Part C - Assistance to Dislocated Communities

~~Sec. 130 Where the loss, curtailment, removal, or closing of any industrial or commercial facility in connection with an eligible employment loss causes an unusual and abrupt rise in unemployment in any area, community or neighborhood, the Small Business Administration in the case of a non-agricultural enterprise, and the Farmers Home Administration in the case of an agricultural enterprise, are authorized to provide any industrial, commercial, agricultural, or other enterprise, which has the potential to be a major source of employment for~~

*Can we
make dislocated
communities priority
EDA areas ?*

~~a substantial period of time in such area, a loan in such amount as may be necessary to enable such enterprise to assist in restoring the economic viability of such area, community, or neighborhood. Loans authorized by this section shall be made without regard to limitations on the size of loans which may otherwise be imposed by any other provision of law or regulation promulgated pursuant thereto.~~

~~Sec. 131. The Administrator is authorized to make grants to any local government which, as the result of an eligible employment loss, has suffered a substantial loss of property tax revenue (both real and personal). Grants made under this section may be made for the tax year in which the employment loss occurred and for each of the following two tax years. The grant for any tax year shall not exceed the difference between the annual average of all property tax revenues received by the local government during the three-tax-year period immediately preceding the tax year in which the employment loss occurred and the actual property tax revenue received by the local government for the tax year in which the employment loss occurred and for each of the two tax years following the employment loss but only if there has been no reduction in the tax rates and the tax assessment valuation factors of the local government. If there has been a reduction in the tax rates or the tax assessment valuation factors~~

~~then, for the purpose of determining the amount of a grant under this section for the year or years when such reduction is in effect, the Administrator shall use the tax rates and tax assessment valuation factors of the local government in effect at the time of the employment loss without reduction, in order to determine the property tax revenues which would have been received by the local government but for such reduction.~~

Part D - Assistance to Enterprises Threatened with Dislocation

~~Sec. 140 Where the Administrator determines that an employment loss is likely to result from an environmental regulatory action and that the accelerated development of control technology would prevent or alleviate such employment loss, he is authorized to make grants not to exceed 50 per centum of the cost of research and development of necessary technology on an accelerated basis. Such grants shall be made only where such assistance in the development of control technology is likely to be less costly to the United States Government (after allowance for reimbursement) than assistance under Part B of this Act.~~

~~Sec. 141 (a) The Administrator, upon his determination that a small business concern (as defined in the Small Business Act, as amended (15 U.S.C. 630 et seq.)) is likely to close or curtail employment as a result of an environmental regulatory action, is authorized~~

~~Section 141~~

to make a loan to such concern, through the Small Business Administration, for the purpose of acquiring or constructing facilities or equipment necessary for compliance with such ~~order or standard~~ ^{regulatory action}. Any such loan shall be made on such terms and conditions as the Small Business Administration requires for similar loans made under other authority, but without regard to limitations on the size of such loans contained in any other law.

(b) The Administrator, upon his determination that a commercial or industrial enterprise is likely to close or curtail employment as a result of an environmental regulatory action is authorized to guarantee loans made to such enterprise by private lending institutions for the purpose of acquiring or constructing facilities or equipment necessary for compliance with such ~~order or standard~~ ^{regulatory action}, on such terms and conditions as he finds appropriate.

^c
(c) A loan or loan guarantee shall be made in accordance with this section only where the total cost to the United States Government for assistance under this Act with respect to a single community or facility is estimated by the Administrator to be less in the case where such loan, or loan guarantee, is made than in the case where it is not.

Sec. 142 No loan or loan guarantee ~~subsidy~~ shall be made under this Part unless the financial assistance applied for is not otherwise available from private lenders or from other Federal agencies on terms which in the judgment of the Administrator will permit compliance with such an order or standard, and unless the Administrator finds that funds necessary for compliance are not available from within the corporate

~~Structure of the owner or operator of the affected facility, or from any domestic or foreign subsidiary or parent corporation.~~

~~Sec. 143 No loan or loan guarantee shall be made unless in the judgment of the Administrator there is reasonable assurance of repayment and the loan or loan guarantee will not result in unfair or unreasonable competition with a similar domestic enterprise which has complied or will comply with environmental regulatory actions without assistance under this Act or any other Act.~~

~~Sec. 144 No commercial or industrial enterprise shall receive assistance under this Part where any subsidiary of such enterprise (or of the parent corporation of such enterprise) outside of the United States is in competition with such enterprise or the products of the affected facility.~~

Part E - Definitions, Authorizations, and Administrative Provisions

Sec. 150 For the purposes of this Title;

- (a) The term "Administrator" means the Administrator of the Environmental Protection Agency.
- (b) The term "Secretary" means the Secretary of Labor unless otherwise indicated.
- (c) The term "environmental regulatory action" means the issuance or enforcement of any standard or order, or any other action, by the Federal government or a state or local government, taken in accordance with any Act which the Administrator is charged with responsibility to implement.

- ~~CONFIDENTIAL~~
- (d) The term "eligible employment loss" shall mean any reduction in employment as a result of an environmental regulatory action, or which the owner or operator of the affected facility alleges to be a result of such action, or which occurs within two years after the owner or operator of an affected facility has, in the judgment of the Administrator, unjustifiably made such allegations; which causes (1) a reduction in employment of 15 percentum of the total employment of a single community (as determined by the Secretary) or 50 full-time permanent positions at a single facility, whichever is the lesser; (2) a reduction of 25 percentum or more in the monthly average of hours worked, not including overtime, by the full time, permanent salaried employees of the affected facility; or (3) a reduction of employment at a single facility which occurs in any area or community where the level of unemployment, as determined by the Secretary, is greater than 5 percentum.

Sec. 151 Any violation of the requirements of this Act shall be subject to a civil penalty of \$10,000 per day of violation.

Sec. 152 All sums reimbursed to the United States Government under Part B of this ~~Title~~ ^{Act}, shall be available to the Administrator for the purpose of assistance under this Act.

Sec. 153 There are authorized to be appropriated such sums as may be necessary to carry out the purposes of Parts B and C of this ~~Title~~ ^{Act}.

~~Section 154~~
Sec. 154 There is authorized to be appropriated, \$200,000,000 *to be*
used as a revolving fund to carry out the purposes of Part D of this
Act.
~~Title~~

Sec. 155 (a) The Administrator, in consultation with the head of each Federal agency administering any program providing financial assistance to persons, business concerns, or other entities eligible for assistance under this Act, shall assure that no such person, business concern, or other entity will receive such assistance with respect to any part of such loss as to which he has received financial assistance under any other program.

(b) The Administrator shall assure that no person, business concern, or other entity receives any Federal assistance for any part of a loss eligible for assistance under this Act if such person, concern, or entity received compensation from insurance or any other source ^{but} ~~of a loss~~ shall not preclude additional Federal assistance for any part of such a loss not compensated otherwise.

(c) Whenever the Administrator determines (1) that a person, business concern, or other entity has received assistance under this Act and that such person, business concern or other entity received assistance for the same need from another source, and (2) that the

amount received from all sources exceeded the amount of the need,
he shall direct such person, business concern, or other entity to
pay to the Treasury, ^(an amount) not to exceed the amount of Federal assistance
received, sufficient to reimburse the Federal government for that
part of the assistance which he deems excessive.

INTRODUCTION OF ENVIRONMENTAL CONTROLS
ADJUSTMENT ACT OF 1973

Mr. MUSKIE:

Mr. President, I introduce today The Environmental Controls Adjustment Act of 1973, a bill to deal with the problems of economic dislocation which may result from environmental regulatory action. This bill is similar to a measure approved last year by The Senate as an amendment to the Public Works and Economic Development Act.

Blackmail is a hard word. More than 400 years ago, it had a precise meaning: the tribute exacted by pirates from small property owners. Later, blackmail came to mean any payment extorted by intimidation. Now, in the last few years, blackmail has taken on a new meaning: the threat ~~a polluter~~ of unemployment ^{from} ~~that~~ a polluter ~~make~~ who has been issued a pollution control order. That is environmental blackmail in its simplest form, and it represents the kind of choice that some would force upon us as we seek to clean up our air, water and land.

We have made public policy decisions in the last several years that represent a national commitment to restore our endangered environment. Those decisions, principally embodied in the Water Pollution Control Act and The Clean Air Act, were based on the ^{Congress'} recognition that questions of economic and technological feasibility could not stand in the way of the public health and welfare ~~require~~ rights to clean air and water.

We realized from the beginning that the controls that those new laws would require would force us to make adjustments in our spending, living and growing habits, but we also knew that the price had

to be paid. However, the kinds of environmental blackmail threats that were being made as pollution control orders were begun to take effect seemed to bear little relationship to the kinds of prices we anticipated it would be necessary to pay. We began to hear reports of severe economic dislocation, plant shutdowns and worker layoffs which allegedly resulted from the implementation of the new air and water laws.

Therefore, the Subcommittee on Air and Water Pollution began in 1970 to hold public hearings and conduct staff investigations ~~of the~~ to determine the extent of these problems and to ^(devise ways) protect workers, plants and communities from the threat of environmental blackmail.

We have found, first of all, that every national index available suggests that pollution control will have little impact on the total national economy. Studies commissioned by the Council of Economic Advisors indicate, for example, that the cost of pollution control will depress the gross national product by less than one percent a year between now and 1976.

Similarly, a White House study of 11 major industries estimates that pollution controls may result in the loss of 50,000 to 125,000 jobs between now and the end of 1976. These figures amount to between one and four percent of the workers in these 11 industries, yet no more than 5 hundredths of one percent of the nation's labor force in 1970. The study reached similar conclusions in a broader study of 25 industries representing 80-90% of our national factory output. And it is possible, EPA Administrator William Ruckelshaus

has concluded, that the pollution control industry will provide more jobs than are lost in these premature shut-downs.

But the classic cases of environmental blackmail occur in small towns or medium-sized cities where there maybe only one or two major industrial plants. When pollution controls are imposed, or when tougher controls are considered, the word is spread that a shut down or layoff may result. In a small or medium-sized community, that kind of a threat -- whether it is warranted or not -- can have a potent effect. Especially in these days of high unemployment, and in light of the President's apparent intention to ^{give} ~~make~~ unemployment ~~and~~ the blessing of national policy, the threat of environmental blackmail can be devastating. Workers are ~~likely~~ ^{likely} to believe that they must choose between jobs and a clean environment; They are told they cannot have both.

But we know ^{and Congress has} ~~declared~~ ^{declared} that they have ^{both} a right to ^{a job} ~~employment~~ and a right to a healthy environment. This legislation ~~will~~ ^{will} prevent one right from endangering another. The bill ~~contains~~ contains the following provisions:

INSERT I

INSERT II

Mr. President, I ask unanimous consent that the text of the bill and a summary of its provisions be printed ~~in~~ ⁱⁿ the record at this point.

I am going to return to a subject which has been very much on my mind, and that is the Mine Safety Act. In that act are a number of provisions for the mandatory imposition of fines without any hearing at all, with no due process of law. It is left to the arbitrary judgment of an inspector to impose fines, unequally, as they would have to be, and perhaps arbitrarily among different operations—and I may say coercive, too—because in some cases, when the size of the fine has been objected to, the suggestion was made, "If you don't take this, a larger fine can be imposed upon you."

I will not be here next year, but I hope the Senator will follow the principle he has just spoken of in this amendment, that there should be a consultation; and if there is a situation of imminent danger, then the mine should be closed down.

I do contend that this is a situation in which there is no due process of law. Knowing the Senator as well as I do and knowing his judicial temperament, I appeal to him to think of this next year. It is an awful situation.

Mr. JAVITS: I will consider myself, with deep feeling, a trustee of the great principles for which this very distinguished and famous Kentuckian has stood.

There are many explanations about coal mine safety. They can get a jury trial, and so forth. I will insert those in the Record immediately after what we have discussed.

I assure the Senator that I hold these principles very dear, that I fought for them in my committee, that I will continue to fight for them, and that I will make every effort to use legislative oversight in that process.

May I also say to the Senator that he knows I am unbelievably busy. I am unofficial ombudsman for Kentucky, at the request of the Senator from Kentucky—the present Senator—at any time.

Mr. COOPER: I thank the Senator.

The PRESIDING OFFICER: The question is on agreeing to the amendment of the Senator from New York.

The amendment was agreed to.

Mr. RANDOLPH: Mr. President, the development and refinement of legislation under which economic development programs are carried out in the United States is a matter for which I have a great personal concern. As chairman of the Committee on Public Works, which has jurisdiction over legislation in this area, my concern is nationwide in scope. I believe that we must provide programs that will enable States and local communities throughout the country to build the kind of facilities on which sound economic and social growth can be based. This has been our overriding goal since 1965 when the committee first began working on legislation concerning economic development.

My personal involvement, however, goes far beyond that time. As a Senator from a State which has been held up as the example of what can happen to a region in which a single industry is predominant, I know the value of diversity. It has now been two decades since West Virginia began to feel the impact of substantial changes in the coal mining

industry. We were, quite frankly, unprepared for the great upheaval that resulted when the coal industry became highly mechanized. Employment in our major industry dropped rapidly, and today the number of men mining coal in West Virginia is only approximately one-third of what it was in 1950. This situation quickly focused national attention on West Virginia and I believe that our experience, painful as it was, helped to stimulate interest and legislation not only to help us recover, but to forestall the recurrence of similar situations in the future.

In 1965, the committee proposed and the Congress passed the Public Works and Economic Development Act. This program helped to provide supplementary Federal assistance in areas where it was most needed. Since that time we have learned much about economic development programs and we have modified our efforts accordingly. The bill now before the Senate represents a further refinement of the Public Works and Economic Development Act.

The bill has been explained in detail by the very able and dedicated chairman of our Subcommittee on Economic Development, Senator MONROE. Under his direction, the subcommittee, during the 92d Congress, has conducted a very thorough examination of contemporary issues in economic development. Earlier this year, Senator MONROE introduced and held hearings on legislation (S. 3381) to create a comprehensive nationwide economic development program. As he has said, such a program will again be the major concern of the subcommittee during the 93d Congress and work in this area will begin early in the new year. I was a cosponsor of S. 3381 and intend to be deeply involved in the continuation of this work next year.

The bill we consider today (H.R. 16071), is intended to provide for the continued functioning of existing programs until new legislation is completed and passed. At the same time, it makes several changes that the committee feels are necessary in the operation of the programs carried out by the Economic Development Administration.

One of these changes is of special concern to me because of its relevance to my State and its impact in States with similar unemployment problems. In recent years we have assisted many States in strengthening their programs of vocational and technical education. It is essential that in any area where unemployment is a severe and persistent problem that we provide facilities for training in job skills. As a result of our efforts in this and other legislation, the number of vocational and technical schools throughout the United States has expanded.

We have found, however, that just the building of new vocational schools is not enough. These schools must be staffed and operated if they are to fulfill their function of training young people and adults in skills that they can utilize to earn a living. In many cases these schools are in communities with high unemployment rates. Many of these communities, however, are also suffering from shortages of public revenues. Consequently, it

has been very difficult for many of them to provide the operating funds necessary for the new vocational schools to function effectively.

This bill, therefore, authorizes the Federal Government to provide grants for the operation of vocational training schools constructed under this program. A maximum of 75 percent of the operating costs of new vocational schools will be available for the first 2 years of their operation. This will permit local government to adjust itself gradually to the added expense of a new vocational school so that the shock to what already may be a shaky financial structure will not be severe.

Our efforts would be self-defeating were provided facilities that, while they may be needed, impose a financial burden that communities were unable to bear.

Mr. President, I am greatly encouraged by the recent creation of new regional commissions under the Public Works and Economic Development Act. The concept of regionalism, first enunciated in the Appalachian development program, has proven itself to be valid. The work of the five commissions created earlier under the Economic Development Act is well advanced. In recent months, new commissions, the old West and the Pacific Northwest, have been created further extend the scope of regional planning. The Committee on Public Works believes firmly in the regional approach to economic development and will utilize this approach in legislation of the national economic development program next year.

The bill now before the Senate extends for 1 year the operation of programs that have enabled many communities to greatly improve the lives of their citizens. It is a program whose impact is widespread and it is one that is effective at the grassroots level. There must be no pause in this important work, and I urge the Senate to give endorsement by passing this bill.

Mr. MUSKIE: Mr. President, blackmail is a hard word, a tough word. More than 400 years ago, it had a precise meaning: the tribute exacted by pirates from small property owners. Later, blackmail came to mean any payment extorted by intimidation.

As I say, it is a hard word, a tough word. Hard enough, tough enough, you would think, for any purpose. But during the past year, blackmail took on a companion. Together, they describe a new cause for concern: Americans now speak of environmental blackmail.

What does it mean? Let me give you an example: A pollution control order is issued to a polluter. If he is required to comply, the polluter replies, he will have to lay off some of his workers, close down a part, or all, of his plant.

The polluter's reply is environmental blackmail in its simplest form. His reply also is an illustration of how our way of living, our way of doing business, could slide head on with our growing concern for a cleaner environment.

As chairman of the Subcommittee on Air and Water Pollution, I am familiar with the process. Nearly 10 years ago, I

began our work with little more than an uneasy feeling that our way of living, our way of doing business was damaging the air, water, and land. We took some short steps to clean up the pollution that we could see increasing around us.

From those first steps, we learned something else: New products, new ways of producing goods, new habits in our way of living put new strains upon our environment, created new dangers to public health, caused new kinds of economic loss.

And so, in the mid-1960's, we agreed to take some longer steps. We set out to do a better job of protecting our natural resources. We set out to do a better job of protecting public health. We set out to do a better job of counting economic gain and environmental loss.

What we found shocked us. We had been too intent upon our way of living. Now, we learned the hard way that the supplies of clean air, clean water, unspoiled land in this country, on this planet, are strictly limited.

We had been too intent upon the prosperous smoke rising from the stacks. Now, we learned the hard way that the rights to clean air, clean water, unspoiled land in this country, on this planet, belong not to just a few, but to us all.

Most of us could recover from the shock. Most of us could recognize the need for a broader national policy, a broader national effort to clean up our environment. Most of us could see ways to get the job done without crippling either our way of living or our way of doing business. The President himself said it would be now or never in the 1970's.

But what none of us foresaw were the effects of 3 years of the President's stand-back-and-do-nothing economic policy. In 3 years, the jobs of 3 million workers were lost. In 3 years, 17 percent of the value of the dollar was lost. In 3 years, the number of unemployed workers rose to 5 million.

It was all too easy for some to find a scapegoat. Inflation they had come to know and admire. Recession they had lived through before. But a national policy for a cleaner environment? Now there was something to jump up and down about.

No one should have been surprised by what happened next. Reports of economic dislocation, plant shutdowns, and worker layoffs resulting from pollution control orders began to arrive in Washington. Environmental blackmail began to bite.

Last year, the Subcommittee on Air and Water Pollution held its first series of public hearings on these problems. In those hearings, we began to look for ways to protect workers, communities, and plants; to crack down on environmental blackmail.

Let me discuss some of our findings. During 1970, business failures in this country increased by 17 percent to a 3-year high of more than 10,500. The dollar liabilities of these firms increased to a record high of nearly \$1.9 billion.

Manufacturing failures during 1970 increased by 36 percent to the highest total in 5 years. To maximize the return in their investments, some companies

apparently chose to close down their older and more marginal plants.

Other companies apparently elected to produce only goods for which market demand was higher, profits greater. The plants producing goods for which market demand was lower and profits lesser were shut down or production was reduced.

In many cases there was a direct link between the age of the plant, the goods produced, the market demand for the product, and the decision to shut down. What is more important is this:

In case after case presented to the subcommittee, the companies had faced tough pollution control requirements. But in not one of those cases did a company use the control requirements to justify a shutdown or a layoff.

I think a recent case from a Midwestern State is particularly interesting. The record shows that the company involved had planned to build a settling pond as part of the waste treatment works at one of its plants located in the State. The plan had been submitted for State approval in early 1967.

Eighteen months later, the company applied for a permit to operate the settling pond and waste treatment works. The State agency urged the company to comply with the State's standards for water quality. The company declined, saying it would ask for a variance, an exception, from the standards.

In the spring of 1969, more than 2 years after the settling pond plan had been submitted, the company began to play with environmental blackmail. The plant, said the company to the State agency, was marginal; it could not stay in business if it was required to meet the standards.

The State agency was patient. It asked the company to produce by Christmas-time a program that would meet the standards. The company, however, was still reluctant. Just before Christmas, the company told the State agency that the plant probably would be closed within 5 years. Even so, the company agreed to submit in early 1970 a plan for compliance.

Well, the company's plan failed to arrive until the summer of 1970. The State agency promptly issued an interim permit to the company for operation of the existing waste treatment works. And within 2 months, the State agency found the effluent from the plant failed even to meet the terms of the interim permit.

I will spare you all the details of this 5-year saga. Negotiations between the company and the State agency apparently were broken off in 1971. The company then announced that a portion of the plant will be permanently shut down.

My point is this: The State's standards for water quality had no bearing on the company's decision to shut down. The company, in its announcement, did not so much as mention the State's standards. To the contrary, the company's board chairman explained carefully that—

First, Only a fifth of the plant's production actually resulted in finished products; the remaining four-fifths were shipped to others of the company's

plants for processing into finished products sold in other market areas.

Second, The company's studies indicated no way in which four-fifths of the plant's output could be produced at costs as low as those of the company's other plants located more closely to the market areas.

Third, Of the more than 2,500 employees affected, new jobs at other operations of the company in the area will be available to 1,300 workers. All employees affected will receive the benefits to which they are entitled under the company's personnel programs.

Obviously, this is a large company with many plants, many kinds of operations. But the classic cases of environmental blackmail occur in small towns or medium-sized cities where there may be only one or two major industrial plants. When pollution controls are imposed, or when tougher controls are considered, the word is spread that a shutdown or layoff may result.

Let us look at this threat for a moment. Every national index suggests that pollution control will have little impact upon the total economy. Studies commissioned by the Council of Economic Advisers indicate, for example, that the cost of pollution control will depress the gross national product by less than 1 percent a year between now and 1976.

Similarly, a White House study of 11 major industries, estimates that pollution controls may result in the loss of 50,000 to 125,000 jobs between now and the close of 1976. These figures amount to between 1 and 4 percent of the workers in the 11 industries, yet no more than five hundredths of 1 percent of this country's labor force in 1970. The study does not say how many jobs may be created by pollution controls.

But in a particular small town or medium-sized city, a major employer's threat to shut down or to lay off is potent. In these days of high Nixon unemployment—5 to 12 percent—the threat to one town or to one city is devastating. Workers believe they must choose between jobs and a clean environment; they do not believe they can have both.

This is environmental blackmail in its worst form. Of course, all Americans are troubled. After all, the economy is suffering from inflation and recession, from unemployment and underemployment. After all, the President is offering no real remedies; he says the workers of this country must choose.

I reject the President's approach. I say we can have a clean environment and a healthy economy. And I believe we must have both. Without both, we cannot survive in this country; we cannot survive on this planet.

To obtain both, we must have a broader policy, a broader effort. Only a strong economy can provide the necessary investment in environmental controls. Only a strong economy can at the same time produce the jobs and goods we require.

Thus, I support the amendment proposed by the Senator from New Jersey (Mr. WILLIAMS) to protect employees from victimization by environmental blackmail.

These amendments will:

Direct the Environmental Protection Agency on its own, or on the request of an affected employee, to investigate any real or alleged employment losses due to enforcement of Federal environmental laws;

Require disclosure of the facts and economic circumstances involved in the proposed closing of any facility due to environmental controls;

Direct the Secretary of Labor to certify as unemployed any persons who are thrown out of work as a result of environmental control regulations who have worked at the plant at least 26 weeks during the previous 78 work weeks.

Prohibit the firing or other discrimination against any person who requests an investigation of employers' actions relating to environmental blackmail;

Provide loans to employers to aid them in meeting environmental standards; and *expenses*

Authorize grants to local governments which suffer substantial losses of tax revenue as a result of closing any facility due to environmental regulations.

Adoption of this *bill* is vital to assure that decisions relating to plant closures because of environmental impact are made in a responsible manner and in full view of the workers, the local community or communities affected, and those responsible for enforcing environmental control regulations. Only with such open, above board, decision making and the authority of the Environmental Protection Agency to investigate the facts, can we be assured that the jobs and livelihoods of workers, their families, and their communities are not used as pawns in industry efforts to undercut pollution control regulations.

The PRESIDING OFFICER. The bill is open to further amendment. If there be no further amendment to be proposed, the question is on the engrossment of the amendments and third reading of the bill.

The amendments were ordered to be engrossed and the bill to be read a third time.

The bill was read the third time.

The PRESIDING OFFICER. The bill having been read the third time, the question is, Shall it pass?

The bill (H.R. 16071) was passed.

Mr. JAVITS. Mr. President, I move to reconsider the vote by which the bill was passed.

Mr. MONTROYA. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

S. 3598—THE RETIREMENT INCOME SECURITY FOR EMPLOYEES ACT OF 1972

Mr. JAVITS. Mr. President, in view of the tremendous interest that has been generated with respect to the Williams-Javits pension reform bill, S. 3598, the Retirement Income Security for Employees Act of 1972, which was unanimously approved by the Committee on Labor and Public Welfare on September 15, 1972, I ask unanimous consent that the full text

of the bill as reported by the Committee on Labor and Public Welfare, together with a list of all its present cosponsors, be printed in the RECORD.

Mr. MANSFIELD. Mr. President, will the Senator add my name as a cosponsor of the bill reported by the Committee on Labor and Public Welfare?

Mr. JAVITS. That is a great honor.

Mr. President, I ask unanimous consent that that be done.

The PRESIDING OFFICER. Without objection, it is so ordered.

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

COSPONSORS OF S. 3598

Senator Harrison A. Williams, Jr. of New Jersey.

Senator Jacob K. Javits of New York.

Senator Birch Bayh of Indiana.

Senator Alan Bible of Nevada.

Senator Quentin N. Burdick of North Dakota.

Senator Lawton Chiles of Florida.

Senator Frank Church of Idaho.

Senator Alan Cranston of California.

Senator Thomas F. Eagleton of Missouri.

Senator Mike Gravel of Alaska.

Senator Fred B. Harris of Oklahoma.

Senator Philip A. Hart of Michigan.

Senator Vance Hartke of Indiana.

Senator Harold E. Hughes of Iowa.

Senator Hubert H. Humphrey of Minnesota.

Senator Daniel K. Inouye of Hawaii.

Senator Henry M. Jackson of Washington.

Senator Edward M. Kennedy of Massachusetts.

Senator Warren G. Magnuson of Washington.

Senator Mike Mansfield of Montana.

Senator Gale W. McGee of Wyoming.

Senator George S. McGovern of South Dakota.

Senator Thomas J. McIntyre of New Hampshire.

Senator Walter F. Mondale of Minnesota.

Senator Joseph M. Montoya of New Mexico.

Senator Frank R. Moss of Utah.

Senator Edmund S. Muskie of Maine.

Senator Gaylord Nelson of Wisconsin.

Senator John O. Pastore of Rhode Island.

Senator Claiborne Pell of Rhode Island.

Senator Jennings Randolph of West Virginia.

Senator Abraham Ribicoff of Connecticut.

Senator John Sparkman of Alabama.

Senator Adlai E. Stevenson III of Illinois.

Senator John V. Tunney of California.

Senator J. Glenn Beall, Jr. of Maryland.

Senator J. Caleb Boggs of Delaware.

Senator Edward W. Brooke of Massachusetts.

Senator Clifford P. Case of New Jersey.

Senator John Sherman Cooper of Kentucky.

Senator Robert P. Griffin of Michigan.

Senator Charles McC. Mathias, Jr. of Maryland.

Senator Charles H. Percy of Illinois.

Senator Richard S. Schweiker of Pennsylvania.

Senator Robert T. Stafford of Vermont.

Senator Robert Taft, Jr. of Ohio.

S. 3598

A bill to strengthen and improve the protections and interests of participants and beneficiaries of employee pension and welfare benefit plans

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Retirement Income Security for Employees Act".

INDEX

Sec. 2. Findings and declaration of policy.
Sec. 3. Definitions.

TITLE I—ORGANIZATION

PART A—ORGANIZATIONAL STRUCTURE

Sec. 101. Powers and duties of the Secretary.

Sec. 102. Appropriations.

Sec. 103. Office of administration.

PART B—COVERAGE, EXEMPTIONS, AND REGISTRATION

Sec. 104. Coverage and exemptions.

Sec. 105. Registration of plans.

Sec. 106. Reports on registered plans.

Sec. 107. Amendments of registered plans.

Sec. 108. Certificate of rights.

TITLE II—VESTING AND FUNDING REQUIREMENTS

PART A—VESTING REQUIREMENTS

Sec. 201. Eligibility.

Sec. 202. Vesting schedule.

PART B—FUNDING

Sec. 210. Funding requirements.

Sec. 211. Discontinuance of plans.

PART C—VARIANCES

Sec. 216. Deferred applicability of vesting standards.

Sec. 217. Variances from funding requirements.

TITLE III—VOLUNTARY PORTABILITY PROGRAM FOR VESTED PENSIONS

Sec. 301. Program established.

Sec. 302. Acceptance of deposits.

Sec. 303. Special fund.

Sec. 304. Individual accounts.

Sec. 305. Payments from individual accounts.

Sec. 306. Technical assistance.

TITLE IV—PLAN TERMINATION INSURANCE

Sec. 401. Establishment and applicability of program.

Sec. 402. Conditions of insurance.

Sec. 403. Assessments and premiums.

Sec. 404. Payment of insurance.

Sec. 405. Recovery.

Sec. 406. Pension Benefit Insurance Fund.

TITLE V—DISCLOSURE AND FIDUCIARY STANDARDS

TITLE VI—ENFORCEMENT

TITLE VII—EFFECTIVE DATES

FINDINGS AND DECLARATION OF POLICY

Sec. 2. (a) The Congress finds that private pension and other employee benefit plans and programs in the United States are intrinsically woven into the working and retirement lives of American men and women; that such plans and programs have become firmly rooted into our economic and social structure; that their operational scope and economic impact is interstate and increasingly affecting more than thirty million worker participants throughout the United States; that the pension assets of approximately \$150,000,000,000 accelerating at more than \$10,000,000,000 annually, represent the largest fund of virtually unregulated assets in the United States; that the growth, size, scope, and numbers of employee benefit plans is continuing rapidly and substantially; that Federal authority over the establishment, administration, and operation of these plans is fragmented and ineffective to secure adequate protection of retirement and welfare benefits due to the workers covered and affected; that deficient and inadequate provisions contained in a number of such plans are directly responsible for hardships upon working men and women who are not realizing their expectations for pension benefits upon retirement; that there have been found to be serious consequences to such workers covered by these plans directly attributable to inadequate or nonexistent vesting provisions, lack of portability to permit the transfer of earned credits,



NATIONAL TUBERCULOSIS AND RESPIRATORY DISEASE ASSOCIATION

1740 BROADWAY • NEW YORK, N.Y. 10019

NATIONAL AIR CONSERVATION COMMISSION
DISTRICT OF COLUMBIA TB-RD ASSOCIATION
WASHINGTON, D.C.
MARCH 8-9, 1973

Agenda

March 8, 1973

9:00 a.m.

Coffee

9:30 a.m.

Environmental Protection Agency
Briefing

Robert L. Sanson,
Assistant Administrator
for Air and Water Programs

New Data on Health Effects of
Air Pollutants

Dr. Stanley M. Greenfield,
Assistant Administrator
for Research and Monitoring

Discussion

12:00 noon

Lunch

1:30 p.m.

Economic Problems Associated
with Environmental Pollution
Control - Legislative Issues

Hoff Stauffer, Environmental
Protection Agency

James Cannon, Stephen Moody,
Council on Economic
Priorities

Leon G. Billings, Senior
Staff Member, Subcommittee
on Air and Water Pollution,
U.S. Senate

Discussion

March 9, 1973

Priorities in Air Pollution
Control

Dr. Atkisson

Task Force and Subcommittee Reports

Emergency Respiratory Care
Lead
Air Pollution Indices
Program Guide
Legislation and Regulation

Dr. Rokaw
Dr. Kleinerman
Mr. Bergen, Mr. Winder
Mr. Prest, Dr. Rossano
Dr. Atkisson

Miscellaneous Items

Name Change and Single Goal
Highway Trust Fund
Environmental Degradation
Health Statement
Old and New Business

Dr. Anderson
Mr. Sheehan, Mr. Bergen
Mr. Winder
Mr. Bergen, Dr. Kent

Adjournment by 1:00 p.m.

*National Tuberculosis
and Respiratory Disease
Association*

1740 BROADWAY, NEW YORK, N.Y. 10019 212/245-8000

*re: request
March 8th
lunch meeting*

February 8, 1973

Mr. Leon Billings, Senior Staff Member
Subcommittee on Air and Water Pollution
Committee on Public Works
U.S. Senate
Washington, D.C. 20510

Dear Leon:

We would like you to meet with the National Air Conservation Commission on the afternoon of March 8th, to discuss with us the economic problems in air pollution control, specifically problems of economic dislocation, and possible legislative remedies to these problems. Representatives of EPA and the Council on Economic Priorities will also be meeting with us on March 8th to give us their views on the problem.

Our meeting will be held at the District of Columbia Tuberculosis and Respiratory Disease Association offices, 1714 Massachusetts Avenue, N.W. We would like you to join us for lunch at 12:00 noon if this fits into your schedule, if you can't make it for lunch we will expect you at about 2:00 p.m.

If there are any problems, give me a call or get in touch with Joe Bergen at NTRDA.

Best regards.

Sincerely,

Jack

John J. Sheehan, Chairman
National Air Conservation Commission

JJS/ep



February 19, 1973

Mr. John J. Sheehan, Chairman
National Air Conservation Commission
National Tuberculosis and Respiratory
Disease Association
1740 Broadway
New York, New York 10019

Dear Jack:

Thank you for your letter of February 8 inviting me to participate in the National Air Conservation Commission meeting on the economic problems of air pollution control.

Subject to the vagaries of being a Senate staff member, I will be happy to participate on March 8 and will try to attend your luncheon session.

Sincerely,

Leon G. Billings
Senior Staff Member

LABOR AND THE ECONOMIC IMPACT
OF
ENVIRONMENTAL CONTROL REQUIREMENTS*

by

Leonard Woodcock**

It is comforting, in a way, to be here on the San Andreas fault to discuss the insecurities of workers as they may affect environmental action. At least here in San Francisco it is difficult to forget that we are on the fault line; and when people know what may hit them, at least they have a choice between daydreaming and various forms of constructive action.

In Washington, on the other hand, it appears that in the next term, as in the term now ending, Mr. Nixon, who ironically has acquired some reputation as a realist, will continue to lean heavily on a strategy of daydreaming, as opposed to what he contemptuously calls "throwing money at problems," meaning such massive problems as saving our urban areas, creating new cities that will not repeat the faults of the old, providing decent housing, quality education and comprehensive health care for all our citizens, and shoring up the battered, plundered and rapidly deteriorating environment we all depend on for survival.

Clearly such massive and intractable problems do not vanish merely through the expenditure of public or private revenue to solve them; yet just as surely they do not disappear if ignored or treated with the placebos of sermons on the virtue of self-discipline and the work ethic, in the absence of adequate programs and the funds for their implementation.

Such daydreaming, particularly in the face of environmental dangers, cannot be recommended, for from the environmental standpoint we are all living along a fault line; or, as in the lines of Matthew Arnold:

* Address presented to the Conference on Jobs and the Environment--Whose Jobs? Whose Environment? -- Sponsored by the Institute of Industrial Relations, University of California, Berkeley, San Francisco, California, November 28, 1972.

** President, International Union, United Automobile, Aerospace and Agricultural Implement Workers of America, UAW

"Wandering between two worlds, one dead,
The other powerless to be born."

Yet we have had no convincing evidence that the Administration views our environmental predicament as constituting a crisis that must be met through a drastic re-ordering of national -- indeed global -- practices and priorities.

Given that lack of understanding, we can look forward to the mixture as before: a virtuoso verbal performance by the President in behalf of a better environment, while in the legislative crunch the White House staff will twist arms in behalf of the weaker bill, with the presidential veto and impounding of appropriated funds the predictable defense-in-depth against vigorous environmental action in the Congress.

The recent record with regard to clean water legislation is illustrative of the ambivalence toward environmental degradation. In his 1972 State of the Union message, the President said: "The forces which threaten our environment will not wait while we procrastinate." In January of 1970 he declared:

"The 1970's absolutely must be the years when America pays its debt to the past by reclaiming the purity of its air, its waters, and our living environment. It is literally now or never."

But when last month the Congress presented the Federal Water Pollution Control Act of 1972 to the President, he vetoed it on the grounds of cost, despite a 33-page letter to the Office of Management from William Ruckelshaus, the President's administrator of the Environmental Protection Agency, urging presidential approval. In his letter, Mr. Ruckelshaus reminded the President that almost all of the money represented a Federal commitment, endorsed by Mr. Nixon himself. In his 1970 State of the Union message, the President pledged to:

"put modern municipal waste treatment plants in every place in America where they are needed to make our waters clean again, and to do it now."

And in his 1971 environmental message Mr. Nixon said:

"We must also assure that adequate Federal funds are available to reimburse states that advanced the Federal share of project costs."

Mr. Ruckelshaus acknowledged the magnitude of the authorizations, but stated:

"It seems reasonable to me to spend less than 1 percent of the Federal budget and two-tenths of 1 percent of the gross national product over the next several years to assure future generations the very survival of the gross national product."

Congress was of the same mind as Mr. Ruckelshaus and overrode the veto.

The clean water act itself carries the scars of what environmentalists called "an atmosphere complicated by consistent Nixon Administration opposition." During almost two years of Congressional consideration of the legislation, and despite Mr. Nixon's brave commitments, the White House had loyally supported industry in its opposition to key provisions such as limits on effluents set for classes of industry and the goal of zero industrial discharge of pollutants by 1985. And it is true that under the pressure of that opposition the bill came out of conference and went to the President with weakened provisions for compliance, Federal enforcement and citizen participation.

Nevertheless, under the circumstances, the 1972 Water Pollution Control Act remains a considerable accomplishment, largely because it breaks with the past Congressional practice of authorizing large amounts to control water pollution, thus encouraging communities to go ahead with their projects, and then have Congress fail to appropriate the funds to pay the Federal government's share. In the 1972 measure, Congress established the amount to be appropriated. Thus the President may delay but not ultimately prevent the spending of the money, and local officials, with that assurance, can now get new treatment plants under way.

In another respect, the clean water act has significance for workers and their unions, apart from the general employment aspects. The legislation requires the administrator to conduct a continuing investigation of potential employment losses or plant closures resulting from effluent limitations. Citizen suits are authorized against the Federal government, its agencies and the EPA administrator; and there is a prohibition against the firing of or discrimination against employees who file proceedings or testify under provisions of the act, including procedures for review by the Secretary of Labor.

Those provisions can protect workers from the employer tactic that has become known as environmental blackmail: the effort to create fear of job loss among workers and their communities if anti-pollution standards are imposed, as a means of evading, diluting or delaying the new controls.

Another measure, the Public Works and Economic Development Act of 1972, vetoed by President Nixon, also contained provisions designed to smoke out the environmental blackmailers. The Environmental Protection Agency on its own, or on the request of an affected employee would have investigated any real or alleged job losses due to enforcement of Federal environmental laws. If any facility was allegedly about to close due to environmental controls, a full disclosure of the facts and economic circumstances would be required. Unemployment occurring from Federal requirements would be certified by the Secretary of Labor, and workers so certified would be eligible for unemployment compensation payments equal to 60 percent of the former weekly wage until they had new employment or had retired. Assistance would be given to workers for retraining, to protect them against mortgage foreclosure or lease termination, and to defray some expenses involved in moving to a new job if employment could not be found near home.

In the case of actual plant closings or curtailed operations as a result of environmental regulations, the legislation would have provided low-interest loans

to business upon an explicit showing that the funds to keep the plant or operation going were not available.

These forms of protection against environmental blackmail, included in the clean water bill passed over presidential veto and in the accelerated public works bill that succumbed to presidential veto, had their origins in an industry-government-labor confrontation about two years ago, when a multinational corporation, Union Carbide, attempted to dodge its social responsibilities to its workers and the community by intimidating workers, community and government alike.

The classic maneuver was dramatized nationally in January 1971 as a result of exchanges between EPA Administrator Ruckelshaus and the Union Carbide Corporation, whose Marietta, Ohio, facility for years had assaulted workers and communities of the Ohio valley with a constant rain of sulfur oxides and particulates. For years the corporation had resisted both Federal and local pleas to reduce the volume of pollution. When Mr. Ruckelshaus in January 1971 finally ordered Union Carbide to comply with clean-up deadlines first made known in the spring of 1970, the company, instead of complying, responded with the declaration that it could meet the requirements only by laying off hundreds of workers.

Ralph Nader urged Senator Muskie to hold Senate hearings on the implications of Union Carbide's defiance of Federal requirements and its war of nerves against over 600 of its employees, and to consider legislation to protect workers from shutdowns and threats of shutdown due to environmental regulations.

Hearings were held by Senator Muskie's Subcommittee on Air and Water Pollution in May and June of 1971. Union Carbide in the meantime had softened its position, indicating that the air pollution standards could be met at the Marietta, Ohio, plant without more disruption than a possible temporary suspension of part of the operation. But when the UAW testified in June 1971,

the national air was still contaminated with the social and economic fallout of the Nixon slump, including actual shutdowns and threats of shutdown in which environmental factors were prominent. A strip-mining bill, for example, had just been defeated in West Virginia with the help of the West Virginia Surface Mine Association, which claimed that 6,700 men would lose their jobs if the bill passed. One worker told Secretary of State John D. Rockefeller IV, a supporter of the bill, "You've never had to look for a job."

The UAW proposed that such economic intimidation be discouraged through legislation which would give workers, individually or as a class, the right to sue their employers in Federal and state courts for damage in situations where workers have lost wages, fringe benefits or seniority rights because of plant shutdowns or layoffs resulting from pollution of the environment by their employers. And where the employer is a corporation, officers and members of the board of directors would be liable as well as the corporate entity.

The protection we proposed for workers adversely affected by pollution-related plant shutdowns closely followed the Amtrak provisions for displaced railroad workers. Affected workers would be indemnified in full for lost wages, would receive payments needed to maintain fringe benefits, and be compensated for loss of seniority rights and all of the costs of retraining and relocation, including job prospecting and losses incurred in selling a house or cancellation of a lease. Compensation for lost wages and the maintenance of fringe benefits would continue for a period equal to the length of the worker's service with the employer. Public and private benefits paid to the affected worker because of his unemployment would be offset against the employer's liability. Compensation for lost wages and maintenance of fringe benefits would be determined not only by the worker's previous entitlement but also by the gains in wages and benefits he would have continued to receive if not for his separation, layoff or downgrading.

The courts would find in favor of workers in all cases of plant shutdowns, layoffs and downgrading resulting from compliance with a government order to

cease or suspend any operation or part of an operation because of environmental pollution.

If an employer shut down a plant or operation while in violation of government pollution requirements or under a government order to correct conditions causing pollution, there would be a rebuttable presumption that the shutdown was attributable to employer-caused pollution. The employer, however, could obtain dismissal of a suit brought by or for his workers if he could show that the shutdown was not related to environmental factors.

The Secretary of Labor would be empowered to bring suit when requested to do so by an affected individual or group of individuals, and would be required to sue when workers suffering as a result of employment loss stemming from compliance with pollution requirements requested his assistance. The Secretary's assistance would be available to all workers who appear to have a substantial cause for action; and when he became a party to any case he would be required immediately to borrow from the Treasury in order to make prompt payment to or, in the case of fringe benefits, in behalf of workers. The Treasury would be reimbursed out of employer payments after judgment is rendered.

This proposal for prompt restitution goes to the proposition that justice delayed is justice denied. The preventive purposes of the legislation would be frustrated if its provisions did not assure prompt judgment on the polluting employer. Some monies going to advance payments might not be recoverable when suits are lost. But the risk would be small, because it would be far less costly to employers to eliminate or abate pollution than to pay damages. Few suits, therefore, would be brought.

We also supported amendment of the Public Works and Economic Development Act which would provide assistance to any area suffering from severe economic loss as the result of the closing, curtailment or removal of Federal installations or private facilities which are major sources of employment.

The assistance would take the form of grants, loans and provision for the training and retraining of workers when funds for such purposes are not already available under other Federal programs. In making such areas economically viable, the whole community would be protected from the erosion of jobs, families and capital.

Such regional development programs, however, are at best remedial, not preventive. They attempt to pick up the pieces and to restore vitalities, in the wake of dislocations and migrations in an economy in which government fails to plan as effectively in the public interest as private corporations plan in their own selfish interest. And increasingly in recent years, government, when it does plan, plans in collusion with industry, frequently through backstair White House deals which turn on the special interests of business rather than on the general interest of the nation. Reporter Jack Anderson recently (Detroit Free Press, Nov. 15, 1972) published excerpts from a Justice Department memorandum detailing an "environmental blackmail" drama played out in the White House and involving the President himself. In 1971, according to Anderson, the Armco Steel Company was ordered by a Federal judge to stop dumping toxic wastes into the Houston ship canal. The president of the company, with the remarkably appropriate name of Verity, appealed to the White House, and, two days later, Peter M. Flanigan, who figured prominently in the ITT deal, was in touch with Assistant Attorney General Shiro Kashiwa, who, like one of the principals in the ITT case, was subsequently appointed to a seat on the Court of Claims. Kashiwa in turn directed a section chief, Martin Green, to work out settlement terms with the White House. When Green called the White House, he was told by two White House aides that Mr. Verity had told them that he would have to close down the plant in light of the judge's decision, and that, according to Green's memo, "...the President does not want plants closed down and more unemployment created. I said that we did not want to close the plant down either, and that we

had heard, in fact, that the plant would be able to operate without firing anybody. I... said that with Armco, as with our other defendants in Refuse Act cases, we had tried to negotiate a phased schedule of pollution abatement, " but, the memo goes on, Armco had chosen not to negotiate because it thought it would win the case in court. After further consultation between Armco President Verity and Peter Flanigan, it was decided that a 60-day stay, during which Armco would "attempt to secure" - no doubt through the classic threats spreading the pollution of joblessness throughout the community - would attempt to secure from the appropriate local agency a permit to construct an incineration system and make necessary discharges into the air. The upshot was that the Justice Department negotiated a more favorable settlement for Armco.

How much more efficient and wholesome, from a democratic and environmental view, if an open hearing procedure had been in place before which Mr. Verity would be required to disclose the veritable and verifiable facts as to his company's ability to conform to environmental law without throwing people out of work.

This country is on the eve of another brutal and selfish assault on the environment of land and ocean, in a search for more sources of energy, in the absence of any democratic national planning within whose framework we as a nation could openly determine our priority needs, how we shall meet those needs with due consideration of effects on the natural and human environment.

Instead that vital search is being planned in the recesses of the White House and the President's coordinator of energy policy planning is none other than the same Peter M. Flanigan.

The National Journal (10/21/72) reported that the energy package being prepared would put the emphasis on stepping up domestic production of oil and natural gas as soon as possible and that:

"To gain this higher output, Administration officials appear willing to accept higher consumer costs, additional environmental hazards and post-election political flak. "

Mr. Flanigan, it appears, is proceeding as an investment executive, not as an environmentalist. Asked if he regarded the energy areas as a good investment, he reportedly replied:

"Sure - you're doggone right. I would think that any area in which there is substantial demand would be a good investment. "

An inter-agency study has estimated that the nation could cut down on the growth of energy demand by a significant amount, and that with respect to oil alone conservation measures could go a long way toward averting an energy crisis.

However, Mr. Nixon's energy coordinator, according to National Journal, showed little interest in the energy study and stated, "We're not going to ask everybody to heat their homes at 68 degrees. "

One of the greatest obstacles to democratic planning that will make ecological sense is the large, socially indifferent and intransigent corporation. And if that obstacle is to be overcome, we must insist on what might be called the Amtrak principle: the widely accepted but rarely practiced principle that the burdens and sacrifices required by an action taken in the service of the interests of the whole society should be shared equitably by all who benefit from that action and not allowed to fall disproportionately on some, who are made victims of the action.

The corporate giants are rapacious in their demands on the government for tax advantages, which are termed "incentives" by the President - and they get them as a matter of course. Yet their pipeline to the U. S. Treasury has not sated them. A steel industry committee, for example, has recently asked

for preferential tax treatment for the cost of pollution-control facilities and a \$3 billion kitty for low-interest loans to finance such investment. The committee wanted the government to allow 100 percent, first-year deductions for what it called "non-productive pollution control facilities."

Yet industry generally has lobbied fiercely against an effective national occupational health and safety law, long after the ineffectiveness of employer-dominated state laws was common knowledge. And despite the death-dealing and health-blasting impact of the new technologies, the Nixon Administration, by administrative fiat in defiance of the plain intent of Congress in enacting the Occupational Safety and Health Act, is beating a retreat from Federal standards, back to the discredited weaker standards and lax enforcement of state programs; a boon for employers, who will save money on health and safety, but a rising toll of death, disease and crippling injury for the workers the new national law was supposed to serve.

It is a regrettable fact that a number of other industrialized countries are ahead of the United States in public measures to assure that the social responsibilities of corporations with respect to workers and communities will be taken into account when decisions are made in such matters as plant location, and the termination or transfer of operations. In Britain, Germany, France, Scandinavia and elsewhere, public policy establishes codes of corporate behavior to insure that social and economic resources are used to the best advantage of the nation as a whole. Legislation requires companies to submit plans for government approval, with government permission granted or withheld depending upon the impact of a managerial decision on the public welfare and the economic conditions of the community and the nation.

In the United States, the direct opposite happens to a considerable degree. Workers and their communities in this country are all too frequently in the position of assuring the well-being of the corporation, which receives subsidies

in the form of tax favors, lenient laws with respect to unemployment and workmen's compensation, the right to pollute air and water, and a work force prepared by bitter experience to be philosophical about work pace and job hazards, all because the company might pick up and light out for a more permissive business climate, leaving both workers and communities stranded.

The present Administration, as no Californian should need to be told, terribly botched the transition from a war to a peace economy through failure to assure an orderly, planned conversion to peacetime production and employment. As a result, the engineered slump assumed calamitous proportions in defense-oriented areas. But throughout the country, as a consequence of that recession, technological change, corporate power plays and competitive pressures, working people and their communities have been going through the wringer of plant shutdowns, discontinuation of production lines, and unilateral management decisions to transfer operations with little or no regard for worker, family or community.

Trade unions, of course, can act through collective bargaining to protect legitimate interests of organized workers in such circumstances. The UAW will continue to require that managements negotiate fair standards clauses protecting economic and working conditions of members, and to provide economic benefits to assist workers adversely affected by plant shutdowns or the transfer of operations.

Collective bargaining, however, has a limited reach, with respect both to the range of problems it can resolve and the number of workers it can directly assist. National legislation, therefore, is also required to provide pension reinsurance, severance pay, moving allowance, allowance for loss on homes due to transfer, full income and fringe benefit maintenance and other forms of economic protection for the worker and his family against the hazards of job loss caused by private managerial decisions that entail public consequences.

If we cannot create a consensus with respect to such fairly plain and modest matters, how can we generate the political leverage to effect the drastic

institutional change that is needed now and will become increasingly more urgent as the environmental crunch, only now beginning to develop, really bears down upon us?

One big hope lies, of course, in the capability of those members of the scientific-educational estate who are not indentured to the corporate status quo of 1972 to help generate a new ecological awareness.

A still greater hope, it would seem, lies in a new political awareness, essential if we are to make the transition from a frontier "cowboy" psychology and economy to a sense of the world compatible with indefinite human survival on spaceship earth. That new political awareness would direct the attention of environmentalists to the need to give the quality and equity of life in human communities at least equal billing with the need to protect the quality and integrity of the natural environment. For if the transition from a polluted to an ecologically viable environment is attempted at the cost of democracy and brotherhood, our grandchildren will never make it. It is difficult to believe that a society that loses its sense of human solidarity, or never gains it, can make the radical adjustments in time to enable human life to survive on the planet.

OPPORTUNITIES IN ENVIRONMENTAL CAREERS



By Odom Fanning.
Vocational Guidance Manuals,
235 E. 45th Street
New York N.Y. 10017.
271 pages. \$5.75.

The advent of interest in the environment and the "ecology movement" has witnessed a plethora of books on these and related subjects. Mr. Fanning's book takes this practice one step further in discussing occupational opportunities in these fields. Although the book is billed as analyzing all the major career opportunities, the author should have specified to whom the book is directed (high school students, college students, persons already on the job, etc.).

The first three chapters are essentially the author's personal ideas on environmental thinking or short blurbs on present programs which are either repeated in other chapters or non-essential to the book's purpose.

The majority of the book is divided into five sections, each of which deals with a major area of environmental job management. In these sections Mr. Fanning has, through the use of numbers, definitions, and projections, attempted to present the current and future state of environmental job opportunities. Although he lists the various employment opportunities possible, his predictions on job availability and job salaries tend to overemphasize the positive aspects of the situation. Given present and predicted monetary and economic conditions, especially in academia and industry (1970-71 has been one of the worst years for graduating seniors and doctorates to find worthwhile jobs, many taking either second choice positions or jobs in either peripheral or unrelated fields), his projections must appear pretty rosy to people working in these areas.

The "For More Information" sections at the end of each chapter and the appendices do list several agencies, organizations, and institutions from which information may be ob-

tained on environmental careers. Although these lists could be obtained for less than this book's purchase price (\$5.75), the book provides ready access of them to a general audience.

Mr. Fanning's book, while having the shortcomings mentioned, has collected some important information and may provide a basic service to readers.

—Michael V. Mellinger

DEFENDING THE ENVIRONMENT



By Joseph L. Sax
Alfred A. Knopf, Inc.
201 East 50 Street
New York, N.Y. 10022.
252 pages. \$6.95

Joseph Sax, professor of law at the University of Michigan, has written an incisive yet warmly human, highly readable and sometimes witty book. Subtitled "A Strategy for Citizen Action," *Defending the Environment* pinpoints the "why" of the new environmental role of the courts—nameless, faceless bureaucrats who refer to all of us out here as "the natives," yet who themselves are caught up in a vicious circle of exclusionary government traditions created in the philosophy that an interested, informed citizen is a dangerous citizen.

Sax does not opt for substituting judicial action for legislative policy making. Rather he sees the courts as a ready-made base for citizen litigation designed to promote and protect the very authority of legislatures to make public policy and become more responsive to the interests of constituents. Citizens turn to the courts in desperation because that very despair is all too often legislator-created.

(An excerpt of Sax' book appears in this issue of *ECOLOGY TODAY*, explaining the role of the court in environmental disputes.)

Sax sees the courts as particularly desirable institutions for the resolution of environmental conflicts not because of some built-in environmental aware-

ness, but basically for the fact that the courts are especially suitable for assuring access to the decision-making process to ordinary citizens who have no status beyond that as victims of environmental disruption.

The author says his book is about the game of government and how it is played to the detriment of the ordinary citizen. It is more than that. *Defending the Environment* is a deft, clear handbook showing all of us that genuine democratic procedure, properly followed, can call the shots on the majority of the cases of environmental rape.

—J.A.H.

THE PEOPLE PROBLEM



By Dean Fraser.
Indiana University Press,
Bloomington, Indiana.
248 pages, \$6.95.

This new book, in spite of its title, is really an ecological work—and a good one. Its subtitle "What You Should Know About Growing Population and Vanishing Resources" is more indicative of the contents. Dean Fraser, the author, in the Second Section (which is more than 60 per cent of the contents), devotes the six chapters to the key elements necessary for human growth/survival.

There are obviously years of study and tons of relevant clippings represented in this volume. While all the chapters are solid, I think the chapter on "Water" was the most comprehensive overview of our present position and meaningful forecast that I have ever read. For example, how Dean Fraser develops the per capita consumption rate of 5,100 gallons is very enlightening (and frightening).

The concluding Section (III) on Population Control discusses cultural patterns, religious practices and economic factors as pivotal areas where drastic attitude changes must occur almost immediately if population controls by legislation or disaster are to be

Budget Message. The President said that the "national health strategy for the seventies . . . will seek to expand preventive care, to train more doctors and other health personnel, and to achieve greater equity and efficiency in the delivery of health services. It will include a new health insurance program for all low-income families with children."¹⁰

The details of this strategy are to be specified in a special message. The Budget Message itself makes clear, however, that the new proposals will affect not only the financing and delivery of medical care but also the training of health manpower.

ENVIRONMENTAL PROTECTION

When President Nixon signed the National Environmental Policy Act establishing the Council on Environmental Quality as his first official act of 1970, he signaled a shift in national priorities whose consequences for the economy and for manpower requirements and training can now be only dimly foreseen. Efforts to deal with the increasing danger to the Nation's health from pollution of air, water, and soil are not new, and attempts have been made to identify the goals and functions of environmental protection. But, in transmitting the council's first report to the Congress, the President pointed out that the council has only now "begun the vital task of identifying indicators of environmental quality and determining the requirements for monitoring systems . . . to enable us to assess environmental trends," thus laying the groundwork for determining environmental needs and establishing priorities.

The causes of pollution are diverse and its consequences pervasive. To name a few:

—Less than one-third of the Nation's population is served by sewerage systems as well as adequate waste water treatment plants. Preliminary findings from a survey of over 1,000 water systems supplying drinking water reveal chemical impurities which indicate that prompt review and updating of drinking water standards are essential to public health.

—Over 200 million tons of pollutants are pumped into the air each year. The annual cost of additional laundry bills and damages to crops and livestock, to steel structures and

other property, to health resulting in loss of worktime, and to other parts of the environment is believed to total billions of dollars. There were 18,000 more deaths from emphysema and chronic bronchitis in 1966 than in 1956, reflecting, in part at least, the effects of increased air pollution.

—Solid waste disposal facilities are inadequate and antiquated. It is estimated that 24 percent of existing land disposal operations and 75 percent of incinerator facilities are substandard. And 12 percent of the population receives no trash collection service at all. Agricultural and mineral wastes, which account for over 90 percent of the total, contribute to the contamination of soil and water resources. However, wastes from homes, businesses, and institutions are the most offensive and dangerous to health; millions of abandoned automobiles and billions of discarded bottles, as well as other litter, defile the landscape.

—Urban congestion and suburban sprawl have often preempted space from parks and public recreation facilities for the urban population, which now comprises 3 out of 4 citizens. Increasing population, increasing mobility, increasing incomes, and increasing leisure are combining to make recreational facilities a more vital public resource.

To take the lead in assessing and dealing with these and other environmental problems, the President has established two new Federal agencies. One is the independent Environmental Protection Agency, which has taken over the Federal Water Quality Administration, the National Air Pollution Control Administration, the Bureau of Solid Waste Management, and the Bureau of Water Hygiene, as well as certain functions of other agencies—such as pesticide research and control, enforcement of radiation standards, and studies of ecological systems. The second is the National Oceanic and Atmospheric Administration in the Department of Commerce, which consolidates marine and atmospheric resource management functions previously scattered in a number of agencies. The leadership of these new agencies in planning, research, development, and enforcement of increasingly high standards of pollution control will greatly influence national decisions as to

¹⁰ The 1972 Budget Message of the President, p. 21.

the funds and manpower required for environmental protection.

Existing Federal Programs

Current Federal activities are concerned with a wide range of environmental problems, notably air and water pollution control, solid waste management, and improved utilization of land resources, including parks and recreation facilities.

Comprehensive Federal *water pollution control* legislation dates from a temporary act passed in 1948 and made permanent in 1956. Subsequent amendments, culminating in the Water Quality Improvement Act of 1970, require the Federal Water Quality Administration to establish water quality standards and to implement plans for cleanup of all interstate and coastal waters, to exercise tighter controls over oil pollution and pollution from Federal activities, and to administer construction grants for waste water treatment plants. Federal funding for such construction rose from \$214 million in fiscal year 1969 to \$800 million in 1970.

Currently, Federal *air pollution control* activities, under the Clean Air Act of 1963, amended in 1965 and replaced by the Air Quality Act of 1967, involve primarily setting standards for the regulation of air pollution from new motor vehicles and a regional approach to establishing and enforcing Federal-State air quality standards. The Clean Air Amendments of 1970, enacted at the end of the year, establish extremely stringent new requirements for reduction or elimination of air pollution from fuels, motor vehicles, aircraft, buildings, and other stationary sources; the amendments provide for the establishment of noise pollution regulations as well. The amendments require that emission of certain pollutants from motor vehicles be reduced 90 percent from 1970 and 1971 averages by 1975 and 1976, depending on the type of pollutant. Under specified conditions, violators may obtain permission to delay compliance for 1 more year while obeying interim standards.

Federal support for *solid waste disposal* programs, under the Solid Waste Disposal Act of 1965, was limited to training, demonstrations of new technology, technical assistance, grants for State and interstate solid waste planning pro-

grams, and research, particularly studies to conserve natural resources by reducing waste and unsalvageable materials and by solid waste recovery. With the signing of the Resource Recovery Act in October 1970, Federal support became more tangible. The new act provides full or partial grants for construction of innovative solid waste disposal facilities; for demonstration projects; and for training personnel in occupations needed to manage, design, operate, and maintain facilities (including training instructors and on-the-job trainers).

The President has requested an increase in budget authority for pollution control and abatement from \$1.4 billion in 1970 to \$3.1 billion in 1972. Total Federal outlays for such purposes are expected to increase from \$751 million in fiscal 1970 to over \$2 billion in fiscal 1972. The largest share of the increase will be for grants to State and local governments for construction of municipal waste treatment facilities.

Federal emphasis on *parks and recreation areas* for urban communities is also relatively recent, but programs for the acquisition and development of national parks and for agricultural soil conservation date much further back. Under the Housing Act of 1901, matching grants totaling \$250 million have been awarded for acquiring 350,000 acres of urban land for recreation, conservation, and historic preservation. Revenues from the Federal Land and Water Conservation Fund have also been a source of matching grants to States for the acquisition and development of outdoor recreation areas, as well as for land acquisition by the concerned Federal agencies (the National Park Service, the Forest Service, and the Bureau of Sport Fisheries and Wildlife). The President has recommended that funding for these purposes be increased from \$124 million in fiscal 1970 to \$380 million in fiscal 1972. He has also recommended that funds for the urban open space program be more than doubled in fiscal 1972—to \$200 million—to provide more recreational areas in and near the cities.

Because of their grant provisions, several of the 1970 laws concerning environmental protection will undoubtedly have a significant effect on State and local, as well as Federal, purchases for this purpose. Such changes would necessitate modification of the projections of both expenditures and manpower requirements discussed earlier in this chapter.

Manpower Requirements

A comprehensive analysis of manpower requirements for environmental protection must await further progress by the Council on Environmental Quality in assessing environmental needs and establishing priorities. Some insights into the current and anticipated manpower needs of government agencies for the basic environmental protection functions—air and water pollution control, solid waste disposal, and natural resource management—can be obtained, however, from the available data.

Over 850,000 persons were employed by Federal, State, and local government agencies in 1969 to provide environmental protection services. This represented an increase of only 41 percent over 1957 (compared with an increase of 58 percent in total public employment during this 12-year period). (See table 9.) About three-fifths of these workers were employed in local government agencies in 1969. The largest number, well over half a million, provided services related to natural resources (including park and recreation services). Hardly more than 300,000 workers, nearly all of them in local agencies, were engaged in providing

TABLE 9. PUBLIC EMPLOYMENT IN PRIMARY ENVIRONMENTAL PROTECTION FUNCTIONS,¹ APRIL 1957 AND OCTOBER 1969

(Numbers in thousands)

Level and function	April 1957	October 1969	Percent change
Total public employment.....	8, 046	12, 691	57. 7
Federal.....	2, 439	2, 975	22. 0
State.....	1, 358	2, 614	92. 5
Local.....	4, 249	7, 102	67. 1
Environmental protection functions.....	606	853	40. 8
Natural resources:			
Federal.....	166	216	30. 1
State.....	94	143	52. 1
Local ²	115	190	65. 2
Other functions, local: ³			
Water supply and sewerage.....	147	177	20. 4
Solid waste disposal ⁴	84	127	51. 2

¹ Excludes air pollution control.

² Includes parks and recreation.

³ Comparable Federal and State data not available.

⁴ Includes all sanitation other than sewerage.

Sources: Department of Commerce, Bureau of the Census.

clean water or in handling sewerage, waste water treatment, and solid waste collection and disposal.

Air Pollution Control. Although State regulation of air pollution has spread to all States and the number of local agencies set up to deal with the problem has increased from 85 in 1962 to over 200, most of the agencies seem to be understaffed. According to the council's first report to the Congress,²⁰ half of the State agencies had budgeted fewer than 10 positions and half of the local agencies fewer than seven. One out of every 5 positions was vacant in 1969. By 1974, employment in State and local agencies should jump by nearly 250 percent, from about 2,300 to about 8,000, and employment in Federal agencies from about 1,000 to about 2,900. The new Clean Air Amendments could drastically increase these estimates.

Water Supply and Sewerage Services. Employment in the delivery of clean water and in treating waste water (sewerage) increased about 20 percent between 1957 and 1969—about one-third the rate of increase in local government employment as a whole. The slow growth is due partly to larger and more modern plants, which have increased productivity, but also to difficulties in recruiting and retaining personnel for both skilled and unskilled jobs and to inadequate investment, as the data on water pollution demonstrate. Federal grants for the construction of waste water treatment plants are, however, changing the picture.

The Federal Water Quality Administration (FWQA) recently estimated that more than 100,000 government employees work in agencies concerned with water pollution control. (See table 10.) About three-fifths are in unskilled or low-skilled blue-collar jobs and about one-fourth are plant operators, most of whom have technical skills; fewer than one-tenth are professional workers and the small remainder are technicians.

Recent significant increases in investment in waste treatment works (from less than \$500 million in 1965 to \$880 million in 1969 and an estimated \$2 billion in 1970 for municipal works) have sharply raised requirements for skilled operators and technicians, as well as workers at other levels. Since poorly trained operators can severely

²⁰ *Environmental Quality, the First Annual Report of the Council on Environmental Quality, Transmitted to the Congress August 1970, pp. 83 and 85.*

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reduce the working life of the expensive new equipment, the FWQA has stressed programs to increase the supply of adequately trained personnel. According to FWQA estimates, some 37,000 workers now employed in waste treatment plants need retraining and upgrading. In addition, 28,000 plant operators and technicians will have to be hired and trained by 1975 to fill new positions and replace workers lost by turnover. Furthermore, about 13,000 workers must be hired each year merely to fill vacancies in low-skilled or unskilled blue-collar jobs and more will be needed for expansion.

Current Department of Labor programs for training operators for waste water treatment plants have provided training opportunities for nearly 10,000 workers entering the occupation or being upgraded into it within the past 3 years. In these programs, the Department has demonstrated that capable workers who lack high school diplomas can be trained for jobs which many people consider to be at technical levels and that application of the career ladder concept can be highly effective in improving public service in this area.

Solid Waste Disposal. Despite a 51-percent increase in employment in solid waste disposal between 1957 and 1969, the problem of refuse collection and waste disposal is far from solved. Collection methods, for the most part, do not differ substantially from those in the horse and wagon era. About 80 percent of the funds for solid waste management are used for collecting and hauling waste to processing plants or dumps—employing mainly unskilled workers, with relatively low rates of pay and high turnover rates. The one significant advance has been the development of the compactor truck, which offers opportunities for semiskilled workers. Some semiskilled workers are also needed to operate incinerators, but the number is quite small. If employment increases at merely the same rate as the population, or even as overall government employment, it is unlikely to keep up with the growing amount of waste, much less reduce it. Genuine breakthroughs in technology will be required to cope with the mounting litter, ranging from beer cans and disposable bottles to abandoned automobiles. It is estimated that discarded cans and bottles now number 90 billion a year, and abandoned cars, 2.5 to 4 million.

The new Resource Recovery Act will spur new

TABLE 10. PUBLIC EMPLOYMENT IN WATER POLLUTION CONTROL ACTIVITIES, BY OCCUPATION GROUP, 1970

(Thousands)

Occupation group	Total	Federal	State	Local
Total.....	102.3	4.0	2.8	95.5
Professionals.....	9.4	1.6	1.8	6.0
Technicians.....	5.9	.4	1.0	4.5
Plant operators.....	28.0	1.0	-----	25.0
Other blue-collar workers.....	61.0	1.0	-----	60.0

SOURCE: Environmental Protection Agency, Federal Water Quality Administration.

efforts to determine if and how solid wastes can be recycled to reduce the cost of disposal and also the rate at which natural resources are exhausted. The Bureau of Solid Waste Management is supporting research and demonstration projects to develop and encourage the use of new methods, techniques, and equipment for solid waste management in rural areas and small communities as well as larger cities. New York City has begun a \$600 million capital program, under which four giant incinerators will be constructed to solve—or at least greatly alleviate for many years—the problems arising from landfill and marine disposal operations. If successful, this project will point the way to better municipal waste disposal; doubtless it will also increase requirements for skilled operators and managers. The Department of Health, Education, and Welfare estimates that there is an immediate need to train 3,000 professional and technical workers for the solid waste disposal field.²¹

Natural Resource Management. As already mentioned, natural resource management, including park and recreation services, employs by far the largest group of persons engaged in environmental protection and related functions. It is also one of the fast growing areas of public employment, especially in local agencies, where employment in this function increased by 65 percent—about the same rate of increase as the average for

²¹ Departments of Labor, and Health, Education, and Welfare Appropriations for Fiscal Year 1971, Hearings before the Subcommittee of the Committee on Appropriations, U.S. Senate, on H.R. 18515 (Washington: Slat Chng. 24 sess. Aug. 4, 1970), p. 2003.

local government employment as a whole—during the 1957–69 period.

The Federal Government, however, is the major employer in natural resource management. A large proportion of the Federal employees in this field are professional workers, and a good many are technicians. They include foresters, range managers, agricultural extension agents, soil conservation specialists, and persons employed in plant quarantine and pest control, fish and wildlife management, and irrigation and flood control, as well as some concerned with farm price stabilization, farm insurance, and farm credit. Unfortunately, separate employment estimates are not available for personnel concerned with environmental protection per se (that is, conservation and preservation). In State and local agencies, the proportion of professional and technical workers is believed to be relatively low, since the major functions involve supplying park and recreation services.

As indicated in the 1980 projections, the rising demand for park and recreation services is expected to result in continued rapid expansion of State and local expenditures and employment. The increase may be quickened by the President's recent recommendation for enlarged expenditures for this area, through grants to States.

Informational Needs

Altogether, the data on public employment in environmental protection, fragmentary and unsatisfactory as they are, indicate that manpower needs far exceed the projected demand suggested by past patterns of growth. To arrive at useful estimates of manpower requirements for environmental protection activities, many stubborn problems must be solved. It is at once difficult and essential to distinguish activities which are crucial to protecting and improving the environment from those whose impact on the environment is a by-product of other primary functions. It is also essential to distinguish between desired levels of service and the probable effective demand—a difficult task in light of the complex processes by which public revenues and budgets are determined.

How private industry's manpower requirements will be affected by expenditures for environmental control cannot be assessed at this stage. It is clear, however, that the magnitude of the expenditures

for construction of public facilities implies a substantial manpower impact. The Council on Environmental Quality reported current expenditures of over \$1.8 billion a year for water control projects and an additional \$0.5 billion for sewer and water lines. This does not include the \$800 million a year in grants to State and local agencies as the Federal share of the current \$2 billion construction program for waste water treatment plants. Adding these sums together brought the total to well over \$4 billion in 1970, with higher expenditures in prospect if Congress accedes to the President's recommendations.

Such expenditures will undoubtedly generate much additional construction employment, since a relatively large share of construction expenditures goes for labor costs. Many of the water resource construction projects are in rural areas and may prove to be an important source of jobs for rural residents, particularly in blue-collar work where the training and experience of many workers would be most relevant.

The private costs of complying with public regulations for the control of pollution are another problem about which there is almost no hard information. The vast majority of the workers engaged in water pollution control activities in private industry are doing such work on a part-time basis, along with other functions, according to FWQA estimates. As Federal, State, and local regulations are tightened, this situation is likely to change, but how great an increase in private employment will be required for control of water pollution is still uncertain. An attempt to assay the effects on private employment of recent legislation on air pollution would be still more premature at this point.

Private industry and colleges and universities will undoubtedly share in the employment generated by new legislative provisions for research, development, and demonstration projects in the field of pollution control. In addition, the new Environmental Quality Education Act will spur new college programs to meet increased demand for trained manpower. Already, according to a recent survey, at least 50 community colleges are offering vocational programs in environmental control.²²

²² "An Occupational Needs Study and Related Research in the Technical Fields of Environmental Management," proposal transmitted to the Department of Health, Education, and Welfare by Garth L. Mangum, chairman of the board, EcoEd Systems, Inc., Sept. 1, 1970.

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In exploring the needs for environmental protection as a possible source of jobs for unemployed and underemployed workers with different levels of skill, the Department of Labor has been severely hampered by the lack of data on occupational requirements. The current stress on retraining programs for unemployed engineers and scientists laid off by aerospace and defense-related industries underlines the need for realistic information of

this kind. The Department now has underway a study of some 3,000 waste water treatment plants—including all the large plants presently operated by local governments—to determine current and prospective demand in each of the major occupations in this field of work. Similar studies of employment requirements in other sectors of environmental protection are urgently needed as well.

Government Employment and the Disadvantaged

One of the chief goals of national manpower policy is to enable disadvantaged workers to achieve full self-support and move out of poverty. In this context, the rapidly growing employment needs of State and local governments pose two major questions: Can significant numbers of disadvantaged workers be given the training and other help they need to function effectively in the jobs which open up? And can the unnecessarily rigid personnel requirements and other artificial barriers which now hamper their entrance into government employment be reduced? If these questions can be answered in the affirmative, the result should be not only to meet the individuals' needs for stable, decently paid employment but also, in so doing, to relieve an urgent social problem and to help supply needed public services.²³

Realizing these objectives, however, will not be an easy task. Where disadvantaged workers, many of them members of minority groups, have entered State and local government jobs, they are concentrated on the lower rungs of the occupational ladder, often in jobs which offer little opportunity for advancement. This situation is attributed in part to racial discrimination.²⁴ But it also results from civil service procedures which often depart from the principles of merit employment, prescribe writ-

ten examinations for all classes of jobs, or require educational credentials that are unrelated to the tasks to be performed.

As indicated in the *1970 Manpower Report*,²⁵ State and local governments, showing a growing awareness of and concern for the problems confronting the disadvantaged, have undertaken many innovative projects to study and reform civil service procedures. Projects of this kind have proliferated during the past year and the results are encouraging. Such developments have occurred in more or less random fashion, however, with little communication among the experimenters. Moreover, programs which seek to hire the disadvantaged and restructure jobs for them without considering the other effects of these changes—whether on merit system policies or on current employees (most of whom are white)—are likely to create politically and economically expensive problems of labor and community relations. What is needed, then, is a broad approach to progress and improvement in the civil service practices of State and local governments.

To this end, several Federal programs have been undertaken in recent years. These efforts to assist State and local governments in launching programs for the employment of disadvantaged workers encompass research, technical assistance, the establishment of employment standards for Federal grants-in-aid programs, and modest financial support for training and work-experience programs in State and local governments. Future efforts will benefit materially from the knowledge gained from these programs. Moreover, the new

²³ For a discussion of the special advantages of public service employment for the disadvantaged, see Bennett Harrison, "Education, Training, and the Urban Ghetto," a dissertation in economics submitted to the faculty of the Graduate School of Arts and Sciences of the University of Pennsylvania, under grant from the Department of Labor, Manpower Administration, 1970, ch. 6.

²⁴ See *1970 Manpower Report*, pp. 112-115. The survey cited there, by the U.S. Commission on Civil Rights, was also summarized in "Minority Employment in State and Local Governments," *Monthly Labor Review*, November 1969, pp. 67-70. The full report is: *For All the People . . . By All the People* (Washington: U.S. Commission on Civil Rights, 1969).

²⁵ See pp. 114-115.

'Environmental management is tomorrow's growth industry. It should be practically depression-proof, and it certainly should be immune to foreign competition.'

JOBS for the WELL-BEING of PEOPLE

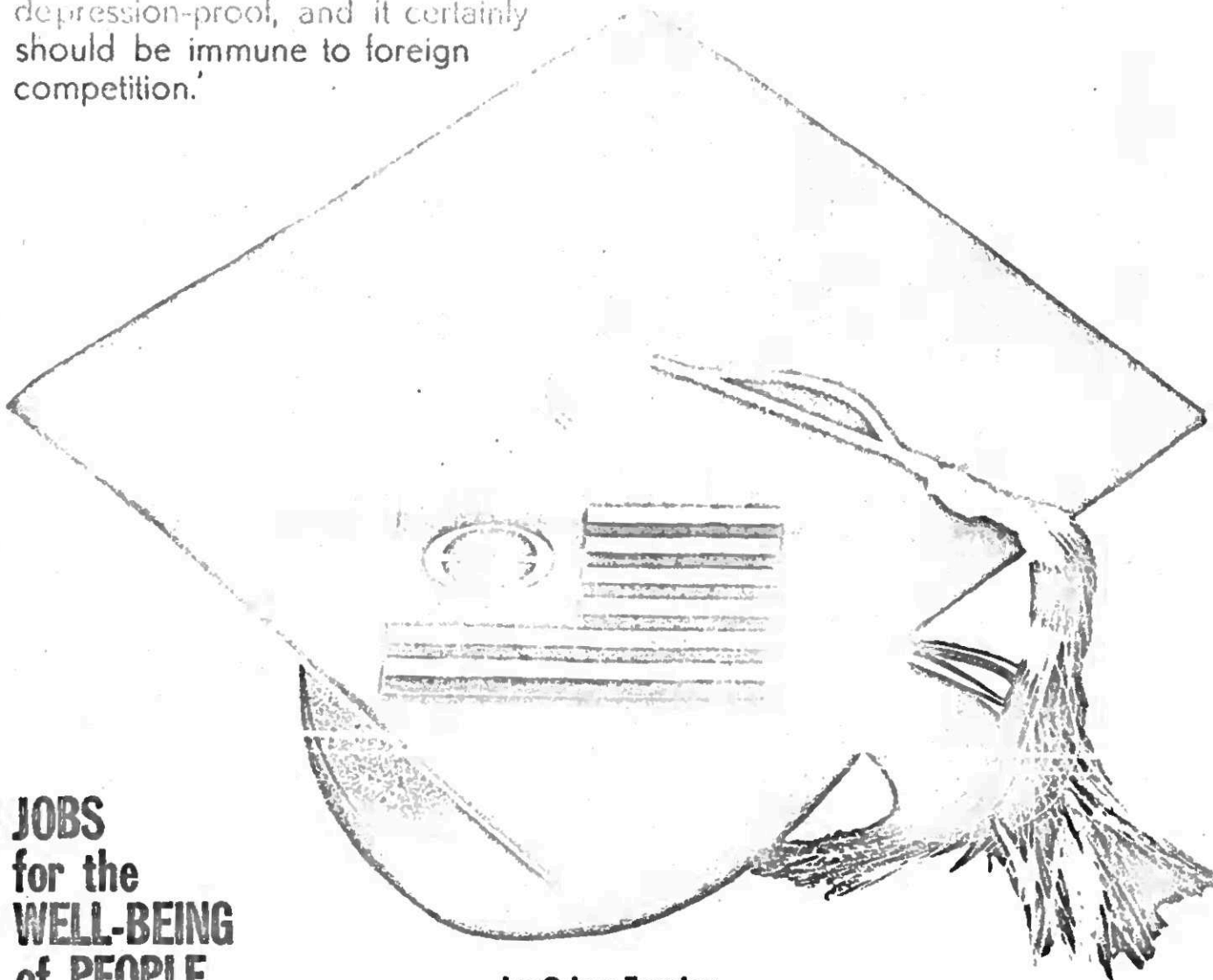
A clean environment can be achieved only by people working at it—with the verb *work* used in two senses.

Work means *effort*. Almost everybody now recognizes that all of us will have to exert extraordinary effort to clean up air and water pollution, remove the hazards of noise, pesticides, mercury and radiation, and pick up the litter and clutter that we have all created. Individually and through our organizations, official and voluntary, we can and must reduce pollution, renew our resources, rebuild our cities, preserve our open space, plan and use our land wisely, learn to cooperate with nature, and respect and revere that which nature provides but man pollutes.

Work also means *vocations*. Paid work is complementary to voluntary work. We need both. Both appeal to the idealism and sense of fulfillment so necessary to the whole man. *Time* recently quoted a distinguished scientist as seeing everywhere "a new face of professionalism . . . at a time of overwhelming technical sophistication, expertise and hyper-specialization, professionals are discovering a common purpose—the well-being of people."

Odom Fanning is a Washington-based science writer. His most recent book is Opportunities in Environmental Careers, reviewed in this issue.

The idealist must realize, however, that voluntary effort, individual and collective, has its limits in coping with massive problems such as those of the environment. Institutions, public and private, also are essential to solve environmental problems. Such institutions employ science and engineering, technology, public law, planning and public administration, education, and massive expenditures of funds, public and private, to implement programs in environmental management. Given the public support and the tools, such institutions can accomplish great results in cleaning up the environment—provided they have one additional component: people who are motivated, trained and educated



by Odom Fanning

Sept 71

to fill the wealth of challenging jobs to be found in environmental management tomorrow, and in some cases today.

Environmental management is so broad that the student aspiring to an environmental career may become confused. The field ranges from the basic science of ecology to the applied technology of industrial hygiene, from the level of the skilled sewage plant operator to the scientist with postdoctoral training.

Education for environmental management also ranges widely over such fields as science, engineering, law, medicine, social science, economics and public administration. Two-year curricula in pollution abatement technology, water and wastewater operations, forestry and other environmental fields are offered in scores of junior or community colleges. Four-year and postgraduate curricula are offered in several hundred universities. A student can take a basic science or engineering program, say, to prepare for an environmental career. Specialization can come with the master's degree. Many relevant programs are new, and others have changed significantly in the past year or so. Sanitary engineering is now usually called environmental engineering, and the content is forever being broadened. More than 100 interdisciplinary environmental science centers were identified in a recent congressional survey.

I have arbitrarily divided environmental management into five major fields: ecology, earth science, conservation and recreation, environmental design, and environmental protection. First I shall define each and describe the present job situation. Then I shall project job demand to the end of this decade. I shall conclude with a couple of sticky questions about jobs for experienced men and women.

Ecology is the study of nature and the relationships of organisms, or of whole local ecosystems, to their environments. Its practitioners might be trained as biologists, botanists or other natural scientists. An ecologist usually is engaged in a combination

of functions: research, management, teaching and administration. He more than likely is employed on the faculty of a college or university. Ecology still is a relatively small field, with 4,300 members of the Ecological Society of America constituting the professional core.

Earth sciences are concerned with the history, composition and characteristics of earth's land, water, interior, atmosphere and its environment in space. Its practitioners are geologists, geophysicists, geographers, meteorologists, oceanographers and the like. They are engaged in a wide variety of functions, from basic research to prospecting for oil and other minerals. From recent surveys, mostly those of the Bureau of Labor Statistics (BLS), I identify 39,400 professional practitioners in earth sciences.

Resources and recreation employ conservationists and others in the protection and wise use of our natural resources, the soil, water, forests, minerals, wildlife and grazing lands, and in jobs relating to man's enjoyment of the outdoors. Conservation is closely related to ecology, the major difference being that conservation is more action-oriented. In conservation we find foresters, range managers and conservation-

ists (a noun modified as to type, such as soil, wildlife or fisheries). The BLS identifies 89,500 practitioners in conservation. The National Recreation and Park Association identifies 215,790 persons in professional or paraprofessional positions in recreation.

Environmental design has to do with land use and the "built" environment, distinguished from the natural environment. Our cities are the most conspicuous concentrations of the built environment. This category of environmental management includes architecture, landscape architecture, land management, city planning, and urban development. The BLS, by coincidence, again identifies 89,500 professional and paraprofessional practitioners in these fields.

Environmental protection is the broad term applied to those steps man takes to protect himself and his environment from the incursions of pollution leading to disease and blight. Its practitioners are scientists, engineers, sanitarians, industrial hygienists, inspectors, technicians, physicians, nurses and a host of laymen in nonscientific specialties. The field is virtually synonymous with environmental health, and most of its control procedures have been developed over the years by public health practi-



"Oh, I thought something in atomic energy or biological warfare or insecticides..."

tioners. Three researchers of the Federal Government's Environmental Protection Agency (EPA) recently identified 242,000 personnel employed in environmental protection in 1970. An estimated 35,000 were engineers; 37,000 scientists, sanitarians, and other professionals; 69,000 technicians; and 101,000 environmental aides.

The accompanying table shows that all five categories of environmental management employed 680,490 practitioners in 1970 and that, by 1980, we will need 1,178,000. Thus, over the


—What about the *unemployed* professional? Estimates of experienced scientists and engineers, mostly in the aerospace industry, who are out of work run as high as 100,000. Why can't these people be put to work in environmental management?

Given the acknowledged demand and the known short supply, everybody should be put to work promptly—in theory. For many reasons, it doesn't work that way; there are many barriers or problems. The economy is extremely sluggish, so many organizations which list current job

Still another barrier is geographic location. Job openings in environmental management are widely dispersed around the nation, whereas the aerospace industry is concentrated in certain localities. Many a victim of job cutbacks is a man who's been making a high salary for many years and is established in his community. How can you expect him willingly to pick up and move half the breadth of the nation, to a strange town in a strange part of the country, to take a job at perhaps half his recent salary, possibly at the same dollars he made when he first was graduated from college?

There are no easy answers to the problem of unemployment, or to the thousands of personal tragedies associated with it. There are only intermediate steps such as the pilot program of the U.S. Department of Labor to train aerospace personnel for urban improvement jobs. This can reach only a few hundred this year.

For the long run, especially for teen-agers and the man or woman under 30, an environmental management career should be very attractive. Environmental management is tomorrow's growth industry. It should be practically depression-proof, and it certainly should be immune to foreign competition. That's because environmental management is skills-intensive, whereas aerospace is hardware-intensive. The technology of hardware can be produced anywhere and imported, which means that its jobs can be located anywhere, say in a foreign country with low wage scales. Environmental technology being skills-intensive, the skills must be applied where the problems are, which means wherever there are people, resources, industry and pollution. You can make a fire engine anywhere and ship it wherever you can sell it. But the firefighter's job must be where the fires are likely to break out—which is anywhere.

Jobs for "the well-being of people" will multiply—everywhere—over the decade of the 1970s and beyond. 

ENVIRONMENTAL MANPOWER NEEDS AND SUPPLY BY MAJOR DISCIPLINES 1970 AND 1980

Discipline	Practitioners in 1970	Practitioners Needed by 1980
Ecology	4,300	12,000
Earth Sciences	39,400	95,800
Resources and Recreation	305,290	342,500
Environmental Design	89,500	162,700
Environmental Protection	242,000	565,000
	680,490	1,178,000

Source: *Opportunities in Environmental Careers*, 1971.

rest of this decade, we will need virtually to double the manpower supply in these fields. How well are we doing towards that goal? Not very well, to judge from the evidence in the most carefully studied category, environmental protection. EPA estimates that the needs for environmental protection professionals will triple by 1980 and those for paraprofessionals will double. Yet the present supply of manpower in each sub-category under environmental protection fails to meet even today's demand.

Such broad statements leave unanswered several questions such as:

—What about the employed professional who might wish to take advantage of this growth and change to a job in environmental management? This is possible provided he can afford to undertake postgraduate work. A university, professional society, or job counselor in the desired field can advise on the details of making a switch.

openings are deferring filling them. Unemployment is at a high mark of 6.2 per cent of labor force, and that for married men is at 3.5 per cent. Another problem for the individual is salary. The aerospace industry, which boomed over the past decade, has always paid comparatively high salaries. By contrast, public health and sanitation, among other public service fields, has been pegged to considerably lower civil service salary scales. There is no comparatively easy way to adjust public service salary scales drastically upwards, any more than there is an easy way to persuade aerospace engineers and scientists to accept with satisfaction salaries appreciably lower than those to which they have been accustomed. Companies might not admit it, but they often choose a young, relatively inexperienced man in preference to a mature, experienced one. Explanations might include "overqualification," flexibility, job satisfaction and stability.

yearly from the need to replace city managers who retire, die, or transfer to other fields.

Earnings. Salaries vary according to the size of the city and the education and experience of the city managers and their assistants. The average starting salary was about \$7,500 in 1970, according to the International City Management Association. This figure was somewhat lower than the salaries offered college-trained business school graduates who entered private industry, according to a Northwestern University survey.¹ Beginning salaries, however, generally tend to be lower in government, especially local government.

In 1970, median salaries for city managers varied from about

¹ Endicott, Frank S. *Trends in Employment of College and University Graduates in Business and Industry*, 25 Annual Report, December, 1970.

\$17,000 in cities of 10,000 to 25,000 to about \$34,000 in cities which had a population greater than 250,000. Salaries of assistant city managers averaged \$14,000 a year.

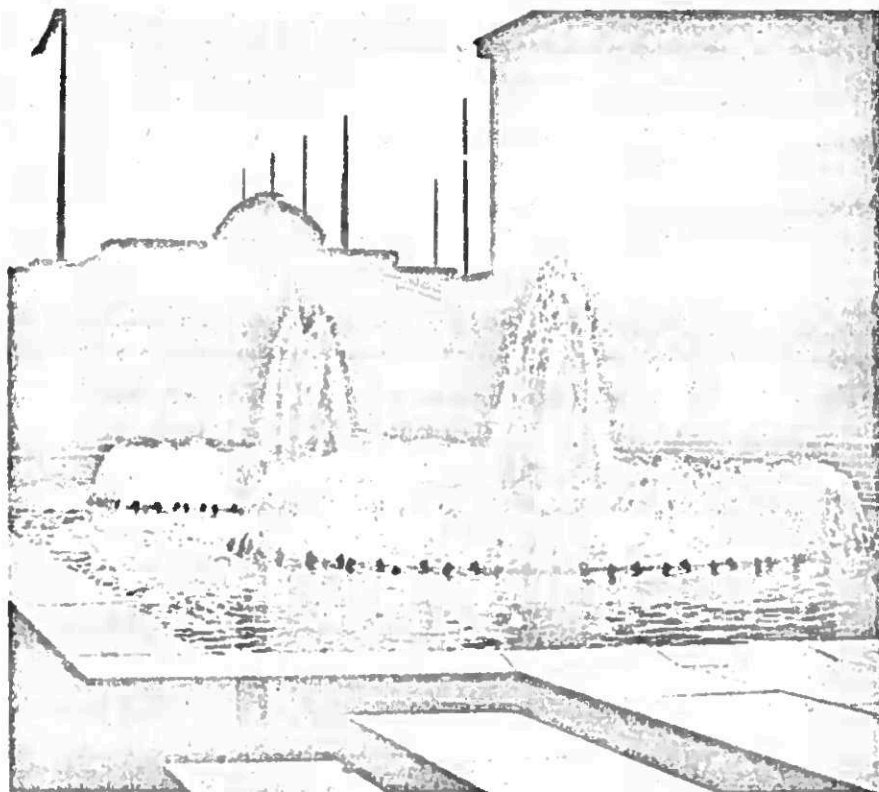
Most city managers work more than 40 hours a week, including weekends and evenings when citizens' groups meet to settle emergency problems.

Fringe benefits usually include health and life insurance, pension plans, sick leave, vacation benefits, and a car for official business. Managers generally are reimbursed for expenses incurred while attending professional meetings and seminars.

Additional career information is available from:

International City Management Association

1140 Connecticut Avenue, N.W.
Washington, D.C. 20036



Focus on Manpower for Environmental Quality

Manpower Report of the President, 1971 analyzes in depth the critical employment and manpower utilization problems, both urban and rural. Published by the U.S. Department of Labor for transmittal to Congress, the 328 page report discusses as a major new development the proposed reform of the country's manpower programs embodied in the proposed Manpower Revenue Sharing Act of 1971.

The report studies the following areas:

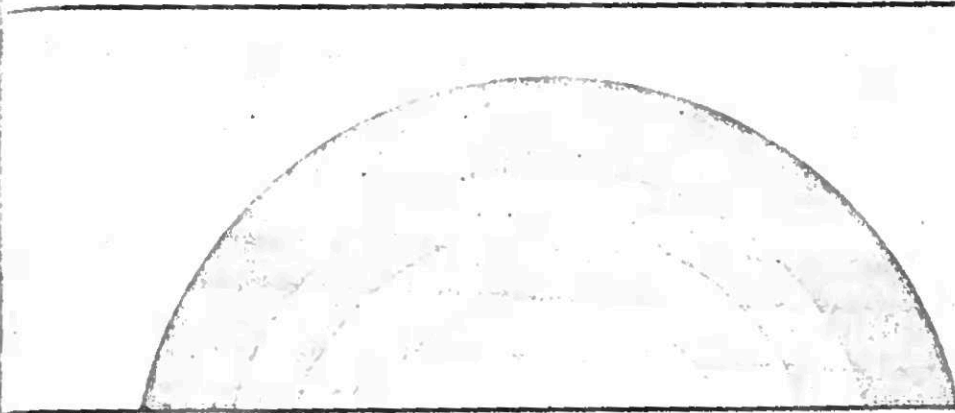
- The employment and Unemployment record
- New developments in manpower programs.
- Critical problems of urban labor markets
- Government expenditures and manpower requirements.

The report is available from the Superintendent of Documents for \$2.50 (make check or money order payable to him) U.S. Government Printing Office, Washington, D.C. 20402.

One of the salient features of the *1971 Manpower Report of the President*,* sent to Congress last April, is the focus it takes

occupational outlook quarterly

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on the types of workers needed in the Nation's initial \$4 billion effort to reduce pollution.

When President Nixon signed the National Environmental Quality, as his first official act of 1970, he signaled a shift in national priorities having consequences for the economy and for manpower requirements and training that can now be only dimly foreseen.

Some insights into the magnitude of the job before us can be gleaned from these facts.

■ Over 200 million tons of pollutants are pumped into our air each year; they cause billions of dollars of damage to crops and livestock, property, and human health.

■ About two-thirds of the country's population is served by inadequate sewerage systems and waste water treatment plants.

■ About 94 percent of existing land disposal operations for solid waste and 75 percent of incinerator facilities are substandard. Twelve percent of the population receives no trash collection service.

A comprehensive analysis of manpower needed to provide environmental protection must await further progress in assessing environmental needs and

establishing priorities. Available data suggest, however, that manpower needs created for basic environmental protection—air and water pollution control, solid waste disposal, and natural resource management—will far exceed the patterns of employment growth of past years.

Over 850,000 persons were employed by Federal, State, and local government agencies in 1969 to provide environmental protection services. This represented an increase of only 41 percent over 1957 (compared with an increase of 58 percent in total public employment during this 12-year period). About three-fifths of these workers were employed in local government agencies in 1969. The largest number, well over half a million, provided services related to natural resources (including park and recreation services). Hardly more than 300,000 workers, nearly all of them in local agencies, were engaged in providing clean water or in handling sewerage, waste water treatment, and solid waste collection and disposal.

Air Pollution. Although State regulation of air pollution has spread to all States and the number of local agencies set up to deal with the problem has in-

creased from 85 in 1963 to over 200, most of the agencies seem to be understaffed. According to the council's first report to the Congress, half of the State agencies had budgeted fewer than 10 positions and half of the local agencies fewer than seven. One out of every 5 positions was vacant in 1969. By 1974, employment in State and local agencies should jump by nearly 250 percent, from about 2,300 to about 8,000, and employment in Federal agencies from about 1,000 to about 2,900. The new Clean Air Amendments could drastically increase these estimates.

Water and Sewerage. Employment in the delivery of clean water and in treating waste water (sewerage) increased about 20 percent between 1957 and 1969—about one-third the rate of increase in local government employment as a whole. The slow growth is due partly to larger and more modern plants, which have increased productivity, but also to difficulties in recruiting and retaining personnel for both skilled and unskilled jobs and to inadequate investment, as the data on water pollution demonstrate. Federal grants for the construction of waste water treatment plants are, however, changing the picture.

The Federal Water Quality Administration (FWQA) recently estimated that more than 100,000 government employees

* This article is composed of excerpts from chapter 5 of the 1971 *Manpower Report of the President*, U. S. Department of Labor, Washington, D.C.

EDITOR'S NOTE: For career information in these fields see, "A Semiskilled Worker to Keep Our Water Clean: Sewage Plant Operator," Fall 1969 *Quarterly*. For information on professional and technical jobs, see, "Safe-guarding Our Water: Pollution Control Workers," Winter 1970 *Quarterly*.

work in agencies concerned with water pollution control. (See table p. 40.) About three-fifths are in unskilled or low-skilled blue-collar jobs and about one-fourth are plant operators, most of whom have technical skills; fewer than one-tenth are professional workers and the small remainder are technicians.

Recent significant increases in investment in waste treatment works (from less than \$500 million in 1965 to \$880 million in 1969 and an estimated \$2 billion in 1970 for municipal works) have sharply raised requirements for skilled operators and technicians, as well as workers at other levels. Since poorly trained operators can severely reduce the working life of the expensive new equipment, the FWQA has stressed programs to increase the supply of adequately trained personnel. According to FWQA estimates, some 37,000 workers now employed in waste treatment plants need retraining and upgrading. In addition, 28,000 plant operators and technicians will have to be hired and trained by 1975 to fill new positions and replace workers lost by turnover. Furthermore, about 13,000 workers must be hired each year merely to fill vacancies in low-skilled or unskilled blue-collar jobs and more will be needed for expansion.

Current Department of Labor programs for training operators for waste water treatment plants have provided training opportunities for nearly 10,000 workers entering the occupation or being upgraded into it within the past 3 years. In these programs, the Department has demonstrated that capable workers who lack high school diplomas

can be trained for jobs which many people consider to be at technical levels and that application of the career ladder concept can be highly effective in improving public service in this area.

Solid Waste Disposal. Despite a 51-percent increase in employment in solid waste disposal between 1957 and 1969, the problem of refuse collection and waste disposal is far from solved. Collection methods, for the most part, do not differ substantially from those in the horse and wagon era. About 80 percent of the funds for solid waste management are used for collecting and hauling waste to processing plants or dumps—employing mainly unskilled workers, with relatively low rates of pay and high turnover rates. The one significant advance has been the development of the compactor truck, which offers opportunities for semiskilled workers. Some semiskilled workers are also needed to operate incinerators, but the number is quite small. If employment increases at merely the same rate as the population, or even as overall government employment, it is unlikely to keep up with the growing amount of waste, much less reduce it. Genuine breakthroughs in technology will be required to cope with the mounting litter, ranging from beer cans and disposable bottles to abandoned automobiles. It is estimated that discarded cans and bottles now number 90 billion a year, and abandoned cars, 2.5 to 4 million.

The new Resource Recovery Act will spur new efforts to determine if and how solid wastes can be recycled to reduce the

cost of disposal and also the rate at which natural resources are exhausted. The Bureau of Solid Waste Management is supporting research and demonstration projects to develop and encourage the use of new methods, techniques, and equipment for solid waste management in rural areas and small communities as well as larger cities. New York City has begun a \$200 million capital program, under which four giant incinerators will be constructed to solve—or at least greatly alleviate for many years—the problems arising from landfill and marine disposal operations. If successful, this project will point the way to better municipal waste disposal; doubtless it will also increase requirements for skilled operators and managers. The Department of Health, Education, and Welfare estimates that there is an immediate need to train 3,000 professional and technical workers for the solid waste disposal field.

Resource Management. As already mentioned, natural resource management, including park and recreation services, employs by far the largest group of persons engaged in environmental protection and related functions. It is also one of the fast growing areas of public employment, especially in local agencies, where employment in this function increased by 65 percent—about the same rate of increase as the average for local government employment as a whole—during the 1957-69 period.

The Federal Government, however, is the major employer in natural resource management. A large proportion of the Federal employees in this field are

professional workers, and a good many are technicians. They include foresters, range managers, agricultural extension agents, soil conservation specialists, and persons employed in plant quarantine and pest control, fish and wildlife management, and irrigation and flood control, as well as some concerned with farm price stabilization, farm insurance, and farm credit. Unfortunately, separate employment estimates are not available for personnel concerned with environmental protection per se (that is, conservation and preservation). In State and local agencies, the proportion of professional and technical workers is believed to be relatively low, since the major functions involve supplying park and recreation services.

As indicated in the 1980 projections, the rising demand for park and recreation services is expected to result in continued rapid expansion of State and local expenditures and employment. The increase may be quickened by the President's recent recommendation for enlarged expenditures for this area, through grants to States.

Unanswered Questions. Altogether, the data on public employment in environmental protection, fragmentary and unsatisfactory as they are, indicate that manpower needs far exceed the projected demand suggested by past patterns of growth. To arrive at useful estimates of manpower requirements for environmental protection activities, many stubborn problems must be solved. It is at once difficult and essential to distinguish activities which are crucial to protecting and improving the environment from those whose

impact on the environment is a by-product of other primary functions. It is also essential to distinguish between desired levels of service and the probable effective demand—a difficult task in light of the complex processes by which public revenues and budgets are determined.

How private industry's manpower requirements will be affected by expenditures for environmental control cannot be assessed at this stage. It is clear, however, that the magnitude of the expenditures for construction of public facilities implies a substantial manpower impact. The Council on Environmental Quality reported current expenditures of over \$1.8 billion a year for water control projects and an additional \$500 million for sewer and water lines. This does not include the \$800 million a year in grants to State and local agencies as the Federal share of the current \$2 billion construction program for waste water treatment plants. Adding these sums together brought the total to well over \$4 billion in 1970, with higher expenditures in prospect if Congress accedes to the President's recommendations.

Such expenditures will undoubtedly generate much additional construction employment, since a relatively large share of construction expenditures goes for labor costs. Many of the water resource construction projects are in rural areas and may prove to be an important source of jobs for rural residents, particularly in blue-collar work where the training and experience of many workers would be most relevant.

The private costs of complying with public regulations for the control of pollution is another problem about which there is almost no hard information. The vast majority of the workers engaged in water pollution control activities in private industry are doing such work on a part-time basis, along with other functions, according to FWQA estimates. As Federal, State, and local regulations are tightened, this situation is likely to change, but how great an increase in private employment will be required for control of water pollution is still uncertain. An attempt to assay the effects on private employment of recent legislation on air pollution would be still more premature at this point.

Private industry and colleges and universities will undoubtedly share in the employment gen-



erated by new legislative provisions for research, development, and demonstration projects in the field of pollution control. In addition, the new Environmental Quality Education Act will spur new college programs to meet increased demand for trained manpower. Already, according to a recent survey, at least 50 community colleges are offering vocational programs in environmental control.

In exploring the needs for environmental protection as a possible source of jobs for unemployed and underemployed workers with different levels of skill, the Department of Labor has been severely hampered by

**PUBLIC EMPLOYMENT IN WATER
POLLUTION CONTROL ACTIVITIES, 1970
(THOUSANDS)**

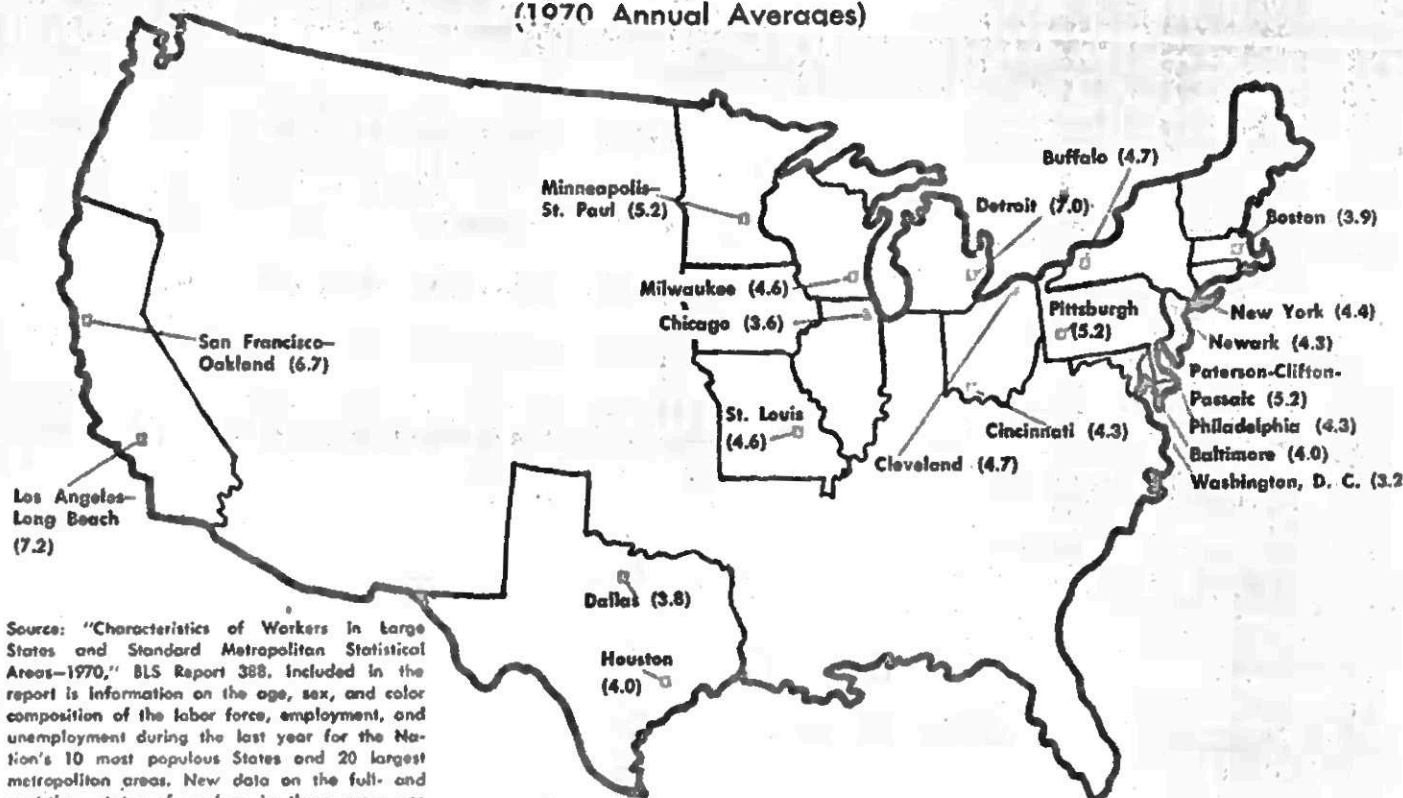
Occupation group	Total	Federal	State	Local
Total	102.3	4.0	2.8	95.5
Professionals	9.4	1.6	1.8	6.0
Technicians	5.9	.4	1.0	4.5
Plant Operators	26.0	1.0	—	25.0
Other blue-collar workers	61.0	1.0	—	60.0

Source: Environmental Protection Agency, Federal Water Quality Administration.

the lack of data on occupational requirements. The current stress on retraining programs for unemployed engineers and scientists laid off by aerospace and defense-related industries underlines the need for realistic information of this kind. The Department now has underway a study of some 3,000 waste

water treatment plants—including all the large plants presently operated by local governments—to determine current and prospective demand in each of the major occupations in this field of work. Similar studies of employment requirements in other sectors of environmental protection are urgently needed as well.

**Unemployment in
Major Metropolitan Areas
(1970 Annual Averages)**



Source: "Characteristics of Workers in Large States and Standard Metropolitan Statistical Areas—1970," BLS Report 388. Included in the report is information on the age, sex, and color composition of the labor force, employment, and unemployment during the last year for the Nation's 10 most populous States and 20 largest metropolitan areas. New data on the full- and part-time status of workers in these areas are also presented. All the data were collected through the Current Population Survey, the same used to generate the national data on unemployment. Bulletin is available free from the Bureau's regional offices listed on the inside front cover.

THE ENVIRONMENT BOOM

All signs point to a doubling of available jobs in environment management by 1980.

by ODOM FANNING

On the basis of present evidence, I feel confident in predicting near-future developments in the environment. This prediction is based on two mandates from the Congress: the National Environmental Policy Act of 1969, sponsored primarily by Senator Henry M. Jackson of Washington, and the Environmental Quality Improvement Act of 1970, sponsored primarily by Senator Edmund S. Muskie of Maine. These two laws establish a permanent policy and program. From them, I have made five fundamental assumptions:

1) This policy will be continued indefinitely by the Congress. Both parties support it with equal fervor.

2) Any prospective President of the United States, for the foreseeable future, will have to be an ardent environmentalist. Otherwise, he could not be elected.

3) The federal government will continue to reorganize to implement the laws passed by the Congress to push environmental programs. The reorganization plans of 1970 moved toward logical consolidation, but most Washington observers agreed that they will be followed by more reorganizations.

4) Business and industry will accommodate to the environmental clamor because they inevitably follow the market and respond to market demand. If there is profit in pollution, business will pollute. If there is more profit in less pollution, business will lessen the pollution. If there is no profit in any pollution, business will eliminate the pollution with surprising rapidity. And that is clearly what we already are seeing. Not overnight, because the technology is not available. Not even soon, because we didn't start until yesterday. But rapidly, far more rapidly than businessmen generally thought possible as recently as 1970.

ODOM FANNING, a Washington, D.C., science writer, was editor-in-chief, for President Nixon's Council on Environmental Quality, of *The First Annual Report on Environmental Quality (1970)*. The text above is adapted from his new book, *Opportunities in Environmental Careers*, published by Vocational Guidance Manuals.

To the manufacturer, the retailer, the individual, the cost of cleanup is unavoidable. Not just for good housekeeping—for survival.

5) Public opinion will continue to favor environmental concerns. The environment is a cause around which young people, regardless of differences, can unite. As the mass media of communications usually follow rather than lead, they will continue to respond to these demands. Through opinion feedback, they will help to build further public interest, which will be mobilized into further public action.

Conservation and restoration of the environment can be accomplished only by people working at it. And only part of the work can be volunteer, non-paid—important though that will continue to be. Most of the active participants, and the most effective, will be full-time professionals and para-professionals employed at various levels of government and private industry, or in consulting or service firms.

How many such people will be gainfully employed in the United States by 1980? Surprisingly, no one really knows. Only in a few areas of environmental management—notably recreation and parks and environmental protection—have responsible agencies conducted manpower surveys and made logical projections. In my opinion, most of these projections are unrealistically conservative. The Bureau of Labor Statistics' fundamental assumptions about the economy are far more bullish than any official or unofficial estimates of manpower needs. I choose to be far more bullish about the future of the environment, too, than many cynics today, for to me it seems logical. You cannot turn on a spigot of public demand for environmental quality and expect only a trickle of institutional response.



I believe that environmental management is going to be the fastest growing area of industry, public services, and the economy for at least the next decade and probably much longer. I rest my case on the assumptions I have stated about the economy and about the environment, on the few projections available, on educated hunches that democratic processes are ideally suited to respond to a youthful fervor for revolutionary, though peaceful, social change, and on the belief that the young people of America are not going to drop the environmental cause.

The table below lists, by major disciplines, the total environmental manpower available in 1970 and what I estimate will be the needs of 1980.

	Practitioners in 1970	Practitioners needed 1980
Ecology	4,300	12,000
Geology	22,800	33,400
Geophysics	6,800	10,400
Meteorology	4,000	12,000
Oceanography	5,800	40,000
Forestry	25,000	37,000
Forestry Aids	13,000	23,800
Range Management	6,000	8,000
Soil Conservation	26,000	30,000
Wildlife		
Conservation	15,000	20,000
Fisheries		
Conservation	4,500	7,500
Recreation and Parks	215,790	220,000
Architecture	34,000	61,600
Engineering		
(Construction and Consulting)	40,000	70,000
Landscape Architecture	8,500	14,500
Urban Planning	7,000	16,600
Environmental Protection	217,500	565,000

As the figures show, I believe that the five areas of environmental management—ecology, earth sciences, resources and recreation, environmental design, and environmental protection—will grow from 655,990 professional and paraprofessional jobs in 1970 to 1,181,800 such jobs by 1980—close to an unprecedented doubling in one decade.

Who will mobilize and energize the resources to motivate and recruit the needed young men and women . . . to build and expand the schools to educate them . . . to develop the science and technology to enable them to solve our pressing environmental problems . . . to expand our economy so that we can afford to do what we want to do . . . to send to Washington, and the statehouses and courthouses, statesmen and politicians and public administrators who will develop the needed programs?

All of us will.

**THE COSTS AND BENEFITS OF
POLLUTION CONTROL**

**William D. Ruckelshaus
Administrator
Environmental Protection Agency**

Never in the history of this country has any movement caught on so fast as the wave of environmentalism that has swept over our people during these last two or three years.

The average citizen -- that includes anyone who has ever breathed foul air, observed the turbid flow of our filthy rivers, or driven a car in traffic; anyone who has ever tried to find a little peace and quiet; anyone who has ever had doubts about the purity of his food and drink -- this average citizen demands action on the part of business and government to clean up the mess we have made.

And the fact is that together we have taken important initial steps and are about to do much more under the aegis of existing and proposed legislation. But just as in physics there can be no action without a reaction, so in economics there can be no benefit without a cost.

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Anyone who tells the American people that we can clean this country up cheaply or that it is practical to remove every ounce of pollution from the environment is simply practicing the same old demagoguery of overpromising, which guarantees underperforming and angry disappointment.

It has been my belief from the very beginning that the environmental, economic, social and aesthetic benefits of any government policy should be at least equal to its costs. We should undertake no action whose costs and benefits have not been carefully weighed and we should make every effort to predict the effects of a given policy on society as a whole.

Admittedly, we have just begun that kind of planning. We must examine the long-range consequences -- in terms of resources, employment, technology, population control, land-use and urban design -- of a gradual shift from quantity to quality as our national purpose.

So the question may be raised at this point whether our economy, oriented toward production and consumption per se, can accommodate new social requirements and do so at a reasonable cost.

At first glance, pollution control looks like a prohibitively expensive proposition. For example, in our annual EPA report to Congress on the economics of clean air we forecast expenditures of around \$42 billion in the period fiscal 1973-77 just to control air pollution alone. The Council on Environmental Quality estimated that the combined cost to industry and government of air and water clean-up plus better management of solid wastes would amount to around \$105 billion between 1970-75. In other words, about one percent of the cumulative gross national product in those years.

But this Administration recognized at the outset that we needed additional independent confirmation of the total dollar cost of a national effort to clean up the air and the water. Last year the Council on Environmental Quality, the Department of Commerce and the Environmental Protection Agency commissioned a task force of impartial consultants to get the answers.

The results of their computer study were released on March 13, and I think they should be reassuring to all who have wondered whether this nation can actually afford the costs of a major environmental renovation.

The panel analyzed eleven major industry groups and found that current pollution control requirements will compell the closing of 200 to 300 plants by the end of 1976. However, none of the eleven will be hurt severely as a whole.

Most of the 12,000 plants now operating will stay in business and be profitable, except for 800 that are expected to close down due to obsolescence or other reasons not connected with the environment. Our task force estimates that the overwhelming majority of plants that will close to avoid installation of expensive pollution control equipment would fold up anyway in the period 1976-1980 because they are outmoded and unprofitable.

With regard to employment, 50,000 to 125,000 jobs may be wiped out, many of them in smaller communities where the economic impact will be substantial. However, that amounts to only one to four percent of the workers in the 11 industries -- in other terms, about 0.05% (five hundredths of one percent) of the U. S. labor force in 1970.

We in EPA are already cooperating with the Labor Department to ensure that those who lose their jobs will be retrained or relocated if they wish. Federal

development loans will be offered to the communities affected.

What about other industries? Will their experience be different? We think not. The task force reached similar conclusions in a broader study of 25 industries representing 80-90% of our national factory output. Existing and anticipated pollution controls would reduce the average annual GNP about 0.6% (six tenths of one percent) between 1972 and 1980. Unemployment overall would rise one tenth of one percent, which amounts to 80 to 100,000 jobs.

However, it is possible under optional conditions that the pollution control industry will provide more jobs than are lost in premature shut-downs.

Naturally the foregoing calculations are tentative. Not all industries will be affected in the same way. The magnitude of control expenses depends to a large degree upon the nature of production technique, abatement processes, volume of pollutants, feasibility of waste by-product recovery and the size and location of a given plant.

Some companies have discovered that there is great wealth in what we throw out, burn up and pour down the drain -- possibly enough in certain cases to pay for a substantial part of control equipment. The very act of redesigning factory processes to incorporate clean technology opens up opportunities for higher productivity, expanded profits, rising real wages, better products and growing tax revenues.

Dow Chemical's experience offers encouraging evidence that well-managed companies can save money right now by controlling or recovering various effluents. At Midland, Michigan the company is building 28 cooling towers at a cost of \$7.2 million to reduce the thermal load on the Tittabawassee River. The towers will more than pay for themselves by reducing corrosion and cutting daily water intake by 100 million gallons.

Indeed, anti-pollution efforts at Midland have saved chemicals worth more than \$6 million over the past 3 years. At a Dow plant in Texas, \$900,000 put into controls saves \$265,000 worth of chemicals every year. Not every anti-pollution project results in net savings, but in a highly-competitive industry, Dow's profit margin of 24.5 percent is well above the industry average of 18.7 percent.

It should be noted that companies which find the initial control expenditures too burdensome can often finance their equipment with tax-exempt industrial development revenue bonds.

Finally, in calculating outlays we must not overlook the social and personal savings that will accrue once our air and water are reasonably pure. Air contamination alone may cost this country \$16 billion a year in damages to human health, materials, crops and urban vegetation and may rise to \$25 billion per annum by 1977. These figures are only approximate. But the AMA estimates that disease induced by the environment as a whole costs \$38 billion each year.

The overwhelming majority of the American people, as attested by the polls, believes that a cleaner environment is worth a little inconvenience and temporary expense. I'll admit this sentiment has not really been put to the test. We haven't held the ultimate consumer's feet to the fire long enough. But EPA is betting that the new public awareness is not for sale.

I think the average man and woman will look forward to a world free of smog, roadside litter, and putrid waterways, a world liberated from noise, ugliness, stench

and urban decay. And that expectation ought to become outright enthusiasm when they realize that the cash savings alone may total \$200 per year per family by 1980.

Considering the total evidence, therefore, I think all this talk about environmentalism ruining the economy is just nonsense. We are going to get back much more than we pay out. Far from retarding progress an ecological sensibility, carried to its logical conclusion, will guarantee the good life indefinitely.

However, to ensure such a prospect we must conserve and recycle our resources. The average lifetime of industrial and private capital must increase, that is we must get more for our money -- our machine tools, cars and appliances should last longer and be cheaper to repair.

Higher priority must be assigned to social equality, because discrimination and inequality are wasteful as well as immoral. Services like education, health care and creative leisure must be esteemed more than speed, glitter and gadgetry. Population growth, as the President's commission found, must stop and the sooner the better.

This is not to denigrate our achievements as a nation. Indeed, our very success compells us to drop those prodigal habits which alone can threaten what we have accomplished here. We must learn to manage the earth as one cultural and biological system.

If we boldly grasp this historic opportunity, peace and prosperity and social justice will be ours. Once restored to harmony with the natural world that gave him birth, man will be free to develop his highest intellectual, spiritual and aesthetic potentials. Our environmental investments -- generously committed -- will ensure a timely transition to a new epoch in the history of the human race.