

**FY 1972**

**CONGRESSIONAL  
JUSTIFICATION**



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## ENVIRONMENTAL PROTECTION AGENCY

### Purpose Statement

The Environmental Protection Agency was established on December 2, 1970, by Reorganization Plan Number 3 of 1970. This reorganization provided for the consolidation of pollution control and abatement activities which were previously organizationally assigned to several Departments and Agencies, as follows:

#### Department of the Interior

- all functions carried out by the Federal Water Quality Administration; and
- certain pesticide research functions carried out by the Bureau of Sport Fisheries and Wildlife.

#### Department of Health, Education and Welfare

- all functions of the National Air Pollution Control Administration;
- all functions of the Bureau of Solid Waste Management;
- all functions of the Bureau of Water Hygiene;
- portions of the Bureau of Radiological Health; and
- pesticides research and standards-setting programs of the Food and Drug Administration.

#### Department of Agriculture

- pesticides label registration authority of the Agriculture Research Service.

#### Atomic Energy Commission

- environmental radiation protection standard-setting function.

#### Council on Environmental Quality

- authority to perform general ecological research.

#### Federal Radiation Council

- all functions.

The basic purpose for bringing these functions and responsibilities together to form the Environmental Protection Agency (EPA) was to permit an aggressive and coordinated attack on the problems of environmental pollution. EPA is concerned with the environment as a single interrelated system and is directing a coordinated research, monitoring, standard-setting, and enforcement effort to restore and protect the quality of the Nation's environment.

The Agency's budget proposals are presented under three appropriations with the major activities under each as follows:

1. Operations, Research, and Facilities - This appropriation covers the following activities to support a national program of environmental protection and pollution abatement:

a. Abatement and control programs which provide for the establishment of environmental standards, monitoring and surveillance activities, planning and technical assistance support to State and local agencies to improve environmental programs, and enforcement activities to assure compliance.

b. Manpower development programs to increase the supply and improve the performance of manpower required for environmental protection agencies.

c. Research, development, and demonstration programs to determine the cause-and-effect relationships of environmental pollutants and to develop and demonstrate technological solutions for pollution abatement and control problems.

d. Facilities programs to support the construction of new EPA facilities and provide for the alterations, repairs, and improvements of existing EPA facilities.

e. Program direction and support activities to provide both centralized and regional leadership and administrative support for the Agency's programs.

2. Construction Grants - This appropriation provides the grants to local public agencies for the construction of municipal waste water treatment facilities pursuant to Section 8 of the Federal Water Pollution Control Act, as amended.

3. Scientific Activities Overseas (Special Foreign Currency Program) - This appropriation supports cooperative programs of research and demonstration to find solutions to environmental problems which are of interest to both the United States and a cooperating foreign agency or country.

## **Introduction/Overview**

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EPA's programs are conducted in large measure by the operating offices for water quality, air pollution control, solid waste management, pesticides, and radiation. These offices are in turn supported by field groups located in the various States. One of the major organizational activities during this year will be to bring these field activities together along regional lines and to establish strong regional leadership.

433,700  
421,149  
16  
151

Summary of Budget Authority,  
Permanent Positions, and Man-years

	<i>act</i> <u>1970</u>	<u>1971</u>	<u>PB.</u> <u>1972</u>
<u>Operations, Research, and Facilities</u>		<i>299,904,000</i>	
Budget Authority....	\$245,825,000	\$297,279,000	\$427,149,000
Permanent Positions.	5,244	7,014	8,651
Man-years.....	4,248	5,662	6,839
<u>Construction Grants</u>			
Budget Authority....	800,000,000	1,000,000,000	2,000,000,000
Permanent Positions.	...	...	...
Man-years.....	...	...	...
<u>Scientific Activities Overseas</u>			
Budget Authority....	...	3,500,000	10,670,000
Permanent Positions.	...	...	...
Man-years.....	...	...	...
<u>Revolving Fund</u>			
Budget Authority....	...	...	...
Permanent Positions.	12	12	12
Man-years.....	7	7	10
<u>Advances and Reimbursements</u>			
Budget Authority....	...	...	...
Permanent Positions.	166	166	184
Man-years.....	161	161	181
<u>Total, Environmental Protection Agency</u>			
Budget Authority....	1,045,825,000	1,300,779,000	2,437,819,000
Permanent Positions.	5,422	7,192	8,847
Man-years.....	4,416	5,830	7,030

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**Summary**  
**Authorized Positions**

	<u>1971</u>	<u>1972</u>	<u>Increase</u>
Operations, Research, and Facilities..	7,014	8,651 <sup>+6</sup>	1,637
Revolving Fund.....	12	12	...
Advances and Reimbursements.....	166	184 <sup>-6</sup>	18
Total.....	7,192	8,847	1,655

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 8517 ORF  
 + 12 RF  
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 8707  
 + 6 WC  
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 8713



Summary  
Man-years

	<u>1971</u>	<u>1972</u>	<u>Increase</u>
Operations, Research, and Facilities...	5,662	6,839	1,177
Revolving Fund.....	7	10	3
Advances and Reimbursements.....	<u>161</u>	<u>181</u>	<u>20</u>
Total.....	5,830	7,030	1,200

Summary of Available Funds  
(in thousands of dollars)

	<u>1970</u>	<u>1971</u>	<u>1972</u>
<u>Operations, Research, and Facilities</u>			
Appropriation.....	...	\$21,400 ✓	...
Budget estimate.....	...	...	\$427,149
Transferred from other agencies.....	\$203,984	247,756 ✓	...
Proposed supplementals			
Pay cost.....	...	4,510	...
Program.....	...	13,000 ✓	...
Not transferred from other agencies.....	41,841	14,428	...
Unobligated balances available, start of year.	27,873	27,850	15,736
Unobligated balances available, end of year...	-27,850	-15,736	-15,186
Total available.....	<u>245,848</u>	<u>313,208</u>	<u>427,699</u>
<u>Construction Grants</u>			
Budget estimate.....	...	...	2,000,000
Transferred from other agencies.....	800,000	1,000,000	...
Unobligated balance available, start of year.	64,890	439,891	254,891
Unobligated balance available, end of year...	-439,891	-254,891	-349,891
Total available.....	<u>424,999</u>	<u>1,185,000</u>	<u>1,905,000</u>
<u>Scientific Activities Overseas (Special Foreign Currency Program)</u>			
Budget estimate.....	...	...	10,670
Transferred from other agencies.....	...	3,500	...
Not transferred from other agencies.....	244	...	...
Total available.....	<u>244</u>	<u>3,500</u>	<u>10,670</u>
Total available, Environmental Protection Agency.....	671,091	1,501,708	2,343,369

## **Goal 1: Operations**

## ENVIRONMENTAL PROTECTION AGENCY

### Operations, Research, and Facilities

#### Purpose

Five major activities are supported under this appropriation. They are as follows:

1. Abatement and control -- Planning grants and control agency support grants are awarded to State, regional, and local agencies for planning, establishing, and improving environmental quality programs. Monitoring and surveillance is performed to determine baseline quality conditions, pollution problems, and to evaluate the performance of control devices. Criteria are recommended and standards are established in cooperation with State and local agencies, and enforcement actions are instituted to assure compliance. Technical assistance is provided to Federal agencies, States, interstate regions, local communities, and industries as cooperative endeavors and also in response to emergency situations.

2. Manpower development -- This activity is conducted to increase the supply and improve the performance of manpower required for environmental protection activities. Training and fellowship grants and other forms of assistance are awarded to educational institutions, States, and individuals. In-house training programs are conducted in field facilities for personnel of Federal, State, and local governments, and industry and educational institutions.

3. Research, development, and demonstration -- Research and development activities deal with causes, sources, transport, fate, and effects of pollutants in ecological systems; the development of monitoring technology; the determination of pollution exposure effects on man and environment; and the development of the scientific basis for criteria, standards, and regulations to protect man and his environment from pollution. Research, development, and demonstration activities are also conducted to develop and maintain current knowledge of devices and technologies for the abatement and control of pollution. Research, development, and demonstration activities are conducted under grants, contracts, and other agreements involving universities, industry, private firms, nonprofit organizations, State and local governments, other Federal agencies, and through activities conducted at EPA's laboratories and field locations.

4. Facilities -- This activity provides for construction of laboratory facilities and alterations, repairs, and improvements to existing facilities.

5. Program direction and support -- This activity includes the Office of the Administrator, regional administrators, and the executive staffs of the mission-oriented program offices for water, air, solid wastes, radiation, and pesticides. It provides executive direction and leadership, administrative management, and supporting services such as program planning and evaluation, personnel administration, budgeting, accounting, auditing, procurement, and automatic data processing services.

<u>Budget Authority</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Abatement and control.....	\$91,352,000	\$116,268,000	\$181,465,000
Manpower development.....	13,599,000	18,549,000	18,981,000
Research, development, and demonstration.....	116,400,000	136,464,000	164,039,000
Facilities.....			28,000,000
Program direction and support	<u>24,474,000</u>	<u>25,998,000</u>	<u>34,664,000</u>
Total.....	<u>245,825,000</u>	<u>297,279,000</u>	<u>427,149,000</u>

<u>Manpower Resources</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Permanent positions.....	5,244	7,014	8,651
Man-years.....	4,248	5,662	6,839

# Operations, Research, and Facilities

## Comparative Budget Authority by Activity and Subactivity - 1971 (in thousands of dollars)

	Transferred From Other Agencies	Not Transferred <sup>a/</sup>	Supplementals <sup>b/</sup>	Total
Abatement and Control	\$100,885	\$5,454	\$9,929	\$116,268
Planning.....	9,313	666	1,562	11,541
Monitoring and surveillance.....	11,267	1,674	1,149	14,090
Standards and enforcement.....	14,929	1,862	3,630	20,421
Control agency support	40,433	...	1,042	41,475
Technical support.....	16,707	1,129	1,951	19,787
Federal activities....	2,359	123	363	2,845
Construction grants administration.....	5,877	...	232	6,109
Manpower Development	17,260	486	803	18,549
Research, Development, and Demonstration	125,383	5,794	5,287	136,464
Pollution sources and effects.....	51,934	3,763	3,370	59,067
Pollution control technology.....	73,449	2,031	1,917	77,397
Facilities	...	...	...	...
Program Direction and Support	21,813	2,694	1,491	25,998
Total.....	265,341	14,428	17,510	297,279

a/ \$14,428,000, associated with the period July 1, - December 1, 1970, was not shown as transferred in the President's Budget. The program justification of this budget will reflect the 1971-1972 comparison on a full-year comparable basis to simplify discussion of program objectives. 282,351

b/ Includes \$4,510 for pay cost requirements and \$13,000 for proposed legislation and to expand existing programs.

# Operations, Research, and Facilities

## Comparative Budget Authority by Activity and Subactivity - 1970 (in thousands of dollars)

	<u>Transferred From Other Agencies</u>	<u>Not Transferred</u>	<u>Total</u>
<u>Abatement and Control</u>	<u>\$73,990</u>	<u>\$17,362</u>	<u>\$91,352</u>
Planning.....	6,355	1,989	8,344
Monitoring and surveillance..	6,475	6,023	12,498
Standards and enforcement....	9,497	5,567	15,064
Control agency support.....	35,826	...	35,826
Technical support.....	10,069	3,498	13,567
Federal activities.....	1,468	285	1,753
Construction grants administration.....	4,300	...	4,300
<u>Manpower Development</u>	<u>11,722</u>	<u>1,877</u>	<u>13,599</u>
<u>Research, Development, and Demonstration</u>	<u>99,893</u>	<u>16,507</u>	<u>116,400</u>
Pollution sources and effects	37,505	7,478	44,983
Pollution control technology.	62,388	9,029	71,417
<u>Facilities</u>	<u>...</u>	<u>...</u>	<u>...</u>
<u>Program Direction and Support</u>	<u>18,379</u>	<u>6,095</u>	<u>24,474</u>
Total.....	203,984	41,841	245,825 .

# Operations, Research, and Facilities

## Summary of Budget Authority

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Abatement and Control</u>	<u>\$116,268,000</u>	<u>\$181,465,000</u>	<u>\$65,197,000</u>
Planning.....	11,541,000	24,584,000✓	13,043,000
Monitoring and surveillance..	14,090,000	17,699,000✓	3,609,000
Standards and enforcement....	20,421,000	40,757,000✓	20,336,000
Control agency support.....	41,475,000	59,420,000✓	17,945,000
Technical support.....	19,787,000	24,987,000✓	5,200,000
Federal activities.....	2,845,000	5,321,000✓	2,476,000
Construction grants administration.....	6,109,000	8,697,000	2,588,000
<u>Manpower Development</u>	<u>18,549,000</u>	<u>18,981,000</u>	<u>432,000</u>
<u>Research, Development, and Demonstration</u>	<u>136,464,000</u>	<u>164,039,000</u>	<u>27,575,000</u>
Pollution sources and effects	59,067,000	71,616,000	12,549,000
Pollution control technology.	77,397,000	92,423,000	15,026,000
<u>Facilities</u>	<u>...</u>	<u>28,000,000</u>	<u>28,000,000</u>
<u>Program Direction and Support</u>	<u>25,998,000</u>	<u>34,664,000</u>	<u>8,666,000</u>
Total.....	297,279,000	427,149,000	129,870,000



# Operations, Research, and Facilities

## Summary of Permanent Positions

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Abatement and Control</u>	<u>3,786</u>	<u>4,678</u>	<u>892</u>
Planning.....	297	422	125
Monitoring and surveillance.....	479	653	174
Standards and enforcement.....	1,340	1,730	390
Control agency support.....	61	72	11
Technical support.....	914	972	58
Federal activities.....	229	273	44
Construction grants administration	466	556	90
<u>Manpower Development</u>	<u>193</u>	<u>226</u>	<u>33</u>
<u>Research, Development and Demonstration</u>	<u>1,555</u>	<u>2,081</u>	<u>526</u>
Pollution sources and effects.....	1,020	1,358	338
Pollution control technology.....	535	723	188
<u>Facilities</u>	<u>...</u>	<u>...</u>	<u>...</u>
<u>Program Direction and Support</u>	<u>1,480</u>	<u>1,666</u>	<u>186</u>
Total.....	7,014	8,651	1,637

# Operations, Research, and Facilities

## Summary of Man-years

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Abatement and Control</u>	<u>2,847</u>	<u>3,447</u>	<u>600</u>
Planning.....	246	334	88
Monitoring and surveillance.....	409	523	114
Standards and enforcement.....	828	980	152
Control agency support.....	54	64	10
Technical support.....	732	835	103
Federal activities.....	168	230	62
Construction grants administration	410	481	71
<u>Manpower Development</u>	<u>172</u>	<u>201</u>	<u>29</u>
<u>Research, Development, and Demonstration</u>	<u>1,355</u>	<u>1,768</u>	<u>413</u>
Pollution sources and effects.....	920	1,172	252
Pollution control technology.....	435	596	161
<u>Facilities</u>	<u>...</u>	<u>...</u>	<u>...</u>
<u>Program Direction and Support</u>	<u>1,288</u>	<u>1,423</u>	<u>135</u>
Total.....	5,662	6,839	1,177

# Operations, Research, and Facilities

## Summary of Available Funds (in thousands of dollars)

	<u>1970</u>	<u>1971</u>	<u>1972</u>
Appropriation.....	...	\$21,400	...
Budget estimate.....	...	...	427,149
Transferred from other agencies..	\$203,984	247,756	...
Proposed supplementals			
Pay cost.....	...	4,510	...
Program.....	...	13,000	...
Not transferred from other agencies.....	41,841	14,428	...
Unobligated balances available, start of year.....	27,873	27,850	15,736
Unobligated balances available, end of year.....	-27,850	-15,736	-15,186
Total available.....	<u>245,848</u>	<u>313,208</u>	<u>427,699</u>

Abatement and Control  
Planning  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Solid Wastes.....	40	\$2,957	53	\$5,468	+13	+\$2,511
Water Quality.....	257	8,584	369	19,116	+112	+10,532
Total.....	297	11,541	422	24,584	+125	+13,043

Planning grants.....	...	(\$4,160)	...	(\$7,915)	...	(\$3,755)
Solid Wastes.....	...	2,090	...	2,545	...	+455
Water Quality.....	...	2,070	...	5,370	...	+3,300
Planning grants administration.....	(47)	(685)	(66)	(1,274)	(+19)	(+589)
Solid Wastes.....	29	385	36	774	+7	+389
Water Quality.....	18	300	30	500	+12	+200
Federal planning.....	(246)	(5,896)	(352)	(14,568)	(+106)	(+8,672)
Solid Wastes.....	11	482	17	2,149	+6	+1,667
Water Quality.....	235	5,414	335	12,419	+100	+7,005
Great Lakes planning, Water Quality.....	(4)	(800)	(4)	(827)	...	(+27)
Total.....	297	11,541	422	24,584	+125	+13,043

Estimated herein.....	\$11,541	\$24,584	+\$13,043
Increase required for January 1971 pay raise.....	117	289	+172
Revised estimate.....	11,658	24,873	+13,215

Manpower Resources:			
Man-years.....	246	354	+108

Operations, Research, and Facilities  
Abatement and Control

Planning

Purpose

EPA's planning programs include three general kinds of activities: (1) financial assistance to regional, State, and local planning agencies; (2) the administration of the grants used to provide this financial assistance; and (3) direct performance of broad scope planning in cooperation with States and other Federal agencies. These programs enable accurate definition of pollution problems and development of cost-effective systems and facilities for pollution control. They also help ensure that control efforts within regions, States, and localities are complementary and that they are capable of meeting applicable pollution control criteria and standards.

The programs provide grant support for water pollution control and solid waste management planning by non-Federal agencies. They also support Federal interagency river basin studies, joint Federal-State river basin studies, and a study to develop a national system for storage and disposal of hazardous wastes. Compatibility between Federal and non-Federal planning is maintained through Federal guidelines and technical assistance and other cooperative relationships between EPA and States and communities. (State, interstate, and local air pollution control planning is carried out as a part of the activities supported under the program of grants to control agencies, described under the budget category "Control Agency Support.")

The overall purpose of EPA's planning activities is to provide a rational basis for the Nation's pollution control efforts and to ensure that the substantial and increasing Federal investment in facilities and control programs is applied effectively.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Planning grants.....	\$4,160,000	\$7,915,000	\$3,755,000
Planning grants administration.	685,000	1,274,000	589,000
Federal planning.....	5,896,000	14,568,000	8,672,000
Great Lakes planning.....	800,000	827,000	27,000
Total.....	<u>11,541,000</u>	<u>24,584,000</u>	<u>13,043,000</u>

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	297	422	125
Man-years.....	246	334	88

## Summary of Increases and Decreases

### Planning grants \$3,755,000

- Water quality management planning program: to extend grant support for river basin, metropolitan, and regional planning to 25 additional projects.....3,300,000
- Solid waste management planning program: to expand grant support for local and regional planning, begun in 1971, to an additional five projects.....455,000

### Planning grants administration \$589,000

- Water quality management planning program: to provide the additional staff necessary to adequately administer the expanded program.....200,000
- Solid waste management planning program: to provide the additional staff necessary to adequately administer the expanded program.....389,000

### Federal planning \$8,672,000

- Interagency water resources planning program: to initiate two new river basin studies.....405,000
- Joint Federal-State river basin planning program: to support development of mathematical models of the 100 most critical and complex basins.....4,550,000
- Direct assistance and review program: to increase aid to State, regional, and metropolitan water quality planning agencies to ensure effective plans and conformance of construction grant applications with those plans.....2,050,000
- The National Disposal Site Study required under the Resource Recovery Act of 1970: to fully implement the nine contracts and intramural activities initiated in 1971.....1,667,000

### Great Lakes planning \$27,000

- Great Lakes basin planning and demonstration program: to continue the broad-scale analytical study and related demonstration projects initiated in 1971.....27,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Planning grants	\$4,160,000	\$7,915,000	\$3,755,000

EPA administers two grant programs for the support of non-Federal planning--one in the area of water pollution control and the other in solid waste management. Eligible recipients under these programs are officially designated State, interstate, regional, and local planning agencies. Both programs emphasize the need for coordination of the planning they support with land-use and other related ongoing planning. EPA's regional staffs work closely with the grant recipients to assure that the planning is of high quality, that it is directed toward prevailing local, State, and Federal pollution criteria and standards, and that it is consistent with related Federal planning.

An increase of \$3,300,000 for the water quality management planning program is requested to extend grant support for river basin, metropolitan, and regional planning to additional areas. This increased planning capability is needed in critical areas to assure that investment in municipal sewage treatment facilities under the proposed \$6 billion Federal construction grants program is applied in a cost-effective manner.

Although water quality management planning is greatly needed for timely, coordinated, and effective compliance with established water quality standards, the rapid expansion of the construction grants program has greatly increased the urgency of such planning in order to protect this large Federal investment. Reflecting this urgency, regulations published in July 1970, require such planning as a precondition for the awarding of construction grants. Many areas will be unable to meet this requirement without Federal planning grants.

During 1971, 44 planning projects are being supported covering about 15 percent of the Nation's population. The requested increase will permit extending support to 69 projects in 1972, 25 more than in 1971, covering about 18 percent of the population.

An increase of \$455,000 for the solid waste management planning program is requested to expand the support for local and regional planning which is being initiated in 1971. This will provide impetus for this new activity to support meaningful planning close to the operating level of solid wastes management.

The Solid Waste Disposal Act of 1965 authorized grants to assist State and interstate agencies in solid waste planning. In 1971, 51 State and interstate projects are being supported and about the same number is expected in 1972. About 26 State and interstate plans will be completed in 1971 and 10 to 12 more in 1972. The Resource Recovery Act of 1970 added authority to provide grants for local and regional planning. While the

State and interstate plans are quite general and broad in scope, local and regional planning will be oriented to operations dealing directly with the special solid waste problems of a particular locality and the practical aspects (equipment, facilities, personnel, procedures, and organization) of the solutions. Such planning is urgently needed to build on the bases provided by the State and interstate plans and to influence community solid waste handling practices directly.

During 1971 planning grants will be awarded (or readied for award) for about 18 local and regional planning projects. These projects will be continued in 1972 and about five new projects will be started with the requested increase.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Planning grants administration	\$685,000	\$1,274,000	\$589,000

Administration of the previously described water quality management and solid wastes management planning grant programs is provided through regional and headquarters staffs. This administration includes preapplication assist prospective applicant agencies, review of applications to determine the need for and the prospective quality of the proposed projects, and, during execution of projects, provision of guidance and monitoring to ensure maintenance of high planning standards and attainment of planning objectives.

An increase of \$200,000 for the water quality management planning program is requested to provide the additional staff necessary to adequately administer the expanded program. This increase is necessary not only to meet the needs of the increased grant work load but also to upgrade assistance and surveillance for the total grant work load, thereby ensuring higher quality plans that, in turn, will contribute to more cost-effective construction grant projects.

An increase of \$389,000 for the solid waste management planning program is requested to provide the additional staff necessary to adequately administer the expanded program. As in the case of the water quality planning program, the increase is needed to increase the administrative staff so as to be able to handle the increased planning grant work load and to permit more effective administration of the total program in order to improve the quality of the resulting plans. The increased staffing for both this program and the water quality planning grants program will be placed largely in EPA's regional offices where direct and effective liaison with grantees and potential grantees can be maintained.



	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Federal planning	\$5,896,000	\$14,568,000	\$8,672,000

EPA carries out several direct planning activities to support the abatement and prevention of environmental pollution. These include interagency water resource planning, joint Federal-State water pollution control planning, review of construction grant applications for conformity to approved plans, and conduct of a study to develop a plan for a system of national disposal sites for hazardous wastes. This planning is carried out through a combination of contract and intramural efforts, the latter performed largely by EPA's regional offices.

An increase of \$405,000 for the interagency water resources planning program is requested to initiate two new river basin studies. This increase is necessary to permit EPA to carry out fully its obligations as a member of the Federal Water Resources Council.

EPA participates as a member of the Council, along with other Federal agencies having water-related interests and responsibilities. The Council, through its member agencies, conducts broad scale planning studies of river basin areas deemed critical from a water resources viewpoint. During 1971, 20 such studies are under way. In 1972, two new ones are to be initiated with EPA support and it is for this purpose that the increase of \$405,000 is requested, \$229,000 of which will go to other Federal agencies participating in the studies.

For the joint Federal-State river basin planning program, an increase of \$4,550,000 is requested to support development of mathematical models of 100 most critical and complex basins. This increase is required to provide a sounder basis for water pollution control planning which, in turn, will provide a sounder basis for the investment in municipal waste water treatment systems and facilities under the proposed \$6 billion, three-year construction grants program.

Adequate analytical tools are generally lacking in State, regional, and local water pollution control planning. Mathematical models will permit planners to determine in advance the pollution abatement effectiveness and the costs of alternative courses of control action. Planning based on such models will result in more cost-effective control and abatement programs. The cumulative effect of better planning in the 100 most critical and complex basins, therefore, should be a better return on Federal, State, and local dollars invested in water pollution abatement and control.

An increase of \$2,050,000 for the direct assistance and review program is requested to increase aid to State, regional, and metropolitan water quality planning agencies to ensure effective plans and conformance of construction grant applications with those plans. This increase is needed to provide the additional staff to work directly with the non-Federal

water quality planning agencies to help them develop high quality plans, to review those plans, and to review construction grant applications for conformity to the plans.

To a large degree, the cost-effectiveness of the waste treatment facilities constructed with Federal grant support will depend on sound planning. Thus, every reasonable effort to improve the quality of that planning and to relate the planning to construction grant projects should be warranted.

An increase of \$1,667,000 for the National Disposal Site Study is required under the Resource Recovery Act of 1970 to fully implement the nine contracts and intramural activities initiated in 1971. This increase is needed to permit completion of the required study by the November 1972 due date.

The Study is to result in a report and plan for creating a system of national disposal sites for the storage and disposal of hazardous wastes, including radiological, toxic chemical, biological, and other materials. It is being carried out primarily by contract, augmented with interagency agreements and a small intramural effort.

Development and initiation of nine contracts is being carried out in 1971. The requested increase will enable full-year operation of the contracts and the support of additional staff needed to coordinate and monitor the program and prepare the required report and plan.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Great Lakes planning	\$800,000	\$827,000	\$27,000

The Water Quality Improvement Act of 1970 authorized a planning and demonstration program for pollution control in the Great Lakes. In 1971 an intramural analytical study is identifying and describing critical problems, and, on this basis, contracts are being awarded to State and other public agencies in the Great Lakes area to develop pollution control plans and to demonstrate new methods and techniques for pollution control--focusing on a number of the most critical problems. These projects will be carried at the same level of funding in 1972. The small increase requested is to cover mandatory costs associated with salaries and related expenses.

Abatement and Control  
Monitoring and Surveillance  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	85	\$3,486	149	\$4,262 ✓	+64	+\$776
Pesticides.....	72	4,129	103	4,861	+31	+732
Radiation.....	140	2,547	152	2,840	+12	+293
Solid Wastes.....	3	115	3	415	...	+300
Water Quality.....	179	3,813	246	5,321	+67	+1,508
Total.....	479	14,090	653	17,699	+174	+3,609

Environmental quality monitoring.	(377)	(\$11,199)	(500)	(\$12,756)	(123)	(\$1,557)
Air Pollution.....	75	2,379	135	2,657	60	278
Pesticides.....	72	4,129	103	4,861	31	732
Radiation.....	140	2,547	152	2,840	12	293
Water Quality.....	90	2,144	110	2,398	20	254
Pollution source inventories and surveillance.....	(94)	(2,732)	(137)	(4,555)	(43)	(1,823)
Air Pollution.....	10	1,107	14	1,605	4	498
Solid Wastes.....	3	115	3	415	...	300
Water Quality.....	81	1,510	120	2,535	39	1,025
Community water supply inventories - Water Quality....	(8)	(159)	(16)	(388)	(8)	(229)
Total.....	479	14,090	653	17,699	174	3,609

Estimate herein.....	\$14,090	\$17,699	\$3,609
Required for January 1971 pay raise.....	195	508	313
Total.....	14,285	18,207	3,922

Manpower Resources:			
Man-years.....	409	555	+146

Operations, Research, and Facilities  
Abatement and Control

Monitoring and Surveillance

Purpose

The Agency's monitoring, inventory, and surveillance programs involve the collection of environmental quality data and information on sources of pollution. These efforts directly support the other environmental protection programs carried out by EPA and by State and local pollution control agencies. The information and data collected are utilized in the development of environmental protection criteria and standards, for determining compliance with standards, and for initiation of necessary abatement measures. These data are also used to formulate effective pollution control plans and to formulate and manage EPA's pollution control programs. The programs also provide an early warning system by which emerging environmental hazards can be identified so that effective control programs can be designed to deal with them.

The programs cover the monitoring of ambient air quality, water quality, pesticides, and radiological materials. They also cover the surveillance of motor vehicle emission and the collection of information on municipal and industrial waste water sources and solid waste systems. For the most part, these efforts are carried out in conjunction with similar programs operated by State, local, and other Federal agencies. A guiding principal is to support and complement the efforts of these other agencies. The general pattern, particularly in the monitoring of air and water quality, is for EPA to provide overall national direction of the surveillance system, operate its key stations or elements and provide support and assistance through laboratory services, introduction of new monitoring and analytical technology, and the maintenance of a central capability for storage, evaluation, interpretation, and dissemination of data. The overall purpose of EPA is to encourage and support the creation and operation of integrated Federal-State-local monitoring, inventory, and surveillance systems.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Environmental quality monitoring.....	\$11,199,000	\$12,756,000	\$1,557,000
Pollution source inventories and surveillance.....	2,732,000	4,555,000	1,823,000
Water supply studies and inventories.....	159,000	388,000	229,000
Total.....	14,090,000	17,699,000	3,609,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	479	653	174
Man-years.....	409	523	114

### Summary of Increases and Decreases

Environmental quality monitoring \$1,557,000

- Air quality monitoring program: to continue expanded operation of the network begun in 1971.....278,000
- Water quality monitoring program: to increase the sampling frequency and parameter coverage of the existing 875-station network.....254,000
- Radiological monitoring program: to initiate the monitoring of krypton-85 and tritium and to otherwise improve the program.....293,000
- Pesticide monitoring program: to cover special studies of new problem areas and additional chemicals.....280,000
- Pesticide community studies program: to expand special epidemiological studies and to improve data processing and analyses.....452,000

Pollution source inventories and surveillance \$1,823,000

- Municipal-industrial waste inventory program: to continue the industrial waste inventory initiated in 1971, to expand this inventory to include data collected from an estimated 40,000 facilities covered by the Corps of Engineers waste discharge permit program, and to continue improvements initiated in 1971 in the municipal waste inventory.....800,000
- Water quality and inventory data storage and retrieval system (STORET): to add six teleprocessing units and initiate other operational improvements.....225,000
- Solid waste data program: to continue and expand this program which was successful as tested at pilot-scale in 1971.....300,000

- Motor vehicle surveillance program: to expand its coverage of 1972-model vehicles.....498,000

Community water supply inventories \$229,000

- Community water supply inventory program: to evaluate the water supply programs of an additional 10 States and to update the 1963 inventory of community water supplies.....229,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Environmental quality monitoring	\$11,199,000	\$12,756,000	\$1,557,000

EPA currently operates four environmental quality monitoring programs--covering air quality, water quality, pesticide, and radiological monitoring. Each of these programs includes a network of monitoring stations strategically located throughout the Nation at which samples are collected for subsequent analyses (except in the case of automated stations where analyses are an integrated part of sample collection). These networks are supported by laboratory units to perform sample analyses and by computerized data storage and retrieval systems to handle the data developed. The data developed by these programs are utilized in the development of environmental criteria and standards, for the identification of needed abatement actions, for planning, and for other purposes. These data are also made available to State and local pollution control agencies and other Federal agencies to be utilized for similar purposes.

Additionally, EPA operates a community studies program to collect epidemiological information on the effects of pesticides on the health of man. Although fixed-station monitoring networks are not used, these studies are similar to the above programs in that they develop data on the environmental levels of pesticides.

An increase of \$278,000 for the air quality monitoring program is requested to continue operation of the 1971 improvements of the monitoring network. These improvements are required to effectively monitor compliance with the national ambient air quality standards being set pursuant to the Clean Air Amendments of 1970 and to support timely enforcement actions where noncompliance is detected. The increase will support the additional personnel added in 1971 to effect these improvements.

The air quality monitoring program currently operates 300 Federal monitoring stations. These stations are complemented by 2,000 State and local stations to form an integrated Federal-State-local system which presently covers approximately 40 percent of the Nation's urban population. In addition to the operation of these stations, the program supports the State and local programs by verifying sampling results, calibrating instrumentation to ensure consistent results, and monitoring pollutants for which the State and local agencies have no monitoring or analytical capability. The program also provides for the centralized storage and processing of all Federal, State, and local data in the National Aerometric Data Information Service, a computerized data storage, computation, and retrieval system.

In 1971, 60 of the 300 Federal air quality stations are being fully equipped for suspended particulate and gas monitoring. During 1972, these improved stations will be brought into operation and their frequency of sampling will be increased from once every two weeks to once a week. The increase requested is to provide the additional staff to effect these plans.

An increase of \$254,000 for the water quality monitoring program is requested to support additional positions to increase the sampling frequency and parameter coverage of the existing 875-station water quality monitoring network. These improvements are required to more effectively monitor compliance with established Federal-State water quality standards and to indicate the need for enforcement actions where noncompliance is detected.

The water quality monitoring program currently operates 420 monitoring stations and supports, through reimbursements, the operation of an additional 455 stations by the Geological Survey. As with the air quality monitoring network, these Federal stations are complemented by State monitoring stations to form integrated regional water quality monitoring networks. Also, in addition to the operation of monitoring stations, the water quality monitoring program supplements and supports State efforts by introducing new technology, providing verification of data and analytical quality control, and monitoring pollutants outside of State capability. The program further provides for the storage and retrieval of both Federal and State data in a computerized data system called STORET.

In 1971, the water quality monitoring network is being somewhat improved to provide increased sampling frequency and pollutant coverage. Also, planning for future expansion of both the Federal and State portions of the network is under way. During 1972, these improvements and planning efforts will be continued. The increase requested is for this continuation effort.

An increase of \$293,000 for the radiological monitoring program is requested to support additional personnel and equipment purchases to improve the effectiveness of the program in detecting the sources of radioactive materials found in the environment and to initiate the monitoring of krypton-85 and tritium. The operational improvements are needed to better assess the adequacy of radiological protection practiced by nuclear facilities and operations. The initiation of krypton-85 and tritium monitoring is required to provide surveillance of these radionuclides which are being increasingly produced by the nuclear power and nuclear fuel reprocessing industries.



The radiological monitoring program operates sampling networks to measure radiological levels in air, water, milk, and total human diet. The data collected are employed for the development of radiation protection guidelines, policies, and standards; for assessing compliance with guidelines and standards and identifying needed abatement actions; and for measuring the effectiveness of radiation control programs and identifying problems needing special study or research. The program is currently being redirected to provide better information on the sources of radionuclides measured in the environment. During 1972, this redirection will be continued and the monitoring of krypton-85 and tritium will be initiated. The requested increase is to support these activities.

An increase of \$280,000 for the pesticide monitoring program is requested to support special intensive studies on the movement and fate of certain pesticides, particularly 2,4-D, 2,4,5-T, and picloram, and of certain other contaminants, particularly mercury, cadmium, and other heavy metals. These studies are to complement current and continuing monitoring to provide scientific data necessary for the adequate evaluation of label registration applications and residue tolerance petitions. They are also needed to provide basic information with which to assess critical pesticide pollution problems and to offer technical assistance to State and other agencies. The increase will support additional field and laboratory personnel to conduct the planned studies.

Under the pesticide monitoring program, pesticide residues are sampled in soils, in land run-off waters and sediments, and in crops. Cropland sampling is being done in 43 States and noncropland sampling is being accomplished in 10 States. Sampling in 20 cities is also included in this network monitoring. Special studies of pesticide pollution problems and accidents are also conducted. These include investigations of the movement and fate of pesticides, and the residues of mercury and other heavy metals used in chemicals for pest control, and ecological effect studies. The purpose of both the network monitoring and special studies is to assess the amounts and types of pesticide residues in the environment.

In 1971, network monitoring is being carried out in the number of States and cities cited above and special studies are being conducted in corn growing areas, cattle feedlots, commercial catfish farms, and peanut, vegetable, and fruit growing areas. Mercuric, arsenic, and herbicide residue situations are also being closely studied. In 1972, it is planned to continue the network monitoring and to continue and expand the special studies. The requested increase is to support the expanded special studies.

An increase of \$452,000 for the pesticide community studies is requested to expand specialized epidemiological studies of the effects of pesticides on human health and to improve data processing and analyses. This work is needed to enable review of applications for label registration, and petitions for residue tolerances, to provide better guidance and assistance in the control of pesticide usage, and to better assess current and future pesticide pollution problems. The increase will support additional personnel and contracts necessary to carry out this expanded work.

The community studies program produces epidemiological information on the effects of environmental levels of pesticides on human health. Both long-and short-term clinical and subclinical studies are conducted. These include the collection and analysis of samples of human tissues from cooperating hospitals, other pathological studies and various epidemiological studies designed to trace either acute or chronic effects of pesticides on certain occupational groups as well as the general population. The results of these studies provide the scientific basis for establishing pesticide residue tolerances for foods, allowable uses of various pesticides and the levels of pesticides that can be safely allowed in the environment.

Currently, the community studies program is being conducted primarily through contracts with 14 universities and State health departments. Additional intramural work is being carried out to supplement the contract work. In 1972, it is planned to continue and expand the current program to undertake several important specialized studies in mutagenicity, sputum cytology, and retrospective morbidity and mortality--areas where scientific information for adequately assessing the health effects of pesticide exposure is particularly insufficient. The requested increase is to support these lines of investigation.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Pollution source inventories and surveillance	\$2,732,000	\$4,555,000	\$1,823,000

EPA's pollution source inventories and surveillance program has four major parts: a municipal waste inventory and an industrial waste inventory, both pertaining to sources of waste water discharges, a solid waste data program and a motor vehicle surveillance program. All four activities are directed toward collecting information and data on sources of pollution and their discharges into or impact on the environment. This information is used for evaluating pollution problems and pollution control needs, for assessing pollution control practices and compliance with established control regulations or standards, and for planning pollution control programs and estimating pollution abatement costs. Each of these activities also serves one or more special purposes.

An increase of \$800,000 for the municipal and industrial waste inventories is requested to continue the industrial waste inventory initiated in 1971, to expand this inventory to include data derived from the Corps of Engineers' waste discharge permit program, and to continue and improve the municipal waste inventory. This work is needed to provide the detailed information about municipal and industrial waste water sources necessary to carry out viable water quality management planning and to adequately evaluate applications for grants for the construction of municipal waste treatment facilities pursuant to current regulations requiring region-wide planning. The increase is to support additional personnel and data processing costs.

The municipal waste inventory contains statistics on 20,000 municipal waste treatment plants. These statistics include the location, size and design characteristics of each facility, the quantity and character of the waste effluents discharged, and the abatement requirements and compliance schedules imposed by water quality standards implementation plans pending enforcement actions and other regulations. In short, the inventory provides a concise but comprehensive characterization of the Nation's municipal waste treatment systems. The inventory is periodically updated with information collected from the State water pollution control agencies. However, in 1971, to provide for a more current inventory of information, a continuous updating procedure is being initiated. Data from the construction grants program, from water quality standards and enforcement activities, and from other sources are added to the inventory as it becomes available. This continuous updating procedure will be continued and improved in 1972.

The industrial waste inventory is being initiated in 1971. Heretofore, there has been no complete or comprehensive inventory of the Nation's industrial waste water sources and this has inhibited an accurate assessment of industrial waste pollution problems, comprehensive water quality management planning, and Federal and State regulatory activities. The inventory will contain information on the size and type of the industrial plants and their pollution control facilities, on the quantity and quality of their waste discharges, and on abatement needs and pending abatement requirements and schedules. Data are being collected in two ways: through questionnaires mailed to individual manufacturing plants and, eventually, through information received in applications for permits under the Corps of Engineers waste discharge permit program. In 1971, 10,000 questionnaires are being mailed, and the processing of these and the start-up of the permit system are being initiated. In 1972, the processing of questionnaires will be continued and the processing of information from an estimated 40,000 applications received under the waste discharge permit program will be initiated.

For the water quality and inventory data storage and retrieval system (STORET), an increase of \$225,000 is requested to provide system improvements enabling the processing of increased data from the expanded inventory and water quality monitoring programs and to add teleprocessing units in six State water pollution control agencies. These improvements are needed to better utilize the inventory and water quality data being collected. Additional personnel and equipment costs would be covered by the requested increase.

The STORET system consists of a central computer and computer programming and operation capability located in Washington, D.C., to which 39 field offices (including EPA's regional offices and several State water pollution control agencies) are connected by teleprocessing units. These units provide the field offices with full access to and utilization of the central computer for the storage and retrieval of inventory and monitoring data and for the performance of various computations to facilitate analyses of these data. In 1971, the system is being improved and expanded to handle

the additional industrial waste inventory data and the increased flow of data from the municipal waste inventory and water quality monitoring programs. In 1972, this improvement and expansion effort will be continued, principally to provide the additional capability of processing the industrial waste inventory information from the estimated 40,000 waste discharge permit applications. A part of this improvement will involve the completion of coding of additional hydrologic maps. Such coding is necessary to reference the location of waste sources and monitoring stations to facilitate the storage and retrieval of data. Also, teleprocessing units will be added for an additional six State water pollution control agencies.

An increase of \$300,000 for the solid waste data program is requested to continue and expand a data collection network initiated in 1971 and successfully tested at pilot scale. This expansion is required to assemble information not heretofore collected on community solid waste handling programs, facilities, and practices so that national assessments and estimates can be made and basic data can be obtained to improve technical assistance to State and local agencies. The increase will support contracts to carry out this expanded program.

The program collects basic information on the composition of municipal solid wastes, on collection and disposal methods, on capital and operating costs, and on other features of solid waste management in communities. This information is providing for the first time an accurate characterization of community solid waste handling programs and a data base to share with State and local agencies. The program was initiated in early 1971 as a pilot program collecting data in three Standard Metropolitan Statistical Areas (SMSA's). This pilot program has been carefully evaluated and found successful. In 1972, it is planned to continue the effort in the three SMSA's and to extend it to nine more SMSA's, for a total of 12.

An increase of \$498,000 for the motor vehicle surveillance program is requested to continue the program and expand it to include coverage of 1972-model-year vehicles. This expanded activity is needed to monitor the emission control performance of in-use vehicles so that nonconformance with Federal emission standards can be detected and appropriate action initiated to require the manufacturer to correct the deficiency pursuant to new authority under Section 207 of the Clean Air Amendments of 1970.

The program supplements the testing of new vehicles (both prototype and production-line testing) by monitoring the performance of emission controls of in-use vehicles for determination of conformance with Federal standards. Detection of noncompliance in a class or model of vehicles can be used to require the manufacturer to correct the deficiency through recall or other procedures. Currently, light duty vehicles of model years 1968 through 1971 are being monitored in six metropolitan areas and gasoline and diesel powered heavy duty vehicles are being tested in two cities. It is planned in 1972 to continue these surveillance programs and expand their coverage to include 1972-model vehicles.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Water supply studies and inventories	\$159,000	\$388,000	\$229,000

An increase of \$229,000 is requested for this program to evaluate the water supply programs of an additional 10 States and to initiate an inventory of community water supplies. This work is of vital importance to the protection of the public health as shown by the deficiencies found in the Nation's water supply systems in the Community Water Supply Study recently completed and published. The increase will support additional personnel and contract costs to carry out this planned work.

The community water supply inventory program is directed toward determining the adequacy of the Nation's water supply system through maintenance of an inventory of community water supplies, and toward evaluating individual State water supply programs. In 1971, the Community Water Supply Study was completed. This study covered facilities in eight metropolitan areas and in the State of Vermont. The study evaluated the degree to which a representative sampling of water supplies throughout the Nation met the provisions of Federal drinking water standards. It revealed major deficiencies in community drinking water supplies, particularly in the areas of plant facilities, operator training and State inspection and technical assistance programs. The study has increased State concern as to the adequacy of their water supplies and has led to requests from a number of States for in-depth evaluations of their respective programs. As a result, evaluations of the programs of Vermont, Tennessee, Maryland, and New Mexico are currently under way or have been completed.

In 1972, evaluations of the water supply programs of an additional 10 States will be conducted. Additionally, it is planned to initiate an inventory of community water supplies, last done in 1963. This inventory will provide accurate, detailed information on the number and characteristics of community water supplies throughout the Nation and will permit extrapolation of the statistical sampling information obtained through the Community Water Supply Study referred to above.

Abatement and Control  
Standards and Enforcement  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	149	\$5,871	250	\$11,667	+101	+\$5,796
Pesticides.....	329	5,983	433	7,608	+104	+1,625
Radiation.....	14	300	20	802	+6	+502
Solid Wastes.....	16	155	21	390	+5	+235
Water Quality.....	832	8,112	1,006	20,290	+174	+12,178
Total.....	1,340	20,421	1,730	40,757	+390	+20,336

Environmental standards.....	(65)	(\$2,479)	(132)	(\$5,356)	(+67)	(+\$2,877)
Air Pollution....	28	1,655	28	1,530	...	-125
Radiation.....	14	300	20	802	+6	+502
Water Quality....	23	524	84	3,024	+61	+2,500
Pollution source standards.....	(666)	(6,276)	(835)	(15,838)	(+169)	(+9,562)
Air Pollution....	27	990	89	4,420	+62	+3,430
Pesticides.....	223	4,131	277	4,878	+54	+747
Solid Wastes.....	16	155	21	390	+5	+235
Water Quality....	400	1,000	448	6,150	+48	+5,150
Compliance and enforcement.....	(609)	(11,666)	(763)	(19,563)	(+154)	(+7,897)
Air Pollution....	94	3,226	133	5,717	+39	+2,491
Pesticides.....	106	1,852	156	2,730	+50	+878
Water Quality....	409	6,588	474	11,116	+65	+4,528
Total.....	1,340	20,421	1,730	40,757	+390	+20,336

Estimate herein.....	\$20,421	\$40,757	+\$20,336
Requirement for January 1971 pay raise...	352	1,285	+933
Total.....	20,773	42,042	+21,269

Manpower Resources:			
Man-years.....	828	1,397	+569

Operations, Research, and Facilities  
Abatement and Control

Standards and Enforcement

Purpose

Regulatory controls--the development of criteria and standards for the protection of the environment, the use of permits and premarket product registration, and related enforcement activities--lay at the center of EPA's program. EPA currently sets national criteria and standards for the protection of the ambient environment which include ambient air quality standards, water quality standards, radiation protection guidelines and standards, and standards for the protection of public drinking water supplies. Pollution from specific sources or classes of source are regulated by setting emission standards for both mobile and stationary sources of air pollutants, the review of permits issued by the Corps of Engineers for controlling discharges into navigable waters, the development of guidelines covering solid waste management practices, and registration of pesticide-product labels and fuel additives to regulate the sale of these products.

EPA's direct enforcement activities involve surveillance and inspection to determine compliance with standards, collection of evidential data, and the conduct of enforcement proceedings. Enforcement actions are directed toward air pollution from mobile and stationary sources, abatement of air and water pollution under the conference procedure and through direct legal actions, the post-market regulation of pesticides and fuel additives, and the certification of public drinking water supplies.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Environmental standards.....	\$2,479,000	\$5,356,000	\$2,877,000
Pollution source standards..	6,276,000	15,838,000	9,562,000
Compliance and enforcement..	11,666,000	19,563,000	7,897,000
Total.....	<u>20,421,000</u>	<u>40,757,000</u>	<u>20,336,000</u>

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	1,340	1,730	390
Man-years.....	828	980	152

## Summary of Increases and Decreases

### Environmental standards \$2,877,000

- Air program: a decrease resulting from nonrecurring contract costs associated with the development of national ambient air quality standards..... -125,000
- Water program: to establish standards for ground waters and intrastate navigable waters and to participate in the International Field Year on the Great Lakes..... 2,500,000
- Radiation program: to continue and complete a review of existing Radiation Protection Guidelines and to develop additional or revised radiation standards for specific problems..... 502,000

### Pollution source standards \$9,562,00

- Air program: to establish performance standards for new stationary sources, hazardous emission standards, motor vehicle and aircraft emission standards, and to register motor vehicle fuel additives..... 3,430,000
- Water program: to fully implement the waste discharge permit program..... 4,700,000
- Water program: to initiate an ocean disposal control program..... 450,000
- Solid waste program: to expand the development of solid waste management guidelines..... 235,000
- Pesticides program: to reduce the backlog and expedite the handling of applications for pesticide-label registration..... 747,000

### Compliance and enforcement \$7,897,000

- Air program: to develop procedures and regulations for production-line testing of motor vehicles..... 2,491,000
- Water program: to expand investigations and abatement actions against sources of mercury and other heavy metals, to initiate investigations of polluted shellfish areas, and to provide field equipment for an enforcement field investigation team..... 4,424,000



- Water program: to increase the annual number  
of Federal-State surveys of drinking water supplies... 104,000
- Pesticides program: to increase the surveillance  
of registered pesticide products..... 878,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Environmental standards	\$2,479,000	\$5,356,000	\$2,877,000

EPA is responsible for the establishment of certain standards and guidelines for protection of the environment. These include national ambient air quality standards, water quality standards for interstate waters, and radiation protection policies, guidelines and standards. In addition, legislation has been proposed to enable the establishment of water quality standards for ground waters, navigable waters, and the coastal waters of the contiguous zone of the United States. These standards establish limits for the levels of specific pollutants or classes of pollutants that may be allowed to occur in the environment. Accordingly, they differ from effluent, emission, or other pollution-source standards which establish limits on the discharges of pollutants into the environment. The establishment of environmental standards involves the review of available research and other technical information relative to health, economic, and other effects of various pollutants; the determination of allowable levels; and the promulgation of specific enforceable standards.

For the activities related to the establishment of national ambient air quality standards, a decrease of \$125,000 is planned for 1972. This decrease results from nonrecurring contract costs incurred in 1971.

The Clean Air Amendments of 1970 require that EPA establish primary and secondary national ambient air quality standards for individual air pollutants which adversely affect public health and welfare and which result from emissions from numerous and diverse mobile and stationary sources. The primary standards are for the protection of public health, whereas the secondary standards are for the protection against adverse effects on vegetation, animals, materials, weather, visibility, and personal comfort and well-being. Following promulgation of the standards, the States are required to develop and submit for Federal approval implementation plans to obtain compliance with the primary standards within three years after Federal approval and compliance with the secondary standards within a reasonable period after Federal approval. Where the States fail to submit such plans or fail to submit approvable plans, EPA is required to develop and promulgate such plans or appropriate portions thereof.

The Amendments set forth specific requirements and deadlines for establishing the national ambient air quality standards. Precedant to the promulgation of a standard, EPA must issue and publish air quality criteria which support the standards by delineating the latest scientific knowledge about the effects of the given air pollutant on public health and welfare and by providing related information pertaining to atmospheric effects and other factors which influence the effects of the pollutant on man and the environment. Additionally, EPA must issue and publish information on

available air pollution control techniques and their costs to further support the standards to be established. Following these two steps for each standard, EPA is thus enabled to promulgate the standard. Periodic revision and updating of standards must follow the same pattern.

The Amendments require that standards be promulgated by April 1971 for those five pollutants--sulfur oxides, particulate matter, carbon monoxide, photochemical oxidants, and hydrocarbons--for which air quality criteria and control technique documents had been issued prior to enactment of the Amendments. For other pollutants, the Amendments require that the air quality criteria and control techniques documents be issued in conjunction with the publication of proposed standards.

Primary and secondary standards are being proposed for the five aforementioned pollutants plus nitrogen oxides. Also, the air quality criteria and control techniques document for nitrogen oxides is being issued in conjunction with this action. The promulgation of these standards will be completed in April 1971, to meet the statutory deadline. It is currently planned that these standards will comprise the national ambient air quality standards, and that the control of other air pollutants will be achieved through the establishment and implementation of performance standards for new stationary sources, hazardous emission standards, mobile source emission standards, and fuel additive regulations.

During the remainder of 1971 and during 1972, attention will be devoted to the revision and updating of criteria, control technique documents, and standards as necessitated by new scientific knowledge and new information. Particular attention will be given to assessing the type of standards appropriate for short-term exposures to air pollutants to determine needed revision of the established standards in this regard.

An increase of \$2,500,000 is requested for the establishment of water quality standards for ground water and intrastate navigable waters pursuant to the Administration's proposed legislation (S. 1013) to amend Section 10 of the Federal Water Pollution Control Act, as amended. Existing provisions of the Act enable the establishment of standards for only interstate waters; the proposed legislation seeks to extend the authority to the waters mentioned. Also included in this requested increase is an amount of \$300,000 to enable participation with other Federal agencies and the Canadian government in the International Field Year on the Great Lakes. This effort will comprise a comprehensive study of Lake Ontario resulting in a detailed description of the water quality of the Lake which can be used to assess the adequacy of and initiate the necessary revision of existing water quality standards for this body of water.

Under existing legislation, water quality standards are being established for the interstate and coastal waters of the 50 States, Puerto Rico, Virgin Islands, District of Columbia, and Guam. These jurisdictions have developed and adopted standards and submitted them for EPA approval--thus establishing Federal-State standards. For a few waters or pollutants, where the States have failed to adopt approvable standards and it has not been possible to secure the adoption of such standards through mutual discussions, EPA has used its authority to promulgate Federal standards. Pursuant to the definitions of the Act, the standards consist of a designation of water uses, a

prescription of water quality criteria to protect these uses, and an implementation plan delineating abatement requirements, abatement schedules, and other actions that the States will use to bring about compliance with the standards.

During 1971, the establishment of interstate standards is being completed. All of the States and jurisdictions have adopted and submitted standards and these have been either fully or partially approved as Federal standards. The principal activity during this year is negotiating with those States for which only partial approval of their standards have been given--these negotiations to resolve outstanding issues preventing full approval. Additionally, the monitoring of progress and compliance with the implementation plans of the standards is being carried out and the upgrading and revision of standards is being achieved where this is found necessary by virtue of new scientific knowledge on water quality requirements, changed water use patterns, changed waste discharge patterns, or other appropriate reasons.

During 1972, the monitoring and necessary upgrading of established standards for interstate waters will be continued. In addition, the establishment of standards for intrastate navigable waters and ground waters will be initiated if the proposed enabling legislation is enacted. This work will involve the development and promulgation of regulations on water use designations, water quality requirements and other features of acceptable standards, the provision of advice and assistance to the States in their development and adoption of standards, the review of standards, submitted by the States, and the development and promulgation of Federal standards where necessitated by inadequate State actions. Relative to the International Field Year on the Great Lakes, extensive water quality sampling and related field work will be carried out on Lake Ontario to provide a complete and detailed description of the quality of the Lake.

An increase of \$502,000 is requested (1) to continue the support of a comprehensive review of the adequacy of existing radiation protection guidelines heretofore issued by the Federal Radiation Council (FRC), and (2) to develop additional or revised radiation standards for specific problems such as the protection of uranium miners. This work is essential to keep pace with the growing nuclear industry.

EPA has two responsibilities relative to the establishment of radiation standards and guidelines for protection of the environment. The first of these, formerly exercised by FRC, is the formulation of basic Federal policy on radiation protection and the issuance of radiation protection guidelines to be used by all Federal agencies concerned with radiation control. Guidelines covering total human exposure to radionuclides and exposure to specific radionuclides--iodine-131, strontium-89, strontium-90, and radium-226--were set by FRC and are currently applicable. These guidelines, however, are far from being comprehensive in their coverage of specific radionuclide or their coverage of specific radiation-protection situations. Furthermore, they require

re-evaluation in light of the growing nuclear industry and the growing public concern about potential radiation hazards associated with this industry's expansion. The second responsibility, formerly that of the Atomic Energy Commission, is the development and promulgation of specific environmental radiation standards necessary to implement the radiation protection guidelines.

A comprehensive evaluation of the existing radiation protection guidelines and their scientific bases will be initiated in 1971 and continued through 1972. This will be carried out principally through contracts with the National Academy of Sciences and the National Council on Radiation Protection and Measurement. Also, during 1971 work will be initiated to review existing interim radiation standards for protection of uranium miners to develop radiation standards for additional radionuclides for which radiation protection guidelines are in effect and to develop alternative interim radiation protection guidelines pending completion of the comprehensive study of existing guidelines.

In 1972, the aforementioned 1971 activities will be continued and intensified. This work will result in the completion of the comprehensive study of existing guidelines and the development of new or revised policy, guidelines, and standards such as that pertaining to the control of uranium mine tailings.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Pollution source standards	\$6,276,000	\$15,838,000	\$9,562,000

EPA is responsible for establishing various standards and regulations to control the discharges of pollutants into the environment. These standards and regulations prescribe the specific requirements necessary to achieve compliance with the environmental standards previously discussed and to otherwise prevent and control pollution. They include emission standards for both stationary and mobile sources of air pollution, permits for industrial waste water discharges into navigable waters, performance standards for marine sanitation devices onboard vessels, guidelines setting forth acceptable solid waste management practices, and registration of pesticide-product labels and fuel additives to regulate the sale of these products. These activities are carried out primarily with intramural resources. They also generally entail close cooperation with other Federal agencies, States, municipalities, and private organizations.

For the air program, an increase of \$3,430,000 is requested for the development of performance standards for new stationary sources, emissions standards for hazardous air pollutants, emission standards for motor vehicles and aircraft, and for the registration of motor vehicle fuel additives. This increase is required to meet the substantially expanded standards-setting provisions of the Clean Air Amendments of 1970.

The Amendments require (1) that national performance standards be set for the control of air pollution from new facilities in designated classes of industries, (2) that emission standards be set for hazardous materials for which it is not practical to set ambient air quality standards, (3) that emission standards be set for motor vehicles and aircraft, and (4) that motor vehicle fuel additives be registered and regulated. The Amendments further specify that a series of special studies and reports to Congress be developed in connection with these standards.

In the area of performance standards for new stationary sources of air pollution, it is expected that 31 categories of industries will be designated by the end of 1972. Studies for the first five categories to be designated will be completed by the end of 1971, including steam electric power plants, municipal incinerators, cement plants, and nitric and sulfuric acid plants. Studies of a second group of industries chosen to reflect a priority for the control of odor, fluoride, and lead emissions will also be started. Initial work related to designating asbestos as a hazardous pollutant will be initiated in 1971. In the area of mobile sources, the 1971 effort will include the work preparatory to developing the reports required by the Amendments relative to the feasibility of future emission standards. Investigations will be started to assess the requirements for aircraft emissions standards. Notice of proposed rule making relative to motor vehicle fuel additives and studies of relevant scientific medical and economic data will be initiated.

Performance standards for the first five designated industries will be promulgated in the early part of 1972. The second and third additional groups of industry categories, covering 11 and 15 industries respectively, will be designated and standards will be issued for the second group late in 1972. Hazardous emission standards for asbestos, beryllium, and mercury will also be issued in 1972. In 1972, the studies of the feasibility of emission standards for mobile sources will be continued and expanded. The aircraft studies will be extended in 1972 to characterize aircraft emissions, evaluate aircraft movements and to translate emissions into ambient air quality levels near airports. This data, together with investigations of gaseous aircraft control technology, will permit standards for gaseous emissions from aircraft to be set early in 1973. The studies of fuel additives will be extended so as to permit the establishment of controls at the earliest possible date.

For the industrial waste discharge permit program, an increase of \$4,700,000 is requested to fully implement the program. The increase is necessary to support the development of this significant new avenue for improving water pollution control.

The program, announced by the President on December 25, 1970, is based on existing authorities, particularly the Rivers and Harbors Act of 1899. It is a cooperative effort between EPA, the States, the U. S. Army Corps of Engineers, and the Department of Justice. It will involve the receipt and

review of permit applications from industries discharging or proposing to discharge wastes into navigable waterways, issuance of permits where conformance to applicable water quality standards can be demonstrated, and various actions, including prosecution of permit violators, to bring about and maintain conformance.

To enable initiation of the program in late 1971, work is currently underway to develop necessary memorandums of agreement between Federal participants, to develop guidelines, regulations and procedures, and to recruit a core staff of technical and administrative personnel. The requested increase will allow full staffing and commencement of the processing of permit applications in 1972. Of the 41,000 applications expected to be received in late 1971 and early 1972, the most critical one-third (13,500) will be completely processed and issued permits during 1972.

Initial funding of \$450,000 is requested to commence an ocean disposal control program in 1972. This program is necessary to implement the National Policy on Ocean Disposal.

In October 1970, the Council on Environmental Quality issued a report, Ocean Dumping - A National Policy, recommending the gradual cessation of most existing practices of disposing of wastes into marine water and the prevention of most future practices of this type. Pursuant to the recommendations of this report, the President proposed in his Environmental Message of February 8, 1971, the enactment of legislation to regulate and, in some cases, ban the disposal of wastes in the ocean. This would be accomplished by a program of permit issuance to be administered by EPA, the proposed legislation for which has been transmitted to the Congress.

Meanwhile, with the requested increase, EPA will initiate a program based on existing authorities. It will develop criteria and guidelines for acceptable ocean dumping practice and define the types of waste dumping which must be prohibited or restricted (based on research for which additional funds are requested under Pollution Sources and Effects). It will also establish a cadre of technical experts in each of EPA's coastal and Great Lakes regional offices to carry out investigations of ocean dumping practices and proposals. This staff will provide advice and technical assistance to State and local agencies, to the Corps of Engineers, and to other Federal agencies. It will, where appropriate, help support abatement actions under existing Federal authorities. This limited program capability will provide a basis upon which to build a full-scale ocean dumping permit program, should the pending legislative proposal (or a similar one) be enacted by Congress.

For the solid waste program, an increase of \$235,000 is requested to continue and intensify the development of solid waste management guidelines pursuant to requirements of the Resources Recovery Act of 1970. Early development of these guidelines is needed to provide sound requirements for making grant awards for State and local planning and demonstration of solid waste management and resource recovery techniques and to provide sound

guidance to Federal agencies for the correction and control of solid waste problems at Federal facilities.

The Resource Recovery Act of 1970 requires that EPA develop solid waste management guidelines. These guidelines will be published and available to State, local, and private agencies and will be used to develop model codes, ordinances, and statutes, all for the purpose of assisting and promoting improved solid waste management nationwide. These guidelines will also become obligatory standards for federally operated and licensed solid waste management activities. Finally, the Act requires that resource recovery projects supported under the demonstration grants program and projects supported under the solid waste planning grant program conform to these guidelines.

Guideline development is being carried out by a primarily intramural effort, in consultation with State, interstate, and local solid waste management agencies as well as other Federal agencies and private organizations. In 1971, efforts center around "state-of-the-art" investigations leading to development of guidelines for municipal incineration and sanitary landfill operations. These guidelines will be completed and published in the Federal Register in 1972. In 1972 the effort will be extended to the study and development of guidelines for solid waste collection, storage, transportation, and size reduction. The requested increase will support this expanded effort.

For the pesticide program, an increase of \$747,000 is requested to reduce the backlog and expedite the handling of label registration applications. This increase is needed to alleviate the present substantial backlog and to reduce the average time for the processing of applications.

The Insecticide, Fungicide, and Rodenticide Act provides that no pesticide chemicals may be shipped in interstate commerce until shown to be safe when used as directed and effective for the purpose claimed. Also, under the Food, Drug, and Cosmetic Act, any pesticide intended for use on human or animal food must be determined safe for such use through establishment of tolerance levels. Pesticides must be registered and adequately labeled prior to interstate shipment. EPA provides clearance of proposed new labeling or labeling amendments and establishes tolerances or exemptions in reference to food residues. Processing of applications and tolerance petitions has been too slow, depriving the ultimate user of the latest authoritative guidance on the products and sometimes denying him a more effective or less hazardous chemical. Delays also needlessly penalize responsive manufacturers who attempt to market products in compliance with latest requirements.

As of February 1971, there were 4,993 applications and amendments to applications awaiting registration action, about one-half of which are expected to be acted upon by the end of 1971. A total of about 28,500 are expected during 1972. There is also a February 1971 backlog of 33 residue tolerance petitions. In addition, because regulations issued in 1966 require renewal of label registrations every five years, an influx of renewal applications is expected, commencing in mid-1971 and peaking in 1972 and totalling about 11,000.



The requested increase will be used to provide additional scientific, technical, and administrative staff to accelerate the review and processing of label registration applications, amendments, renewals, and tolerance petitions, and to eliminate the backlog, and reduce the average processing time for the action from 180 to 45 days.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Compliance and enforcement	\$11,666,000	\$19,563,000	\$7,897,000

EPA's compliance and enforcement activities involve (1) surveillance and inspection to determine compliance with established environmental standards, pollution-source standards, permits and product registrations; (2) the gathering of evidential data in cases where noncompliance is apparent; and (3) the conduct of actual enforcement proceedings. Enforcement actions include administrative procedures such as the revocation of certifications, seizure of products, and actions under the "conference" procedure provided for under the existing air and water pollution legislation, as well as the initiation of court proceedings. Relative to environmental standards for air and water quality and performance and hazardous emission standards, the States are expected to exercise primary responsibility for compliance and enforcement, but where this is not achieved, Federal action is possible pursuant to existing authorities. Relative to mobile source air emission standards and pesticide-label registration, compliance and enforcement are primarily a Federal responsibility. In all cases, however, close cooperation and coordination with State and local efforts are maintained.

For the air program, an increase of \$2,491,000 is requested to enable the development of procedures and regulations for production-line testing of motor vehicles to determine their compliance with established emission standards. This work is required to enable the initiation of a fully operational testing program for 1973 model-year vehicles.

The Clean Air Act, as amended, requires EPA to test prototypes of new models of motor vehicles to determine their compliance with established emission standards. If compliance is found, a certificate of conformity is issued enabling the manufacturer to sell or import the particular model. The Clean Air Amendments authorize EPA to test production-line models of vehicles to assure that manufactured models do, in fact, comply with emission standards and with the regulations under which certification of conformity have been issued. Findings of noncompliance are grounds for revocation of the certificate of conformity.

To prepare for full-scale operational production-line testing of 1973 model-year vehicles, two preparatory steps must be taken. The first of these will be completed in 1971: the development of a short-cycle test appropriate for production-line testing. During 1972, the second step will

be undertaken: the full-scale pilot tests of the testing procedures and the development of regulations to enable initiation of a production-line testing program in 1973. Also, during 1972, the program of testing prototype models and issuing certificates of conformity will be continued.

The newly authorized enforcement activities of the air program--pertaining to violation of national ambient air quality standards, performance standards, hazardous emission standards, aircraft emission standards, and fuel additive regulations--will be organized and commenced during 1972.

For the water program, an increase of \$4,424,000 is requested (1) to complete the investigation and the taking of necessary abatement actions against all potential dischargers of mercury, (2) to initiate a similar effort pertaining to potential dischargers of heavy metals, (3) to investigate and take appropriate enforcement action in four shellfish areas where pollution is suspected to be having adverse effects, and (4) to provide needed equipment for a field team assigned to the conduct of enforcement investigations. Their work is essential to the abatement of critical water pollution problems and to the effective implementation of established water quality standards.

The Federal Water Pollution Control Act, as amended, authorizes EPA to undertake various enforcement actions to secure compliance with water quality standards for interstate water, to abate pollution of navigable waters, and to abate pollution of shellfish areas where the marketing of shellfish in interstate commerce is adversely affected. Also, in cooperation with the Coast Guard pursuant to a delegation of the President's authorities, EPA carries out various activities to enforce regulations covering the control, cleanup, and prevention of oil spills. Finally, EPA participates in the bringing of enforcement actions under the Refuse Act of 1899.

During 1971, work in over 50 active enforcement actions is under way. This includes the monitoring of programs in meeting the abatement requirements and schedules set forth in these actions and the conduct of field investigations to support current actions. Also, investigations in support of potential new actions are being continued. Particular attention is being given to mercury pollution. All potential dischargers of mercury have been identified and are being investigated on a case-by-case basis. Where significant discharges of mercury are found, action is initiated, including court action where necessary, to secure abatement.

During 1972, the current enforcement activities will be continued and certain of these expanded or intensified. The investigation of potential mercury dischargers will be completed and appropriate abatement action will be taken. Additionally, a panel of experts will be formed to formulate discharge limits and treatment and control requirements for mercury. The investigations of potential dischargers of an additional three to five

toxic heavy metals will be initiated and followed with appropriate enforcement actions. The investigation of pollution effecting four important shellfish growing areas will be started and similarly followed with appropriate abatement actions. Finally, the capability of one of EPA's field investigation teams assigned to enforcement activities will be improved by the provision of additional mobile-laboratory and other field equipment.

For the drinking water certification program, an increase of \$104,000 is requested to increase, from 13 to 18, the annual number of Federal-State surveys of water supplies in order that deficiencies or deteriorating conditions can be identified and early remedial action taken.

The drinking water certification program classifies all 670 drinking water supplies in the United States which serve interstate carriers--planes, trains, and buses--and certifies them for use by such carriers when in compliance with EPA drinking water standards as they relate to the prevention of the spread of communicable disease. This responsibility is coordinated with the Food and Drug Administration which is responsible for maintaining an inventory of water supply points used by interstate carriers and for inspecting such points.

In 1971, 13 Federal-State surveys will be conducted. In 1972, it is proposed to increase this number to 18 and to maintain this level of effort in subsequent years so that classification of all interstate-carrier water supplies can be completed every three years, rather than every four years as is permitted by current resource levels. The laboratory analytical work necessary to support these surveys will also be proportionally increased.

For the pesticide program, an increase of \$878,000 is requested to increase the surveillance of domestic and imported pesticide products.

EPA's examination and surveillance of domestic and imported pesticides serves as the basis for compliance actions under the Federal Insecticide, Fungicide, and Rodenticide Act. Surveillance is carried out by examining the manufacturers' and distributors' records and checking thousands of outlets, as well as by carrying out inspector visits to manufacturer and distributor locations to determine the disposition of returned products. When violation of law occurs, compliance can be brought about through voluntary or mandatory recall and removal of the product by the manufacturer, or through seizure of the product by EPA. Surveillance and enforcement responsibilities are supported by laboratory testing of acquired samples.

In 1971, surveillance is limited to sampling less than 15 percent of the estimated 40,000 registered domestic products and about 10 percent of the imported products. The requested increase will permit increasing the surveillance level for domestic products to 20 percent and for imported products to 15 percent.

Abatement and Control  
Control Agency Support  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	43	\$30,900	43	\$43,630	...	+\$12,730
Water Quality.....	18	10,575	29	15,790	+11	+5,215
Total.....	61	41,475	72	59,420	+11	+17,945

Control agency grants.....	...	(\$40,200)	...	(\$57,900)	...	(\$17,700)
Air Pollution....	...	30,200	...	42,900	...	12,700
Water.....	...	10,000	...	15,000	...	5,000
Control agency grants administration.....	(61)	(1,275)	(72)	(1,520)	(11)	(245)
Air Pollution....	43	700	43	730	...	30
Water.....	18	575	29	790	11	215
Total.....	61	41,475	72	59,420	11	17,945

Estimate herein.....	\$41,475	\$59,420	\$17,945
Requirement for January 1971 pay raise.....	27	58	31
Total.....	41,502	59,478	17,976

Manpower Resources:			
Man-years.....	54	64	+10

Operations, Research, and Facilities  
Abatement and Control

Control Agency Support

Purpose

Current Federal legislation clearly sets out the policy that primary responsibility for pollution control rests with State and local governments and interstate agencies. This approach carries with it a commitment for Federal leadership in the development of effective control programs together with the provision of financial assistance to support the implementation and operation of State and local programs. To this end, the Federal Water Pollution Control Act, as amended, authorizes matching grants to State and interstate water pollution control agencies. The Clean Air Act, as amended, authorizes assistance under a variety of matching formulas to State, regional, and local air pollution control agencies to support the cost of planning, developing, improving, and maintaining their operations. The Clean Air Act also authorizes the assignment of Federal employees to these control agencies in lieu of financial assistance.

Associated with these grants is the Federal effort involved in their administration as well as in the provision of consultive services to the various control agencies in the management of these grants.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Control agency grants.....	\$40,200,000	\$57,900,000	\$17,700,000
Control agency grants administration.....	1,275,000	1,520,000	245,000
Total.....	<u>41,475,000</u>	<u>59,420,000</u>	<u>17,945,000</u>

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	61	72	11
Man-years.....	54	64	10

## Summary of Increases and Decreases

### Control agency grants \$17,700,000

- Air pollution control agency grants:  
to increase the number of agencies  
receiving support, the level of support  
under existing grants, and the number of  
Federal employees assigned to grantee  
agencies..... 12,700,000
- Water pollution control agency grants:  
to increase the level of support  
consistent with proposed amendments to  
Section 7 of the Federal Water Pollution  
Control Act..... 5,000,000

### Control agency grants administration \$245,000

- Air pollution control agency grants  
administration: to support the full-  
year costs of personnel added in 1971  
to improve grants management..... 30,000
- Water pollution control agency grants  
administration: to provide for expanded  
work load related to increased grant  
funding levels and further strengthen  
existing grant administration  
procedures..... 215,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Control agency grants</u>	<u>\$40,200,000</u>	<u>\$57,900,000</u>	<u>\$17,700,000</u>

EPA currently provides financial assistance to State, regional, and local air pollution control agencies and to State and interstate water pollution control agencies. This support is intended to assist these agencies in fulfilling their responsibilities under existing Federal air and water pollution control legislation. Additionally, the matching features of these grants serve as realistic incentives for State and local governments to expand their pollution control resources and to increase their overall commitment to environmental protection programs. Federal funds are used by these control agencies to employ technical and managerial personnel to plan and develop control programs, for the procurement of needed laboratory and field equipment, for the training of agency personnel, and for the conduct of monitoring and inspection programs, as well as enforcement activities.

An increase of \$12,700,000 for air pollution control agency grants is requested to increase (1) the number of control agencies being supported, (2) the levels of grant support, and (3) the number of Federal employees assigned to grantee agencies. This increase relates primarily to the new responsibilities imposed on State, regional, and local air pollution control agencies by the Clean Air Amendments of 1970. Under these amendments, each State must undertake a series of resource-demanding actions within the period of the next year which include: designation of the remaining air quality control regions within its boundaries; expansion of its inventory of air quality and source emissions; development of an effective regulatory program; and development and submittal for EPA approval of implementation plans for meeting national ambient air quality standards for six major pollutants. These actions and plans must be adequate to assure meeting of primary national ambient air quality standards within three years. To assist the States in meeting the responsibilities, the Clean Air Act provides for grants, under several matching formulas, to assist in the planning and development of new air pollution control agencies, the improvement of existing agencies, and the maintenance of control agency operations on a continuing basis.

During 1971, \$30.2 million in grants (see table on page AC 4-6) will be made available to match an estimated \$43 million in State and local funds. These grants are supporting 201 air pollution control agencies, including 47 State agencies, one territorial, and 153 local agencies. Thirteen of this total number will receive maintenance grants. Additionally, 105 temporary Federal employees are assigned to State agencies to supplement an estimated 2,900 employees on the rolls of State and local control agencies.

In 1972, grant support will be increased to \$42.9 million (see table on page AC 4-6. This will enable the extension of grant assistance to six additional agencies--two State, one territorial and three local agencies--for a total of 207 agencies. Additionally, it will enable the assignment of an additional 295 Federal employees to State agencies to aid them in meeting the immediate and substantial work load imposed by the Clean Air Amendments of 1970. These assignees will supplement an expected increase of 1,000 State and local personnel.

An increase of \$5,000,000 is requested for water pollution control agency grants to increase the level of grant support from \$10 to \$15 million (see table on page AC 4-8) pursuant to the Administration's proposed amendments to Section 7 of the Federal Water Pollution Control Act, as amended. This additional support is needed to enable the State control agencies to meet the demands imposed by the Federal program to implement the Corps of Engineers' waste discharge permit program, for development of metropolitan, regional and river basin control plans, for accelerated enforcement actions, and for administration of the expanded Federal construction grants program.

The Federal Water Pollution Control Act, as amended, authorizes matching grants to State and interstate water pollution control agencies to assist them in improving and maintaining their programs and in meeting their responsibilities under Federal programs. In 1971, \$10 million will be made available to 59 State, territorial, and interstate agencies to match approximately \$32 million in State funds. Of the total number of agencies receiving support, 54 are State or territorial agencies and five are interstate agencies.

Section 7 of the Federal Water Pollution Control Act, as amended, now limits annual appropriations for control agency grants to \$10 million. This section of the Federal Water Pollution Control Act, as amended, expires in June 1971 and the proposed legislation for its extension provides for an increase in authorization to \$15 million in 1972 with increasing increments of \$5 million in each of the subsequent fiscal years through 1975. This additional funding will be used to support bonus grants to those States which undertake to improve and expand their programs in certain critical areas of activity.



	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Control agency grants administration	\$1,275,000	\$1,520,000	\$245,000

Headquarters and regional staffs are maintained to manage the above described grants. The headquarters component provides policy direction and general management guidance. The regional components provide the technical management and monitoring of the grant programs. This includes the review and evaluation of grant applications, the provision of preapplication assistance, the monitoring of the grantees' programs, and the maintenance of day-to-day liaison with the grantees to promote effective communication with EPA and to assist them in improving and strengthening their program.

An increase of \$30,000 for air pollution control grants administration is requested to support the full-year cost of personnel added in 1971 to improve grants management and handle the increased work load of the expanded program.

An increase of \$215,000 for water pollution control agency grants administration is requested to support the additional staff required to handle the work load associated with increased funding levels, to further improve existing administrative practices, and to maintain closer liaison with grantee agencies.

# Allocation of Control Agency Grants

## Air Pollution

<u>State or Territory</u>	<u>1971</u>	<u>1972</u>
Alabama.....	\$43,203	\$405,926
Alaska.....	55,466	61,387
Arizona.....	347,500	347,500
Arkansas.....	90,152	269,884
California.....	2,870,044	4,134,262
Colorado.....	522,000	522,000
Connecticut.....	530,869	770,512
Delaware.....	205,112	231,932
District of Columbia.....	234,134	234,134
Florida.....	949,918	1,113,975
Georgia.....	552,829	801,798
Hawaii.....	27,605	60,695
Idaho.....	64,937	127,634
Illinois.....	1,468,457	2,337,857
Indiana.....	512,615	1,142,721
Iowa.....	215,112	470,426
Kansas.....	141,324	296,999
Kentucky.....	535,614	670,413
Louisiana.....	183,916	487,649
Maine.....	74,093	202,273
Maryland.....	1,426,251	1,426,251
Massachusetts.....	698,009	1,129,922
Michigan.....	1,533,572	2,150,442
Minnesota.....	447,798	648,428
Mississippi.....	95,359	290,416
Missouri.....	772,226	956,945
Montana.....	135,086	186,985
Nebraska.....	133,408	211,694
Nevada.....	163,000	163,000
New Hampshire.....	55,869	130,409
New Jersey.....	1,587,669	2,053,369
New Mexico.....	257,558	257,558
New York.....	2,836,675	4,178,741
North Carolina.....	620,180	965,362
North Dakota.....	21,456	65,343

<u>State or Territory</u>	<u>1971</u>	<u>1972</u>
Ohio.....	1,257,189	2,199,387
Oklahoma.....	236,877	344,004
Oregon.....	567,650	639,403
Pennsylvania.....	2,562,671	3,005,808
Rhode Island.....	106,473	188,675
South Carolina.....	345,623	516,948
South Dakota.....	33,441	64,441
Tennessee.....	801,281	881,045
Texas.....	1,426,216	2,038,558
Utah.....	101,551	133,944
Vermont.....	59,920	84,302
Virginia.....	478,067	722,294
Washington.....	1,125,000	1,125,000
West Virginia.....	256,462	376,631
Wisconsin.....	199,494	701,071
Wyoming.....	33,536	53,041
American Samoa.....	219	3,005
Guam.....	10,823	21,272
Puerto Rico.....	149,310	254,87
Virgin Islands.....	39,181	41,9
Total, Air Pollution.....	30,200,000	42,900,000

## Allocation of Control Agency Grants

### Water Quality

<u>State or Territory</u>	<u>1971</u>	<u>1972</u>
Alabama.....	\$190,500	\$184,900
Alaska.....	20,000	20,400
Arizona.....	75,500	76,800
Arkansas.....	115,700	112,600
California.....	661,100	672,000
Colorado.....	88,000	90,900
Connecticut.....	167,400	167,500
Delaware.....	85,900	86,000
District of Columbia.....	87,800	86,800
Florida.....	266,300	276,800
Georgia.....	218,700	213,800
Hawaii.....	71,100	69,000
Idaho.....	44,100	43,900
Illinois.....	428,000	430,900
Indiana.....	230,000	233,800
Iowa.....	121,200	123,300
Kansas.....	97,600	95,900
Kentucky.....	165,000	164,000
Louisiana.....	184,100	179,600
Maine.....	63,000	63,600
Maryland.....	181,300	183,900
Massachusetts.....	264,600	267,800
Michigan.....	357,800	360,100
Minnesota.....	155,400	158,000
Mississippi.....	145,100	137,200
Missouri.....	196,700	197,400
Montana.....	39,000	39,500
Nebraska.....	66,400	67,700
Nevada.....	24,900	25,500
New Hampshire.....	63,500	64,900
New Jersey.....	311,900	312,200
New Mexico.....	52,300	53,100
New York.....	650,400	645,400
North Carolina.....	264,600	258,400
North Dakota.....	37,200	37,400

<u>State or Territory</u>	<u>1971</u>	<u>1972</u>
Ohio.....	447,300	447,800
Oklahoma.....	117,600	118,000
Oregon.....	96,900	98,900
Pennsylvania.....	488,300	489,400
Rhode Island.....	111,000	108,800
South Carolina.....	157,400	151,000
South Dakota.....	38,500	38,900
Tennessee.....	208,200	204,300
Texas.....	427,000	424,600
Utah.....	55,400	56,100
Vermont.....	43,700	44,200
Virginia.....	210,500	208,400
Washington.....	136,300	137,300
West Virginia.....	110,200	107,600
Wisconsin.....	193,000	199,500
Wyoming.....	23,600	24,200
Guam.....	75,000	74,300
Puerto Rico.....	195,000	192,500
Virgin Islands.....	73,000	73,200
Subtotal, Water Quality.....	9,400,000	9,400,000

#### Interstate Agencies

Delaware River Basin Commission.....	133,500	133,500
Delaware New York		
New Jersey Pennsylvania		
Interstate Commission on the Potomac River Basin.....	50,400	51,200
District of Pennsylvania		
Columbia Virginia		
Maryland West Virginia		
Interstate Sanitation Commission.....	137,800	138,300
Connecticut New York		
New Jersey		
New England Interstate Water Pollution Control Commission.....	87,400	88,300
Connecticut New Hampshire		
Maine New York		
Massachusetts Rhode Island		
Vermont		

<u>Interstate Agencies</u>	1971	1972
Ohio River Valley Water Sanitation		
Commission.....	190,900	188,700
Illinois                      Ohio		
Indiana                      Pennsylvania		
Kentucky                      Virginia		
New York                      West Virginia		
Subtotal, Interstate Agencies.....	600,000	600,000
Funds will be used for bonuses to States as prescribed in proposed bill for extending and amending Section 7 of the Federal Water Pollution Control Act, as amended.....	...	<u>5,000,000</u>
Total, Water Quality.....	10,000,000	15,000,000

Abatement and Control  
Technical Support  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	345	\$7,360	374	\$10,421	+29	+\$3,061
Pesticides.....	40	1,055	43	1,160	+3	+105
Radiation.....	14	209	19	303	+5	+94
Solid Wastes.....	69	1,718	81	2,008	+12	+290
Water Quality.....	446	9,445	455	11,095	+9	+1,650
Total.....	914	19,787	972	24,987	+58	+5,200

Technical support.....	(810)	(\$17,697)	(868)	(\$22,198)	(+58)	(+\$4,501)
Air Pollution.....	345	7,360	374	10,421	+29	+3,061
Pesticides.....	40	1,055	43	1,160	+3	+105
Radiation.....	14	209	19	303	+5	+94
Solid Wastes.....	69	1,718	81	2,008	+12	+290
Water Quality.....	342	7,355	351	8,306	+9	+951
Estuarine and Oceanographic - Water..	(20)	(755)	(20)	(755)	...	...
Oil and Hazardous Materials - Water.....	(84)	(1,335)	(84)	(2,034)	...	(+699)
Total.....	914	19,787	972	24,987	+58	+5,200

Estimate herein	\$19,787	\$24,987	+\$5,200
Requirement for January 1971 pay raise.....	339	818	+479
Total.....	20,126	25,805	+5,679

Manpower Resources:			
Man-years.....	732	929	+197

Operations, Research and Facilities  
Abatement and Control

Technical Support

Purpose

The technical support programs encompass field investigations, special studies, and other technical work necessary to support EPA's activities in developing and setting standards, reviewing standards implementation plans, conducting enforcement actions, effecting river basin and other planning, and carrying out its other functions. These programs also cover EPA's technical assistance to State, local, and other Federal agencies. Such assistance includes field investigations and special studies, many of which are joint endeavors, and technical consultation to help investigate and develop solutions for complex pollution problems.

Additionally, there are two special technical support programs: the estuarine and oceanographic program and the oil and hazardous materials program. The first of these comprises the collection and collation of comprehensive data and information about the Nation's estuarine, coastal, and Great Lakes waters, the dissemination of this information, and the provision of technical assistance to State, local, and other Federal agencies engaged in the planning for and management of coastal and estuarine zones. The oil and hazardous materials program covers the field and headquarters technical activities required to implement, in cooperation with the Coast Guard, the regulatory and related provisions of Sections 11 and 12 of the Federal Water Pollution Control Act, as amended. The activities carried out under this program include responses to oil and hazardous spills to assist and oversee control and cleanup or to undertake Federal control and cleanup action; the development, revision, and implementation of national and local contingency plans; and the conduct of activities to prevent oil and hazardous spills.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Technical support.....	\$17,697,000	\$22,198,000	\$4,501,000
Estuarine and oceanographic studies.....	755,000	755,000	...
Oil and hazardous materials.	1,335,000	2,034,000	699,000
Total.....	19,787,000	24,987,000	5,200,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	914	972	58
Man-years.....	732	835	103



## Summary of Increases and Decreases

### Technical support \$4,501,000

- Air pollution program: to provide assistance to the States in developing implementation plans for the national ambient air quality standards and to review for Federal approval the plans submitted by 53 States..... 3,061,000
- Water quality program: to convene technical advisory committees to update guidelines for water quality criteria and waste treatment and discharge requirements; to conduct inventories and studies of feedlot, forestry and logging, irrigation return flow, and runoff pollution sources; and to expand technical assistance to local agencies for the detection and removal of potentially toxic materials in public water supplies..... 951,000
- Solid waste program: to provide increased technical assistance to State and other agencies. 290,000
- Radiation program: to establish radiological specialists in two additional regional offices to enable adequate technical assistance to the States covered by these regions..... 94,000
- Pesticide program: to conduct four training conferences to improve State and local officials' capabilities for enforcing pesticide standards... 105,000

### Oil and hazardous materials \$699,000

- Oil and hazardous materials program: to provide assistance in responding to spills and to develop local contingency plans..... 699,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Technical support	\$17,697,000	\$22,198,000	\$4,501,000

EPA provides technical support to its own operating programs and technical assistance to other Federal, State, and local agencies for the control of air, water, solid waste, radiation, and pesticide pollution. These activities encompass the development of the technical bases for setting and enforcing standards and implementation plans, for developing comprehensive environmental protection and pollution control plans, for developing and operating surveillance and monitoring systems, for abating pollution from Federal facilities and activities, and for the performance of other pollution abatement and control activities. This work principally involves field investigations and special studies to determine the sources or causes of pollution and to find the most appropriate abatement measures. It also encompasses technical advice and consultation and the provisions of laboratory services.

EPA also reviews worldwide literature and assembles technical news and information concerning the scientific and engineering advances and innovations in the field of environmental protection. This technical information is disseminated to government agencies, industry, research groups, and universities.

An increase of \$3,061,000 for the air program is requested to provide assistance to the States for development of implementation plans for national ambient air quality standards, and to review these plans when submitted for Federal approval. This technical assistance is necessary to assure that approvable plans are submitted and competent review is given within time requirements established by the Clean Air Amendments of 1970.

The Clean Air Amendments of 1970 place new and additional burdens on the States. The States are required, during calendar year 1971, to designate remaining air quality control regions within their boundaries, expand their inventory of air quality and source emission data, develop and submit, for EPA approval, regional implementation plans for the six pollutants presently covered by national ambient air quality standards, establish legal authority and regulatory programs, and develop emergency plans for meeting air pollution episodes. The development of implementation plans will be a critical element; they must provide for obtaining compliance with primary national ambient air quality standards within three years after their approval and, as they pertain to primary standards, they must be adopted and submitted by the States within nine months after promulgation of the primary standards by EPA (these plans are therefore due approximately January 31, 1972). The States will need considerable technical assistance during 1971 and 1972 in developing these plans in order to meet both the substantive and time specifications set forth by the Amendments. Further, the Amendments require that EPA

approve the States' plans. If any of these plans are found inadequate, EPA must develop and adopt Federal plans within six months after their submittal. This mandate will require substantial technical support for the review of, and related actions on, submitted plans during 1972.

Thirteen implementation plans submitted under the provisions of the 1967 Act for sulfur oxides and particulates are currently being reviewed in relation to the proposed national ambient air quality standards being established under the 1970 Amendments, and notification of required revisions to meet these standards is being given to States. States are now in the process of formulating the remaining implementation plans and are being advised about the proposed standards so as to enable submittal of adequate plans. In 1972, 53 implementation plans will be submitted for review and approval for the six pollutants covered by national ambient air quality standards. The review of these plans will be completed during the year to comply with the time provision of the Amendments.

An increase of \$951,000 for the water program is requested (1) to convene a technical advisory committee to update EPA's water quality criteria guidelines; (2) to further develop waste treatment and waste discharge requirement guidelines; (3) to conduct inventory and developmental studies on feedlot, forestry and logging, irrigation return flow, and rural runoff pollution problems; and (4) to expand technical assistance to local agencies for the detection and removal of potentially toxic materials in water supplies.

The National Technical Advisory Committee Report, Water Quality Criteria, was published in 1968 and provided the basis for the development and establishment of the current Federal-State water quality standards for interstate waters. Since that publication, new scientific knowledge on water quality requirements and tolerances has been acquired. Also, the weaknesses in coverage and comprehensiveness of the Report have been identified. For these reasons, it is planned in 1972 to update and expand the Report to provide the basis for upgrading presently established water quality standards where necessary, and to provide the basis for establishing standards for navigable, contiguous zone, and ground waters pursuant to the Administration's proposed legislation to strengthen and extend the Federal standards-setting authority of Section 10 of the Federal Water Pollution Control Act, as amended.

Effective implementation of the Corps of Engineers waste discharge permit program will require the specification of waste treatment requirements and/or effluent standards as conditions of issued permits. To enable the specification of such conditions, work is presently under way to identify and characterize the best available waste treatment technology for 22 sectors of industry. From this work, it is planned before the end of 1971 to develop preliminary guidelines on waste treatment and waste discharge requirements for classes and types of industrial plants. These guidelines will enable initial implementation

of the waste discharge permit program in 1972. It is further planned to complete the development of these guidelines during 1972 to provide a firm basis for the continued conduct of the permit program. These guidelines will also be available and used for the development and implementation of effluent standards pursuant to the Administration's proposed legislation to amend Section 10 of the Federal Water Pollution Control Act, as amended.

Water pollution arising from animal feedlot operations, forestry and logging practices, irrigation return flows, and rural runoff have not been studied on a systematic, nationwide basis. Because these sources are being found to have a substantial adverse impact on water quality--by virtue of their own growth and as a result of the abatement of municipal and industrial pollution--it is now necessary to make a concerted national effort to minimize these impacts. Accordingly, it is planned in 1972 to initiate a comprehensive inventory and study of these sources, their effects, and possible remedial measures preparatory to developing a national program for their control.

The Community Water Supply Study, recently completed and published, identified all-too-widespread deficiencies in the operation of public water supplies and specifically identified, among other things, a high proportion of public water supplies which exceed recommended limits for chemical constituents. To address these findings in part, EPA provides technical assistance to local agencies to aid them in improving their water supply operations. During 1972, it is planned to continue this essential work and to expand assistance pertaining to the detection and removal of potentially toxic chemical constituents.

The increase requested for the water hygiene program is to support the above described expansion of 1972 activities. Also planned in 1972 is a continuation of 1971 activities comprising technical support to EPA's other programs and technical assistance to State, local, and other Federal agencies.

An increase of \$290,000 for the solid waste program is requested to continue to meet the expanding need of State and local governments for technical assistance and to pursue the objective of closing 5,000 of the Nation's solid waste disposal dumps by the end of 1972.

Under this program, technical assistance is provided to State and local agencies to aid them in planning, developing, and improving solid waste management programs and in finding solutions to operational problems. Assistance is provided in all aspects of solid waste management: storage, collection, processing, and ultimate disposal. Technical information is also assembled, published, and disseminated to public and private agencies, organizations, and individuals to acquaint them with new and existing technology and management techniques.

In 1971, the solid waste program initiated "Mission 5000," an effort to close 5,000 of the Nation's dumps during 1971 and 1972. This project will be continued and intensified in 1972 through technical assistance, advice, and consultation and the dissemination of information.

An increase of \$94,000 for the radiation program is requested to provide increased assistance to the States in evaluating the siting and effects of proposed nuclear power plants, and for other radiological matters. This will be accomplished by establishing one radiation specialist in each of two additional regional offices: one in Region II, New York City, and one in Region IX, San Francisco.

The technical support programs in the regional offices provide assistance to the States in developing adequate programs to protect the public from radiation hazards. This assistance encompasses the evaluation of State programs, the training of personnel, the development of model legislation, the response to contamination incidents and accidents, the collection and dissemination of data and information, and the advice and consultation on radiological matters, including proposed nuclear power plants and other uses of nuclear energy. The regional programs also carry out EPA's own radiological activities: the review of proposed nuclear facilities and operations, the conduct of special studies, and the response to contamination incidents.

During 1972, two additional EPA regional offices will be staffed with radiological specialists. This will provide eight of EPA's 10 regions with adequate technical support capabilities. These specialists will provide a vital linkage between the State programs and the Federal radiation programs in the two additional regions--Region II, New York, and Region IX, San Francisco--and they will provide much needed assistance in evaluating the environmental impact of the increasing number of nuclear facilities being built or proposed in these regions.

An increase of \$105,000 for the pesticides program is requested to support four regional training conferences for State and local officials and local pest control operators.

Forty-eight States have enacted some form of legislative control of pesticides, patterned after the Uniform State Insecticide, Fungicide, and Rodenticide Act. EPA provides technical assistance to these State programs through consultation to improve the States' laboratory capabilities; technical advice concerning special pesticide problems; and training conferences to upgrade the competence of State and local personnel.

In 1971, about 1,000 persons were provided training by the EPA Atlanta laboratory and the State pesticide projects. More formalized training is planned for 1972 at four regional training conferences which will be structured to improve knowledge and methods of enforcing pesticide standards.

Fourteen State pesticide projects were in operation in 1971 and will be continued in 1972. The projects carry out State-wide evaluations of existing and potential pesticide problems; stimulate and assist State and local pesticide activities; evaluate State laboratory competencies; provide advice and informal training to State and local personnel; and assist in investigations of serious pesticide episodes.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Estuarine and oceanographic studies	\$755,000	\$755,000	...

EPA's oceanographic and estuarine program encompasses the collection, assimilation, and dissemination of water quality, water use, and associated data pertaining to the Nation's estuarine and coastal zones and the Great Lakes. This information is utilized by EPA and is made available to State, local, and other Federal agencies for coastal zone management planning, for assessing the water quality impact of proposed coastal-zone development activities, and for other purposes.

No increase is requested for the estuarine and oceanographic program in 1972.

In 1971, a start was made in the collection and assimilation of Great Lakes data, the incorporation into the system of historical information available from other sources, and the provision of assistance to State agencies engaged in coastal zone management planning. In addition, an annual report was initiated summarizing current coastal zone pollution problems, related technological developments, and control measures.

In 1972, the data base for the information system will be expanded, especially in coverage of the Great Lakes. Particular attention will be devoted to consolidation and automation of information on dredging and filling and to the collection of information on other physical modifications and salt water intrusions. Assistance to States for developing coastal zone management plans will be greatly expanded and a small-scale coastal pollution monitoring network will be initiated.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Oil and hazardous materials	\$1,335,000	\$2,034,000	\$699,000

The oil and hazardous materials program is carried out by EPA in cooperation with the Department of Transportation and other Federal agencies, pursuant to Executive Order 11548.

An increase of \$699,000 is requested for this program to promote and assist the development and implementation of regional and local contingency plans to prevent and clean up accidental spills and discharges.

The Federal Water Pollution Control Act, as amended, requires that the Agency establish effective regulations for the control, cleanup, and prevention of oil and hazardous materials spills, provide adequate Federal response to implement cleanup of spills when the responsible party fails to act, and assist Federal, State, and local agencies in developing contingency plans, response capabilities, and prevention programs.

Dumping and accidental spilling of oil and other hazardous materials continue to increase and constitute major pollution threats to the water resources of the Nation. EPA seeks to prevent spills from occurring as well as to control those that do occur. During 1971, EPA has promulgated regulations designating hazardous materials and will promulgate and implement regulations on procedures, methods, and requirements for equipment to prevent, control, and clean up spills. The National Contingency Plan has been revised, and regional staffs are being increased to provide response to pollution spills and to conduct post-spill surveys.

In 1972, the oil and hazardous materials program will promulgate and implement regulations for methods and procedures to remove discharge oil and develop methods to clean up hazardous substances. It will promote and assist the development and implementation of regional and local contingency plans and further develop a program to prevent spills. EPA's National Contingency Plan to respond to oil and hazardous materials spills will be supplemented by 10 regional plans covering the States within the new regional boundaries. In addition, each State will be encouraged to establish State and local plans.

Abatement and Control  
Federal Activities  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	26	\$420	56	\$1,680	+30	+\$1,260
Noise.....	2	10	6	70	+4	+60
Radiation.....	19	263	29	467	+10	+204
Solid Wastes.....	40	276	40	607	...	+331
Water Qaulity.....	142	1,876	142	2,497	...	+621
Total.....	229	2,845	273	5,321	+44	+2,476

Control of pollution from Federal facilities.....	(120)	(\$1,801	(141)	(\$3,387)	(+21)	(+\$1,586)
Air Pollution.....	16	285	36	1,125	+20	+840
Noise.....	2	10	3	35	+1	+25
Solid Wastes.....	37	256	37	560	...	+304
Water Quality.....	65	1,250	65	1,667	...	+417
Environmental impact statements.....	(68)	(679)	(90)	(1,380)	(+22)	(+701)
Air Pollution.....	6	80	15	415	+9	+335
Noise.....	...	...	3	35	+3	+35
Radiation.....	19	263	29	467	+10	+204
Solid Wastes.....	3	20	3	47	...	+27
Water Quality.....	40	316	40	416	...	+100
Federal procurement procedures and certification of Federal licenses and premits.....	(41)	(365)	(42)	(554)	(+1)	(+189)
Air Pollution.....	4	55	5	140	+1	+85
Water Quality.....	37	310	37	414	...	+104
Total.....	229	2,845	273	5,321	44	+2,476

Estimate herein.....	\$2,845	\$5,321	\$2,476
Requirement for January 1971 pay raise.....	77	217	140
Total.....	2,922	5,538	2,616

Manpower Resources:			
Man-years.....	168	269	+101



Operations, Research, and Facilities  
Abatement and Control

Federal Activities

Purpose

Existing legislation - the Federal Water Pollution Control Act, as amended; the Clean Air Act, as amended; the Resource Recovery Act of 1970; and the National Environmental Policy Act of 1969 - augmented by Executive Orders 11507 and 11514, mandate Federal agency activity and leadership in the protection and enhancement of environmental quality. Assisting Federal agencies in the prevention, control, and abatement of pollution resulting from Federal installations and from federally supported or federally licensed activities is a major responsibility of EPA.

EPA programs relate to: assisting Federal agencies to meet and comply with applicable established environmental protection standards or guidelines and developing standards for Federal activities when necessary; reviewing, for environmental impact, the statements of Federal agencies about their proposed activities; establishing administrative guidelines for contractor certification of compliance with applicable pollution control standards; and reviewing licenses and permits issued by Federal agencies for construction or operation of facilities which may result in discharge of wastes into navigable waters of the United States.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Control of pollution from Federal facilities.....	\$1,844,000	\$3,430,000	\$1,586,000
Environmental impact statements from Federal agencies.....	636,000	1,337,000	701,000
Federal procurement procedures and certification of Federal licenses and permits.....	365,000	554,000	189,000
Total.....	<u>2,845,000</u>	<u>5,321,000</u>	<u>2,476,000</u>

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	229	273	44
Man-years.....	168	230	62

### Summary of Increases and Decreases

#### Control of pollution from Federal facilities \$1,586,000

- Air pollution program: to expand consultation and technical assistance to Federal agencies with special air pollution problems..... 840,000
- Water quality program: to continue bringing Federal facilities into compliance with applicable standards. 417,000
- Solid waste program: to continue surveys of Federal installations and to shift to provision of technical assistance in improving waste management practices at Federal installations..... 304,000
- Noise pollution program: to plan and implement a program of control of Federal activities resulting in objectionable noise levels..... 25,000

#### Environmental impact statements \$701,000

- To review a significantly increased number of environmental impact statements submitted by Federal agencies..... 701,000

#### Federal procurement procedures and certification of Federal licenses and permits \$189,000

- Air pollution program: to implement new procedures regulating Federal procurement activities..... 85,000
- Water quality program: to continue and expand the review and certification of applications for Federal licenses and permits..... 104,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Federal facilities</u>	<u>\$1,844,000</u>	<u>\$3,430,000</u>	<u>\$1,586,000</u>

Executive Order No. 11507 requires that by December 31, 1972, all installations owned or leased by the Federal Government be in compliance with or have under way remedial actions to bring them into conformance with established Federal, State, and local air and water pollution control standards. This Executive Order also requires the management of Federal installations so as to avoid or minimize other environmental pollution, such as radioactivity, solid wastes, discharge of wastes that could pollute ground water, and the handling of other wastes which could cause environmental pollution.

EPA provides consultation to Federal agencies in determining their air, water, solid waste, and noise pollution control needs and technical assistance in meeting established standards or guidelines and establishing abatement and control priorities. EPA also monitors agency performance and is responsible for the review of the Federal agency compliance plans. Where no standards exist in a geographic area, EPA may establish air or water quality standards for this purpose.

An increase of \$840,000 is requested for the air pollution control program to support additional positions to expand the scope and comprehensiveness of the consultative assistance to Federal agencies and operators of Federal facilities with special air pollution control problems. This increase is needed to help assure that the Federal agencies will achieve compliance with national ambient air quality standards by the end of 1972 pursuant to Executive Order 11507.

Currently, consultation and technical assistance is being provided to Federal agencies operating some 1,500 facilities with significant air pollution control problems. Additionally, the annual reports required of Federal agencies by the Office of Management and Budget on the status of air pollution control by these agencies are being reviewed by EPA. These same activities are planned for 1972 but with a higher intensity of effort.

An increase of \$417,000 is requested for the water quality control program, to continue an expanded 1971 program of consultation and technical assistance to Federal agencies to help assure their compliance with Executive Order 11507. The increase is to be used to support the additional staff added in 1971.

Prior to 1971, the program emphasized the review of Federal plans and specifications related to waste treatment. With the issuance of Executive Order 11507, emphasis has been shifted to approval of performance specifications and follow-up by monitoring of agency performance.

Additionally, technical assistance is being provided to the Federal agencies to aid them in determining pollution control needs, establishing abatement priorities, and designing, operating, and maintaining facilities to meet established standards and deadlines. Finally, the abatement plans of the agencies are being reviewed and recommendations on funding priorities are being provided to the Office of Management and Budget.

In addition to covering the waste treatment practices of the Federal agencies, EPA reviews other activities of Federal agencies having potential for water pollution. During 1971, the regulations, procedures, and practices of Federal agencies involved in such diverse activities as management of Federal lands and forests, development of oil shale resources, development of peaceful uses of atomic energy, use of pesticides, dredging, and construction are being reviewed and changes are being recommended where necessary for protection or enhancement of water quality. The increase requested is to continue these and the foregoing activities in 1972 at the expanded level being achieved in 1971.

An increase of \$304,000 is requested for the solid waste management program to support the operations initiated in 1971 pursuant to new authority provided by the Resource Recovery Act of 1970. This act requires Federal agencies to comply with applicable Federal guidelines for solid waste management at their installations. These guidelines are being developed under another new authority provided by the Act. The increase will support the new personnel added in 1971 to implement this new authority.

A program to implement improvement of solid waste management practices at Federal facilities is being initiated during the latter half of 1971. Activities will include developing an inventory of all solid waste management practices at Federal facilities; a more detailed survey of selected problem installations; and technical assistance to improve these solid waste management practices. At all times, there will be close coordination between the solid waste guidelines effort and the program for implementation of improved solid waste management practices by Federal agencies.

The levels of effort to be conducted during 1971 and 1972 will be about equal. There will be, however, a shift in emphasis from the inventory and survey of facilities to technical assistance. Late in 1972, monitoring of performance will be added. The increase requested is to carry out these activities in 1972.

An increase of \$25,000 is requested for the noise abatement program to implement the program pertaining to Federal agency facilities initiated in 1971. The program provides leadership in interagency cooperation to control noise pollution from Federal activities and installations, in accordance with the Noise Pollution and Abatement Act of 1970.

In 1971, initial consultation will be started with those Federal agencies carrying out or sponsoring activities resulting in noise causing public nuisance. In 1972, an action program will be initiated to assist Federal agencies in the prevention, control, and abatement of noise pollution from their proposed and existing facilities; to encourage, through interagency liaison, the incorporation of noise pollution control requirements in all their activities; and to advise them on the adequacy and effectiveness of noise pollution control measures and technology. The increase is requested so that implementation of these noise abatement activities may be undertaken.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Environmental impact statements</u>	<u>\$636,000</u>	<u>\$1,337,000</u>	<u>\$701,000</u>

Passage of the National Environmental Policy Act of 1969 and issuance of implementing Executive Order 11514 on March 5, 1970, established a new requirement on all Federal agencies for a comprehensive and objective evaluation of the environmental impact of proposed actions and projects in their planning activities and decision-making processes. In satisfying its responsibilities with regard to environmental considerations, EPA reviews environmental impact statements of other Federal agencies--both formally and informally--to assist in identifying potential impacts, adverse reactions, alternatives, and critical interrelationships in the areas of air and water pollution and solid waste management, and the assessment of radiation technology for its impact on the environment and human health. Recommendations resulting from these reviews are reported to the Council on Environmental Quality.

An increase of \$701,000 is requested to carry out the review of the significant increase of impact statements expected in 1972. As the Federal agencies begin to take full cognizance of the National Environmental Policy Act of 1969, their response is reflected in both the numbers of the statements being prepared and the comprehensiveness--and consequently, the complexity--of the coverage of environmental issues. The increase is needed to handle the greater work load and to improve the quality of review to obtain maximum effectiveness of this mechanism for protecting against new impairments to the Nation's environment.

Of this increase, \$335,000 is designated for the air program to handle those statements having air quality considerations. Similarly, \$100,000 is designated for the water program; \$27,000 for the solid waste program; \$204,000 for the radiation program; and \$35,000 for the noise program. These increases are for the full-year support of staff added in 1971 and for the addition of staff in 1972.

It is estimated that 50 statements with air quality considerations, 250 with water quality considerations, 20 with solid waste considerations, and 25 with radiation considerations will be reviewed in 1971. It is

expected that 1972 will bring an increase ranging from two- to five-fold in the number of statements received for review and will be further increased by statements containing noise considerations.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Federal procurement procedures and certification of Federal licenses and permits	\$365,000	\$554,000	\$189,000

EPA responsibilities for the prevention, control, and abatement of pollution from federally supported or licensed activities were greatly expanded by recent legislation: the procurement provisions of the Clean Air Amendments of 1970, and review of permits and licenses requirements of the Water Quality Improvement Act of 1970.

Under the Federal procurement provisions of the Clean Air Amendments of 1970, EPA must develop procedures to ensure that all contractors for Federal agencies are in compliance with applicable pollution control standards. The Act includes provision for assessment of penalties for failure to comply with standards. Under the Water Quality Improvement Act of 1970, EPA is responsible for the review of applications for Federal permits and licenses to assess the water quality impact of the facility or activity for which the license or permit is being sought.

An increase of \$85,000 for the Federal procurement program is required to continue the program initiated during 1971.

Currently, during 1971, procedures establishing administrative guidelines for contractor certification of compliance with applicable air pollution control standards are being developed. The initial effort is being directed at construction contracts, which number several thousand annually. During 1972, implementation of these procedures will begin in earnest and necessary liaison with State and Federal agencies for rendering technical assistance and staying abreast of problems arising from enforcement of the procedures will be put in full force.

An increase of \$104,000 is requested for the water quality program for certification of licenses and permits. This will be used to continue the expanded program begun in 1971.

Approximately 6,400 applications are being reviewed in 1971--primarily for the Corps of Engineers, Atomic Energy Commission, and Federal Power Commission construction projects, but also for Coast Guard, Soil Conservation Service, Forest Service, and other agency projects. Of these applications, approximately one-third require specific comments and suggestions for better environmental control.

Numerous on-site inspections of major construction projects are required to evaluate adherence to permit or license conditions and to provide on-site technical assistance. In cases where public hearings are required in conjunction with permit or license applications, regional staff participate and testify as to water quality standards compliance. A similar work load is anticipated for 1972. The increase is requested to support the staff authorized in 1971 to carry out this 1972 work load.

Operations, Research, and Facilities  
Abatement and Control

Construction Grants Administration

Purpose

To provide effective management and monitoring of the Federal grants awarded to municipal agencies for the construction of waste treatment works, construction grants administration staffs are maintained at EPA's headquarters and regional offices. These staffs handle the review and processing of grant and contract payments, the review of grant applications and construction plans and specifications, the authorizing of bid advertising, the review of bids and contract awards, periodic inspections, and the collateral responsibilities dealing with prevailing wage, anti-kickback, contract work-hours standards, and civil rights requirements. These staffs also certify the adequacy of projects for eligibility for sewer loans and grants awarded by the Economic Development Administration and the Department of Housing and Urban Development.

In addition to grant processing, this Agency has increased its efforts to assure that treatment facilities constructed with Federal assistance are properly located and planned, are well designed according to the best available technology, are adequately operated and maintained, and are actually or potentially part of a viable, financially self-supporting operating system.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Construction grants administration.....	\$6,109,000	\$8,697,000	\$2,588,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	466	556	90
Man-years.....	410	481	71



Summary of Increases and Decreases

Construction grants administration \$2,588,000

- To provide additional administrative support for  
a proposed increase in construction grants from  
\$1 billion in 1971 to \$2 billion in 1972..... 2,588,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Construction grants administration	\$6,109,000	\$8,697,000	\$2,588,000

An increase of \$2,588,000 is requested to adequately administer a proposed expanded construction grants program. Construction grants administration costs in 1971 were based upon an authorized spending level of \$1 billion. The increase is predicated upon a construction grants level of \$2 billion under a proposed bill to extend and amend Section 8 of the Federal Water Pollution Control Act, as amended. Work load statistics associated with this increased program activity are given on page AC 7-4.

In 1971, regulations were published in the Federal Register providing the basis for greater emphasis on certain important phases of grants administration. The regulations require adequate planning and design, provision for adequate operation and maintenance, and an equitable cost recovery system as a precondition to grant award. The Agency also supplemented the regulations with "Federal Guidelines for the Design, Operation, and Maintenance of Waste Water Treatment Facilities." These Guidelines provide the basis requirements for the design, inspection, and operation and maintenance of federally assisted projects.

To employ increased municipal waste treatment grants most effectively, emphasis must be placed on optimum waste treatment works design and incorporation into each project of measures for efficient operation and maintenance. Therefore, the "Federal Guidelines" will be supplemented in 1972 with Technical Bulletins to provide more detailed guidance in specific areas. The topics to be covered will include plant staffing requirements, new advances in technology, and ways to overcome deficiencies in present design practices. In addition to these Technical Bulletins, emphasis will be placed on carrying on a newly initiated Technology Transfer Program. The objective of this program is to ensure that the technology being developed in the Agency's research, development, and demonstration programs is translated as rapidly as possible into actual use. In its work with applicants, the Agency will make every effort to encourage the use of new techniques and, simultaneously, will identify new research needs for the research and development program. This will require an expanded effort in evaluating present design criteria and practices and keeping abreast of new developments and trends.

Finally, 1972 operation and maintenance data will be analyzed and made available to communities, consulting engineers, and industrial firms for use in improving the design of plant equipment and in modifying operating practices so that sewage treatment facilities can be operated as close to maximum efficiency as possible. In-house expertise in solving operation and maintenance problems will be increased and will be made available to assist local and State personnel with exceptionally difficult cases.

# Work Load Statistics for the Construction Grants Program

	<u>1970 Actual</u>	<u>1971 Estimate</u>	<u>1972 Estimate*</u>
Active projects at start of fiscal year:	2,636	2,824	3,574
Projects under construction....	(1,504)	(1,658)	(1,958)
Projects not under construction	(1,132)	(1,166)	(1,616)
Work load during fiscal year:			
Applications reviewed.....	1,147	1,650	2,000
Plans and specifications reviewed.....	1,394	1,500	1,800
Construction starts.....	918	1,200	1,500
Inspections.....	1,519	2,000	3,000
Plants completed.....	691	900	1,100
Performance inspections.....	291	400	800
Sewer certifications.....	474	750	750

\*Based on proposed bill to extend and amend Section 8.

# **Man Power Development**

Manpower Development  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	69	\$6,483	69	\$6,235	...	-\$248
Radiation.....	11	1,055	11	1,062	...	+7
Solid Wastes.....	19	1,963	19	1,628	...	-335
Water Quality.....	94	9,048	127	10,056	+33	+1,008
<hr/>						
Total.....	193	18,549	226	18,981	+33	+432

Professional, technical, and operator training.	(36)	(\$13,068)	(36)	(\$13,223)	...	(+\$155)
Air Pollution.....	...	3,600	...	3,600	...	...
Radiation.....	...	800	...	800	...	...
Solid Wastes.....	...	990	...	990	...	...
Water Quality.....	36	7,678	36	7,833	...	+155
Direct training and manpower planning.....	(157)	(5,481)	(190)	(5,758)	(+33)	(+277)
Air Pollution.....	69	2,883	69	2,635	...	-248
Radiation.....	11	255	11	262	...	+7
Solid Wastes.....	19	973	19	638	...	-335
Water Quality.....	58	1,370	91	2,223	+33	+853
<hr/>						
Total.....	193	18,549	226	18,981	+33	+432

Estimate herein.....	\$18,549	\$18,981	+\$432
Requirement for January 1971 pay raise.....	79	176	97
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Total.....	18,628	19,157	529

Manpower Resources:

Man-years.....	172	206	+34
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## Operations, Research, and Facilities

### Manpower Development

#### Purpose

The skills and abilities of professional, technical, and operator personnel represent an essential resource in this Nation's effort to restore and protect the environment. Presently, the qualified manpower pool in the field of environmental protection is insufficient to meet the expanding demand in both the private and public sectors. Additionally, many of those presently employed in the field are undertrained; have skills too narrowly focused; or possess educational and experience references that are dated in terms of current technological development.

The purpose of EPA's manpower development programs is to help meet the foregoing needs through the support and conduct of training and manpower activities to expand the number and improve the abilities of personnel in the environmental protection field. The training programs are directed toward meeting needs at all levels: Federal, State, local, and private. The training encompasses the various facets of environmental work dealing with air, water, solid wastes, and radiation, and ranges from support of individuals engaged in graduate studies to short-term technical courses provided on a regional or community basis. Manpower planning activities are being undertaken to develop estimates of manpower demand and supply, and to provide projections of future manpower and training needs.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Professional, technical, and operator training.....	\$13,068,000	\$13,223,000	\$155,000
Direct training and manpower planning.....	5,481,000	5,758,000	277,000
Total.....	18,549,000	18,981,000	432,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	193	226	33
Man-years.....	172	201	29

### Summary of Increases and Decreases

<u>Professional, technical, and operator training</u>	<u>\$155,000</u>
- Waste water treatment operator training: to continue and expand the training of treatment plant operators and supervisory personnel and the training of instructors.....	155,000
<u>Direct training and manpower planning</u>	<u>\$277,000</u>
- Air pollution control short-course training: a decrease reflecting non-recurring cost associated with 1971 equipment purchases and course development.....	-248,000
- Water pollution control short-course training: to develop self-sufficient training centers, to form mobile training teams, and to initiate a correspondence training program.....	154,000
- Water supply personnel training: to develop course materials in treatment technology and monitoring, and to increase course enrollment.....	190,000
- Solid waste control short-course training: to continue at the 1971 expanded level.....	105,000
- Radiation short-course training: to continue at the 1971 level.....	7,000
- Water pollution control manpower planning: to develop regional manpower planning capability, manpower planning criteria, and the elements of an operator certification program.....	509,000
- Solid waste manpower planning: a decrease resulting from the nonrecurring costs associated with the completion of a major portion of the manpower study initiated in 1971.....	-440,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Professional, technical, and operator training	\$13,068,000	\$13,223,000	\$155,000

Presently, the Nation does not have enough personnel sufficiently skilled and trained in the operations, techniques, and analyses necessary for carrying out present and projected environmental protection programs at all levels of government. With the accelerating emphasis on projects, facilities, and studies for abating, controlling, and preventing environmental pollution, the present shortage of trained personnel becomes a limiting factor. This shortage might well preclude environmental initiatives, inhibit the realization of the full potential of treatment and control facilities, and blunt the thrust of progress that is now under way. In response to the present manpower needs, and as an initiative in preparing for future requirements, EPA is undertaking the development of a multifaceted training program in the fields of water quality, air pollution control, solid wastes, and radiation.

The program focus is in two major areas at present: first, university and individual student support, mainly at graduate levels, leading to professional careers in the environmental fields; and second, assistance to States and technical institutions to establish training programs for operators and technical personnel.

An urgent environmental manpower need is for waste water treatment plant operators and technicians. An estimated 7,500 presently employed but underskilled plant operators must be retrained each year for the next several years to improve the operation and efficiency of existing treatment facilities. Expansion of the municipal waste treatment facilities construction grants program to \$1 billion in 1971 and, as proposed, to \$2 billion in annual funding in 1972, 1973, and 1974, requires a complementing increase in the training of plant operators to ensure maximum return from the investment in facilities. As many as 25,000 new plant operators will be needed during the first half of this decade to operate the new and expanded facilities built under this program.

To promote an adequate level of facility operation, a number of States at present require local governments to employ properly certified operators. EPA's goal is to achieve mandatory certification in each State, which will necessitate complementary training programs in each State to instruct candidate operators and to increase the skills of undertrained operators.



An increase of \$155,000 is requested for further development of waste water treatment plant operator training. This increase will allow for continuing, on a full-year basis, the effort-level reached in 1971, and for expanding three new programs begun in 1971. These programs are: (1) a pilot State-training grants program for water pollution control operator training; (2) an intensive technical training program for supervisory treatment plant and public works department personnel; and (3) an instructor training program to support the training of operators and supervisors.

EPA at present manages a contract, under the Manpower Development and Training Act, which annually provides training for about 300 entry level waste treatment plant operators drawn from the unemployed and about 700 operators drawn from the underemployed blue-collar workers currently employed in waste treatment plants. Twenty of the State water pollution control agencies, plus those of Puerto Rico, the Virgin Islands, and the District of Columbia, manage similar contracts to provide training for an additional 2,500 each year. The three new programs will supplement this work which will continue. First, pilot grants for State training programs will be awarded in 20 States to design and initiate State directed training activities and to commence development of self-supportive State training capabilities. These will result in the training of 700 persons. Second, a new program will be conducted under contract at one or two advanced waste treatment plants. Supervisory treatment plant and public works department personnel, mostly professional engineers from middle-and large-sized plants across the country, will be given intensive technical training in the operation of advanced waste treatment processes. The program will train approximately 100 individuals. Third, an instructor training program will be carried out to support the pilot State programs and the intensive technical training efforts. The courses will be conducted at two or three locations to train approximately 50 personnel, mostly former treatment plant operators who can provide the insight of practical experience.

No increase is requested for the graduate professional training program for water quality which will continue at the current level. Professional training grants are awarded to educational institutions for the establishment, expansion, and continuation of graduate training programs. EPA will encourage the institutions not only to develop specialized water pollution control courses within multidisciplinary curricula as before, but to consider total environment needs which may cross and combine a number of traditional disciplines. During 1972, 88 training grants to academic institutions will be supported and these will provide traineeships for about 930 students. In addition, 100 pre- and post-doctorate students engaged in selected research projects are being assisted with research fellowships.

No increase is requested for the undergraduate training program for water pollution control. The objective of this program is the two-year technical school training of qualified high school students as "professional" waste treatment plant operators. The 1972 funds,

continuing at the 1971 level, are for the development of a curriculum which will provide the training and instruction of the highly skilled individuals needed in today's increasingly sophisticated waste treatment plant and its associated laboratories.

No increase is requested for the 1972 air pollution control training effort. Grants will be awarded to 57 academic institutions in 1972 and these will support traineeships for about 935 graduate students. In addition, research fellowships for 15 students will be supported in 1972.

No increase is requested for the solid waste training program of university training grants and State training grants. Support of 13 grants to universities for the training of graduate students will be maintained and grants to six States for the training of operator and supervisory personnel for local solid waste systems will be provided.

No increase is requested for the radiation training grants program in 1972. It will continue to support training of radiation specialists and technicians, enabling agencies responsible for environmental protection to perform a wide range of radiation studies and monitoring. Funds are used to strengthen and extend programs of basic instruction at selected colleges and universities and to encourage greater enrollment by qualified students in the field of environmental radiation. In 1971, 16 grants to colleges and universities throughout the United States were funded. A similar number is planned for 1972.

The separate professional training grant programs for water, air solid wastes, and radiation described above were inherited from the several agencies combined to form EPA. These programs will be carefully studied during the remainder of 1971 and 1972 to identify where and how they might best be integrated into and managed as a multipurpose environmental training program.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Direct training and manpower planning	\$5,481,000	\$5,758,000	\$277,000

The direct training programs sponsored by EPA, principally conducted at EPA facilities by EPA training personnel, focus on providing short-course instruction for personnel employed in environmental-related occupations. The courses given provide either overview summaries of the concepts, science, and techniques for abating and preventing

pollution, or detailed reviews of new technological developments, operational methods, and research findings. These courses are offered to Federal, State, local, and private personnel who are either just beginning their environmental careers or who need to broaden or improve their skills in particular aspects of environmental protection.

The manpower planning activities are directed toward developing inventories of existing manpower and training needs in environmental disciplines and occupations and forecasting future needs. The results of this work are used to plan and design training and recruitment programs and are disseminated to State and local agencies for the same purpose.

At present, a major problem in fully achieving the designed efficiency and effectiveness of existing pollution control facilities is that many of the operating personnel are underskilled and undertrained. Many of the short courses and seminars conducted under the direct training programs concentrate on upgrading the skill level of these present employees, thus improving the operation of present abatement systems.

A decrease of \$248,000 from the 1971 level is planned in 1972 for air pollution control short-course training. This decrease reflects reduced costs for equipment purchases and course development; it will not result in a decrease in the level of training. Approximately 2,400 individuals are receiving technical training in 1971, and this number is expected to increase to 3,000 in 1972. EPA is also promoting the development of university consortia--a grouping of academic institutions in the same geographic area--to stimulate and sponsor joint training programs in air pollution control. Two consortia on air pollution have been established; one in the Research Triangle area of Raleigh-Durham, North Carolina, and the other in New England. In 1972, four additional consortia will be formed.

An increase of \$154,000 is requested in 1972 for water pollution control short-course training. The funding will be used to develop self-sufficient training centers, to form mobile training teams, and to initiate a correspondence training program.

In 1971, 35 seminars, workshops, or short courses were scheduled with an expected total enrollment of 1,625 students. In 1972, 42 seminars, workshops, or short courses are planned for approximately the same size enrollment. In addition, the training staffs are preparing training materials to be furnished to State and local agencies in support of their training programs.

The increase in 1972 funding will provide for the expansion of the direct training program in three specific areas. First, learner-centered instruction will be undertaken. Training facilities will contain 20 to 30 individual booths, each with its own audio-visual

equipment, and manuals, workbooks, programmed teaching slidetapes, and filmstrips. Second, mobile training teams will be formed to provide certain courses wherever needed in the United States. Third, a correspondence training program will be initiated. The development of material for this program will complement the materials for learner-centered training and will provide a wide variety of subject matter for individual study.

An increase of \$190,000 is requested for water supply personnel training. Government personnel having responsibilities for the construction, operation, and surveillance of water supply facilities will continue to receive short-course instruction in minimizing and controlling pollution of water sources. In 1971, 12 short-term courses were developed and are being presented to 240 individuals. In 1972, additional training courses in water treatment technology, ground water development, and surveillance will be developed and presented to an estimated 400 individuals. Film and instruction packages for two courses will allow their presentation by State water supply agencies without the need for direct Federal participation.

An increase of \$105,000 is requested for short-course training in solid waste management which will be applied to improve the skills of professional and technical government employees in this field. This will continue the level of effort achieved by the end of 1971. Short-term courses include such topics as Elements of Solid Waste Management, Sanitary Landfill Principles, and Principles of Incineration. During 1971, a total of 26 course presentations will be made. This number will increase to 30 in 1972 and the number of topics covered will also increase through the addition of about four new courses on such candidate topics as Production, Analysis and Control of Sanitary Landfill Leachate and Gas and Passivation of Toxic Wastes. Funding will also be utilized for course development in the areas of operator and supervisory-level training. Sanitary landfill and incineration will receive initial emphasis. After field testing, the training packages will be used by the State training programs with financial support from Federal resources.

An increase of \$7,000 is requested for radiological short-course training. This will enable improvement of ongoing short-term training for scientists, engineers, and other professional personnel in fields concerned with environmental radiation protection. This training is accomplished both at headquarters and in the field through short courses such as Basic Radiological Health, Environmental Microscopy, and Radiation Protection Guides and Dose Assessment. The objectives of these courses are to provide specialist personnel with the most current knowledge in the control and prevention of radiological pollution. In 1971, to facilitate a national enrollment, a scheduled program of courses was conducted alternately at three field laboratories as well as at headquarters. In 1972, training activities are planned to continue at the same level, although course modification may be undertaken.

The objectives of the manpower planning programs are to develop the criteria, guidelines, and procedures for conducting comprehensive manpower planning programs; to assist the States, local governments, industry, and others involved in water pollution control in making employment forecasts; and to undertake a national manpower planning program drawing on the information supplied by the various employing groups. The occupational skills and manpower required to meet the existing and predicted demand will be analyzed. The manpower planning program in 1971 and 1972 is concentrated in the areas of water quality and solid wastes.

An increase of \$509,000 is requested for water pollution control manpower planning. This will be used to develop regional planning capability, manpower planning criteria, and the elements of an operator certification program. The increase in 1972 funding will provide for the establishment of manpower planning capability in each of the EPA regions. It is essential that specialized personnel be available to provide assistance to State and local water pollution control agencies, equipment manufacturers, and others in the description, forecasting, and planning of manpower needs. Funding is also required for contracts to develop manpower planning criteria and to conduct special studies. The studies will facilitate the full implementation of a comprehensive nationwide manpower planning and certification system to cover operating personnel for municipal waste water treatment plants and will start development of manpower planning criteria covering other elements of the water pollution control field. The 1972 funding will continue support of development and refinement of manpower planning criteria, guidelines, and procedures.

In 1971, an effort was initiated to develop an Operational Manpower Planning System methods manual for water quality manpower projection and planning to provide guidance to various concerned levels of government. Concurrently, EPA is developing and reporting supply/demand projections and information based upon the best available data. These will be used in preparation of a manpower report to the Congress as required by the Water Quality Improvement Act of 1970. Also in 1971, the development of manpower planning criteria to cover waste water collection and treatment facilities is being initiated and a continuing system for timely generation of manpower information and consideration of manpower factors in system design and demonstration is being implemented. Special studies to resolve problems and improve practices related to certification and utilization of waste water treatment plant operators will utilize the results of these efforts as they become available. Further in 1972, the development of guidelines for a certification program for waste treatment plant operators will be undertaken, and assistance will be provided to State and other agencies in carrying out manpower inventory, forecasting, and planning.

A decrease of \$440,000 in 1972 funding is planned for solid waste manpower planning. This decrease will result from completion of a major portion of the manpower study being conducted in 1971 to meet the requirement of the Resource Recovery Act of 1970 for a report to the Congress. This study will be completed in 1972. It will assess the skill, requirements, and manpower needed to meet solid waste personnel needs and will analyze methods for eliminating gaps between demand and supply where they now exist or may develop.

# **Pollution**

Research, Development, and Demonstration  
Pollution Sources and Effects  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	344	\$26,198	424	\$29,584	+80	+\$3,386
Noise.....	6	275	6	1,155	...	+880
Pesticides.....	127	5,031	263	7,846	+136	+2,815
Radiation.....	108	2,529	123	3,054	+15	+525
Solid Wastes.....	13	1,278	13	1,282	...	+4
Toxic Materials.....	...	...	20	1,000	+20	+1,000
Water Quality.....	422	23,756	509	27,695	+87	+3,939
Total.....	1,020	59,067	1,358	71,616	+338	+12,549

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Estimate herein.....	\$59,067	\$71,616	+\$12,549
Requirement for January 1971 pay raise.....	437	1,079	+642
Total.....	59,504	72,695	+13,191

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Manpower Resources:			
Man-years.....	920	1,190	+270

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Operations, Research, and Facilities  
Research, Development, and Demonstration

Pollution Sources and Effects

Purpose

EPA's pollution sources and effects activities are concerned with determining the effects of pollution on man, animals, plants, materials, and the general environment; investigating natural phenomena associated with the pollution of air, water, and land; and the development of new and improved monitoring and analytical methods and equipment for measuring environmental quality and waste discharges. Information derived from these activities provides the scientific basis for the development of water quality standards, drinking water standards, ambient air quality standards, radiation protection standards, and other criteria or guidelines for environmental protection. The development of new improved monitoring analytical methods and equipment serves EPA's monitoring, surveillance, and enforcement activities, as well as State and local agencies.

The studies are carried out through in-house operations, contracts, and research grants to nonprofit and academic institutions. These studies are coordinated with other Federal agencies and organizations. For analytical development, EPA has a principal role in standardizing and upgrading the methods used by all agencies and organizations concerned with pollution measurement.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Pollution sources and effects.....	\$59,067,000	\$71,616,000	\$12,549,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	1,020	1,358	338
Man-years.....	920	1,172	252

## Summary of Increases and Decreases

### Pollution sources and effects

	<u>1971</u>	<u>1972</u>
ces and effects	\$59,067,000	\$71,616,000

ntly carries out a program of studies on the effects of water pollution, solid wastes, pesticides, and the general health of man, animals, plants, materials, and the general environment. Data obtained by carrying out studies in laboratories, field studies, controlled clinical studies on humans, by community studies, and the effects of pollution at levels as it actually occurs. The identification of adverse occurrences such as fish kills, increased incidence of bronchitis, etc., to determine the relative contributor to, or the total cause of, such effects. The information derived from these efforts is essential in developing criteria and standards which define acceptable levels of pollution which can serve as the legal basis for enforcement. EPA is also concerned with determining the mechanisms by which pollutants pass through the food chain and related ecological systems.

on derived from EPA studies on the transfer, distribution, and ultimate fate of pollutants in air, water, and soil. EPA will understand and predict the movement, accumulation, and degradation of breakdown of products in the environment and to assess the potential hazard to man and his welfare.

ops new and improved sampling and analytical methods for measuring the ambient levels of pollution in air, water, and soil. EPA will determine the amount of pollution from various sources and the relative contribution of each source. EPA will make sure that the methods are made to standardize methods to assure that the data collected is collected wherever sampling and analysis are conducted.

se of \$3,386,000 for the air program is requested for the Communities Health Effects Surveillance Studies. EPA will fund communities, to add a fourth group of communities to the program. (2) to expand current efforts in the development of criteria and standards for monitoring the emissions from stationary sources. (3) to initiate a comprehensive meteorological and atmospheric chemistry study to determine the ultimate distribution and fate of pollutants, their pathways from source to receptor, and the health effects of emissions from motor vehicles. These expanded programs are to support the new regulatory authorities established by the Amendments of 1970: national ambient air quality standards, performance standards for new stationary sources, fuel standards, and fuel and fuel additive regulations.

- Air pollution program: to expand the Health Effects Surveillance Studies, the development of instrumentation for stationary sources, to initiate a study of meteorological air quality, and atmospheric chemistry study, and to expand work on the characterization of emissions from stationary sources, fuels and fuel additives and their effects.
- Water quality program: to expand the requirements research to support the development of water quality standards, to expand water hygiene programs, to expand water hygiene upgrading and monitoring of drinking water, and to expand research on water quality control technology to attack lake eutrophication, waste management, and other problems.
- Ocean disposal program: to initiate studies on the effects of wastes dumped or discharged into the ocean, and to support implementation of the Dumping Policy recently issued by the Environmental Quality Council.
- Pesticides program: to expand studies on the long term hazards of pesticides in the environment, to provide the scientific data needed to strengthen the pesticide label requirements, and to expand activities in the area of pesticide control.
- Radiation program: to expand studies on the effects of radiation to enable the development of radiation protection standards.
- Noise study program: to initiate studies on the environmental effects of noise and to report to the Congress pursuant to the Noise Abatement Act of 1970.
- Toxic substances program: to initiate studies to identify and measure the impact of the most common toxic substances on the environment.
- Solid waste program: to allow comparable level of effort as in 1971.

An increase of \$2,389,000 for the water program is requested (1) to continue and expand water quality requirements research to provide the scientific basis for the establishment and upgrading of water quality standards, (2) to continue and expand water hygiene research to improve the scientific basis for upgrading and monitoring drinking water standards, and (3) to continue and expand research on water quality control technology to provide methods to arrest eutrophication and restore the quality of polluted lakes, to develop methods for handling wastes in cold climates, and to acquire greater knowledge about the movement and fate of pollutants in the environment. This work is designed to address current operational needs identified by the water quality standards, enforcement, technical assistance, planning, and other programs of EPA and the State agencies.

The current water quality requirements research effort comprises a number of important in-house, grant, and contract studies directed toward determining the effects of a wide variety of pollutants on aquatic life and on municipal, industrial, agricultural, recreational, and other water uses. Major aspects of this effort include investigations of the toxicity of mercury, cadmium, lead, and other heavy metals; studies of the temperature tolerances of different species of fish and other aquatic life; investigations of the toxicity of organic chemicals and the study of the environmental impact of various other pollutants. During 1972, it is planned to continue the ongoing work but intensify the research on heavy metals, temperature, and organic chemicals. The environmental effects of these pollutants are far from completely known and are essential to the continuing effort to revise and improve water quality standards.

The water hygiene research activity encompasses studies of the health effects of pollutants found in drinking waters and the development of methods for monitoring the quality of drinking waters. Under the current program, emphasis is being given to the study of viruses, organic and toxic trace metals, and the development and testing of methods for measuring these contaminants in drinking water supplies. In 1972, it is planned to continue and expand these studies, giving particular attention to the development of rapid methods for the identification and detection of organic contaminants and to the study of the long-range toxicity of trace concentration of organic and inorganic constituents.

The water quality control technology research effort covers a wide array of studies dealing with those means, other than conventional and advanced waste treatment, for controlling and managing water quality. Current activities include the study and development of methods, such as algae harvesting, to control the eutrophication of and restore the quality of lakes; the development of methods to control thermal pollution and to make beneficial uses of waste heat; the development of cold climate waste treatment methods; and the development of information systems and management techniques to facilitate river basin water quality management. Additional activities include the development of monitoring and analytical methods and the study of the fate and

movement of pollutants in the environment. In 1972, it is planned to continue these activities and to expand the lake eutrophication-restoration, cold climate treatment technology, and fate-of-pollution efforts. The increase in the first of these efforts will be in response to the growing and critical problems of water quality degradation in lakes throughout the Nation and the slow but significant destruction of these valuable resources, particularly for recreation and water supply. The expanded cold climate effort will be addressed to completing the demonstration of and preparing the mandated report to the Congress on sanitary waste handling facilities for Alaskan villages. The pollution fate studies will be directed to the assessment and control of the complex problems involving mercury, other heavy metals, and organic chemicals.

An increase of \$1,550,000 for the ocean disposal program is requested to conduct investigations of the effects of wastes dumped or discharged into the oceans. This increase is needed to effectively implement the Ocean Dumping Policy issued by the Council on Environmental Quality in October 1970. This policy calls for the early cessation of present marine waste disposal practices and the prevention of new practices where these practices have or potentially would have any adverse effect on the marine environment. This increase will also support implementation of the Administration's legislative proposal for a regulatory program to control ocean dumping.

Much more needs to be learned about the movement, fate, and effects of the wide variety of wastes--dredging materials, sewage sludges, industrial wastes, demolition materials, and others--dumped into estuarine and ocean waters. To make determinations on the rapidity with which present practices should be phased out and on the acceptability of the increasing number of proposals for marine waste dumping, it will be necessary to conduct various oceanographic, water quality, and biological studies. EPA is doing no significant amount of work in these areas at present. Therefore, it is planned to initiate such work in 1972 to address the needs here described. Much of the work will be carried out off New York Harbor and in other areas along the East Coast where a great many present and potential ocean dumping problems await solution and correction.

An increase of \$2,815,000 for the pesticide program is requested to assess the long-term hazards of pesticides in the environment and to carry out an expanded program of studies necessary to support and substantially strengthen the pesticide label registration and tolerance-setting activities.

EPA's pesticide effects research program comprises studies on the effects of pesticides on man, plants, animals, and the general environment. The results of these studies provide the scientific basis for setting safe tolerance levels and for determining pesticide use policy. The program also includes specific studies to verify the toxicity of new pesticide products and provide the bases for reviewing and approving or disapproving applications for pesticide label registrations.

In 1971, the program of work includes investigations on the physiological effects and metabolism of pesticides, the measurement of pesticide residues in humans and various animals and plants, and special analyses and studies to support court actions. For 1972, studies on the toxicity and other effects of pesticides will be expanded. A large portion of the increased resources will support activities to be carried out at the National Center for Toxicological Research currently being jointly established by the Food and Drug Administration and EPA at the Pine Bluff Arsenal facilities in Pine Bluff, Arkansas. The work to be carried out at the Center will encompass the development of tests to be performed by the pesticide industry in evaluating its products, basic toxicological research, ecological research on the fate and effects of pesticides, and comparative epidemiological research to relate the effects of pesticides on test animals to the effects on man. Additionally, in order to support and strengthen the pesticide label-registration program, studies will be carried out on improved methods of testing the effects of pesticides and residues on food, feed, crops, soil, water, and air.

An increase of \$525,000 for the radiation program is requested for expanding existing studies on the health effects of radiation to enable the development of improved radiation protection guidelines. This work is essential if continued protection from the increasing use of nuclear energy is to be achieved.

The program encompasses experimental exposure studies and epidemiological studies and the development of techniques and devices for measuring and minimizing exposure to radiation. In 1971, studies are under way to determine the effects of exposure to Iodine-131 from fall-out and therapeutic doses, to radon, and to Cesium-137 in milk. Also under way are fundamental research studies on the adverse effects of radiation on cells and investigations on the environmental pathways by which strontium and tritium--two hazardous radionuclides emitted by nuclear reactors and nuclear fuel reprocessing plants--may reach man. In 1972, these research efforts will be continued and expanded.

An increase of \$880,000 for the noise program is requested to support the studies necessary to prepare, by January 1972, the report to the President and to the Congress called for by the Noise Pollution and Abatement Act of 1970.

The 1970 Act requires that EPA prepare a report on the effects of noise from such sources as mass transportation, construction projects, congestion, and manufacturing activities. The report will be used to identify and classify the causes and sources of noise, determine effects, and make recommendations for necessary additional legislation or other action. Currently, a professional staff is being recruited for planning and implementing the program of studies necessary to complete this report. Before the end of 1971, a literature search will be initiated to determine the state-of-the-art of noise control technology and to discover, assemble, and organize all existing information on the adverse effects of noise.

In 1972, the state-of-the-art study on noise will be continued and completed and the required report to the Congress will be prepared. Additionally, on the basis of the knowledge gaps identified in the state-of-the-art study, necessary research studies will be initiated on the psychological and physiological effects of noise on humans and wildlife, and assessments will be made concerning projected noise level trends.

An increase of \$1,000,000 for the toxic substances program is requested to initiate a series of studies to identify and measure the most common toxic substances found in the environment and the pathways these follow in reaching and affecting man, in order to assess their total environmental impact and to develop a strategy for their control.

The toxic substances program is concerned with man's total exposure to the some 9,000 different chemical compounds which are being produced in this country and the estimated 300 new chemicals brought into commercial production each year. Up to now, efforts to ascertain the extent and effects of total exposure have been fragmented and less than comprehensive. Currently, a staff of experts is being organized to give special attention to developing an EPA program for dealing with toxic substances. In 1972, this staff will develop and begin to implement, primarily through contracts, an integrated program for collecting information on chemical agents, identifying the most toxic chemicals now in use, conducting studies on the pathways by which these agents exert their adverse effect on man and his environment, and developing testing procedures by which it is possible to ascertain whether a given chemical has adequate margins of safety to be used extensively. These efforts are designed to provide the basis for mounting a much stronger attack on the control of toxic materials under existing statutory authorities. They will also better prepare EPA for implementing the Administration's proposed legislation, the Toxic Substances Control Act of 1971.

An increase of \$4,000 is requested for solid waste management to allow continuation of the same level of effort in 1972 as in 1971. Studies are being performed on the characteristics of solid waste, the effluents from processing and disposal, and the effects of these effluents on the air as well as surface and ground water.

Research, Development, and Demonstration  
Pollution Control Technology  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	140	\$28,122	204	\$43,361	+64	+\$15,239
Solid Wastes.....	82	11,129	108	16,302	+26	+5,173
Water Quality.....	313	38,146	411	32,760	+98	-5,386
Total.....	535	77,397	723	92,423	+188	+15,026

Mobile sources -						
Air Pollution.....	51	\$13,140	82	\$14,540	+31	+\$1,400
Stationary sources -						
Air Pollution.....	89	14,982	122	28,821	+33	+13,839
Solid waste technology	82	11,129	108	16,302	+26	+5,173
Water pollution control technology.....	313	38,146	411	32,760	+90	-5,386
Total.....	535	77,397	723	92,423	+188	+15,026

Estimate herein.....	\$77,397	\$92,423	+\$15,026
Requirement for January 1971 pay raise.....	218	531	+313
Total.....	77,615	92,954	+15,339

Manpower Resources:			
Man-years.....	435	617	+182

Operations, Research, and Facilities  
Research, Development, and Demonstration

Pollution Control Technology

Purpose

EPA's pollution control technology programs encompass research, development, and demonstration of new and improved technology and the study of economic incentives and other mechanisms for preventing and abating air, water, and solid waste pollution. The objective of this work is to assure the development and availability of fully adequate and feasible technology for achieving compliance with established air and water quality standards, air emission standards, solid waste management guidelines, waste water discharge permits, and other Federal, State, and local pollution control and environmental protection regulations.

A major portion of the work conducted under these programs is carried out under grants and contracts. The grant-supported work incorporates cost-sharing, ranging from 25 to over 50 percent, by the grantee, usually an industry but in many cases a municipality. Demonstrations of newly developed technology are carried out principally under cost-sharing grants. In-house research, development and studies, and similar work conducted under transfers of funds to other Federal agencies compose the remaining work carried out under these programs. Included in the programs are the development and demonstration of advanced automotive power systems producing low air pollution emissions, technology for preventing and controlling air pollution emissions from stationary sources, technology for preventing, controlling and treating waste water discharges, and technology for collecting and disposing of solid wastes as well as recovering and recycling materials contained in solid wastes.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Mobile sources.....	\$13,140,000	\$14,540,000	\$1,400,000
Stationary sources.....	14,982,000	28,821,000	13,839,000
Solid waste technology...	11,129,000	16,302,000	5,173,000
Water pollution control technology.....	38,146,000	32,760,000	-5,386,000
Total.....	77,397,000	92,423,000	15,026,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	535	723	188
Man-years.....	435	596	161



## Summary of Increases and Decreases

### Mobile sources \$1,400,000

- To continue the development and demonstration of advanced automotive power systems capable of complying with the 1975-1976 air emission standards required by the Clean Air Amendments of 1970..... 1,400,000

### Stationary sources \$13,839,000

- To continue and accelerate the research, development, and demonstration of technology for controlling the emissions of sulfur and nitrogen oxides from stationary sources of air pollution..... 13,839,000

### Solid waste technology \$5,173,000

- To complete a study and commence the demonstration of resource recovery systems and to conduct special studies on methods of effecting and promoting the recovery and recycling of materials from solid wastes..... 5,173,000

### Water pollution control technology -\$5,386,000

- A decrease associated with nonrecurring costs for grants and contracts resulting from a reorientation of the program..... -5,386,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Mobile sources	\$13,140,000	\$14,540,000	\$1,400,000

An increase of \$1,400,000 is requested to continue the development and demonstration of advanced automotive power systems capable of complying with the air emission standards required to be established for the 1975-1976 model-year motor vehicles by the Clean Air Amendments of 1970.

The 1975-1976 motor vehicle emission standards required by the Amendments call for a substantial reduction in air pollutants generated by today's automobile engines and, consequently, will require substantial modification of these power systems. The automobile industry is pursuing a research and development effort to develop power and/or accessory system to comply with the standards, but it appears to be devoting most of these efforts to modification of the internal combustion engine. The industry is giving must lesser attention to the development of alternative power systems. EPA believes there is a significant probability that the internal combustion engine cannot be sufficiently modified to meet the required standards and therefore believes that accelerated work in the development and demonstration of alternative power systems must be performed to supplement the efforts of the automobile industry. For this reason, EPA is proposing to continue its Advanced Automotive Power Systems Program (AAPSP) and its Federal Clean Car Incentive Program (FCCIP).

AAPSP is a five-year program within which EPA plans to develop and fully demonstrate at fleet level at least one nonconventional power system capable of complying with the 1975-1976 emission standards and feasible of being mass produced, marketed, and accepted by the public. Seven leading candidate power systems are currently under various stages of development. For each of these, a sequential series of demonstrations and testing are programmed: first-stage prototype; second-stage prototype and preproduction prototype demonstration and testing. The program is so designed that work of any one or several of these candidates can be accelerated or discontinued at any one of the steps as determined by the relative progress and success of the work on all of the candidates, or as determined by the progress and success of the automobile industry's independent efforts. In this way, it is planned to pursue, at minimum cost, the development of those candidates having the greatest probability of success. At the present time, each of the seven candidate power systems being developed show promise of meeting the objectives of the program. As further work is completed in 1972 and subsequent years, work on one or more of these systems may be reduced or discontinued in order to concentrate on the more promising systems.

The 1971 program of work in AAPSP encompasses the following activities. For the light-vehicle versions of the diesel and stratified charge engines, emission testing on experimental models is being completed to determine key problems to be solved in 1972 to enable possible preproduction

prototype demonstrations and testing in 1973. For the fly wheel/heat engine and electric/heat engine hybrid systems, accelerated paper design is being accomplished to permit selection of one of these systems for initiation of hardware development in 1972. For the turbine and Rankine engines, development of low emission combustors is being carried out to eliminate the principal problem which has blocked several industry-sponsored development efforts. Finally, for electric power systems, fundamental research on battery components is being performed.

In 1972, under the increased funding requested, work on two of the systems will be accelerated and work on the remaining systems will be continued at the 1971 level. For the stratified charge engine, presuming successful completion of the work currently underway, second-stage prototype demonstration and testing will be undertaken with the expectation that the preproduction prototype demonstration can begin in 1973. For the diesel engine, second-stage prototype engines will be procured and demonstration and testing initiated late in the year. Both of these efforts are designed to bring these engines to completion of final fleet demonstration in 1973 and 1974.

FCCIP is a program where under EPA purchases or leases, under contract, prototype vehicles independently developed by private industries, and tests these vehicles for their low emission performance. This program complements AAPSP by encouraging industry development of nonconventional power and/or accessory systems potentially capable of meeting the 1975-1976 emission standards. Systems being developed by private industry and destined to be demonstrated under FCCIP are not duplicated by Federal research, development, and demonstration under AAPSP. (However, different versions of a system--turbine engine, for example--may be included in AAPSP.)

Under this program three stages of testing are involved: a prototype test (one vehicle); a demonstration test (10 vehicles); and fleet test (about 300 vehicles). An industry which has developed a low emission system and has been selected to enter the program, produces a prototype vehicle for the first test. If this test is successful, it produces vehicles for the demonstration test and so on through the fleet test. If the fleet test proves the vehicle capable of meeting 1975-1976 emission standards and Federal safety regulations and feasible of being commercially produced, EPA will certify the vehicle for Federal procurement--hence the incentive feature of the program.

The program is being initiated in 1971. Some 19 proposals for entry into the program have been received and more are expected. These are currently being evaluated, and it is expected that about seven entries will be selected before the end of 1971. In 1972, the testing of these entries will commence and additional proposals will be evaluated for the selection of several more entries. Currently, received proposals cover diesel, turbine, hybrid, Rankine and Wankel power systems, and catalytic and thermal accessory systems.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Stationary sources</u>	<u>\$14,982,000</u>	<u>\$28,821,000</u>	<u>\$13,839,000</u>

An increase of \$13,839,000 is requested to continue and accelerate the research, development, and demonstration of technology for controlling the emissions of sulfur and nitrogen oxides from stationary sources of air pollution. This increased work is needed to make available the means of achieving compliance with the national ambient air quality standards currently being established for these pollutants pursuant to the Clean Air Amendments of 1970.

The expanded program will continue to involve cost-sharing participation by private industry. It is expected that the program will attract between \$6 and \$12 million in such participation. Also, the program will continue to encompass the three primary approaches to the control of sulfur and nitrogen oxides: (1) the cleaning of fuels prior to their use to remove the precursors of air pollutants formed in combustion; (2) the removal of pollutants from stack gases after they are formed in the combustion process; and (3) the improvement or alteration of the combustion and/or heat utilization processes to reduce the amount or type of pollutants formed. These different approaches or combinations thereof will be necessary for applications to differing sources and for meeting differing situations in the control of the oxides of sulfur and nitrogen.

Current work in the development of control technology for sulfur oxides involves demonstrations of several techniques for removing these pollutants from stack gases, pilot-scale development of two methods for gasifying and removing sulfur from coal, and development of a fluidized-bed combustion process to reduce the formation of sulfur oxides.

The work proposed for 1972 with the requested increased funding will include the continuance of current work and the addition of one new demonstration project and three new pilot-plant projects. The demonstration project will encompass the construction and operation of a deep coal-cleaning plant to produce a low-sulfur fuel for industrial and commercial use. The three pilot-plant projects will include two second-generation stack-gas cleaning processes involving two different techniques of producing elemental sulfur as a byproduct in lieu of producing a throw-away waste or low-valued sulfuric acid from the sulfur removed from the stack emissions. The third pilot-plant project will also involve a second generation stack-gas cleaning technique--one capable of simultaneously removing particulates and nitrogen oxides in addition to sulfur oxides.

For nitrogen oxide control, a five-year research and development program is currently being initiated to produce the technology to reduce 1980 emissions of this pollutant to pre-1950 levels. Several projects involving stack-gas cleaning and modified combustion techniques are presently under way. In 1972, trials of a modified combustion method will be undertaken in industrial- and utility-size boilers to evaluate its feasibility. In addition, the development of one stack-gas treatment process will be carried to the pilot-plant stage.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Solid waste technology	\$11,129,000	\$16,302,000	\$5,173,000

An increase of \$5,173,000 is requested (1) to conduct a state-of-the-art study of current resource recovery technology, (2) to follow this study with the commencement of demonstrations of two resource recovery systems, and (3) to conduct special studies of the subsidies, economic incentives, and other methods of effecting and promoting the recovery and recycling of materials from solid wastes. This increased work is addressed to implementing the new provisions and mandates of the Resource Recovery Act of 1970.

Current activities in the solid waste program are primarily devoted to the research, development, and demonstration of new and improved technology for the collection and disposal of municipal solid wastes. These include the development of improved incineration processes which eliminate the generation of air pollutants, the development of more efficient waste collection vehicles and techniques, the design of better landfill disposal methods, and the development of processes to reduce the size and volume of municipal solid waste both at residential or commercial sources as well as at central points.

Current work also includes development and demonstration of methods to recover energy and/or materials from solid wastes both to reduce the amount and cost of waste disposal and to conserve valuable resources. One project underway in this area is the demonstration of a pilot-scale incinerator/energy recovery system (called the CPU-400) which utilizes the hot gases generated by the incineration of municipal solid wastes to produce steam generated electric power. Other projects include the demonstration of a system to recover paper fibers from municipal solid wastes and another system to recover nonferrous metals from such wastes.

In 1972, under the proposed increased program, the current lines of control technology development and demonstrations will be continued and will be complemented with new and additional work emphasizing resource recovery and recycling. One aspect of this expanded activity will involve the demonstration of full-scale systems to recover materials or energy from municipal solid wastes. The first step will be the conduct of a comprehensive study of the existing as well as the developed but undemonstrated technology currently available. This study will enable the best selection of methods deemed ready for full-scale demonstration under actual operating conditions within municipal solid waste management systems. The study will be followed by the initiation of such demonstrations of two selected systems. These demonstrations will be two to four year projects supported by Federal grants authorized under Section 208 of the Resource Recovery Act of 1970. The participating municipality will provide at least 25 percent of the cost of the demonstrations. Potential candidates for demonstration are expected to include different systems which accomplish the separation of metals and other materials from municipal solid wastes so that they can be marketed and thereby recycled. The projects will include the demonstration of not only the technical feasibility but also the economic feasibility of the systems being demonstrated.

The second aspect of the expanded 1972 program will encompass several studies of different mechanisms to promote the recycling of solid waste materials and/or the reduced generation of solid wastes. These studies are mandated by Section 205 of the Resource Recovery Act of 1970, and the results of this work are required to be reported to the Congress at least annually. Each study will involve a comprehensive analysis and evaluation of the opportunities and practicalities of employing various tax and other economic incentives or disincentives, subsidies, depletion allowances, capital gains treatment, and other mechanisms, as well as resource recovery systems to achieve the above objectives. Candidates for the studies to be conducted in 1972 include beverage containers, paper packaging, plastics, ferrous metals, glass, textiles, rubber, and other materials contained in municipal solid wastes. The near- and long-term goals of these studies--those to be conducted in 1972 as well as those to be undertaken in subsequent years--is to develop a better national strategy for the control of solid wastes, a strategy which includes approaches other than conventional collection and disposal.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Water pollution control technology	\$38,146,000	\$32,760,000	-\$5,386,000

A decrease of \$5,386,000 is planned as a result of reorientation of the program to include a greater amount of in-house work in lieu of work conducted under grants and contracts. This reorientation is being undertaken to improve EPA's capability to address research and development needs arising from standards-setting, enforcement, and other operational activities. These activities are imposing an increasing number of cases requiring immediate, short-term research, the immediate availability of specialized scientific personnel, and the conduct of specific field and laboratory studies requiring research capabilities. Such needs are not readily or easily fulfilled through grant or contract projects.

The 1971 program of work covers a wide range of projects to develop new and improved methods of preventing, treating, or controlling waste waters from municipal, industrial, agricultural, mining, and marine sources. Included in these projects are full-scale demonstrations of phosphorous removal, oxygen aeration, electrochemical chlorination, and other processes for upgrading municipal waste water treatment technology. For industrial waste sources, demonstrations of processes to remove color from kraft pulp mill wastes, to provide chemical-biological treatment of joint municipal-industrial wastes and to provide treatment of dyestuff and various organic wastes are under way. For agricultural wastes, research on controlling animal feedlot pollution, salinity pollution, and land run-off drainage is being performed. To control acid mine pollution, a reverse-osmosis process for neutralizing acid mine drainage and a self-sealing permeable plug for closing mine entries are being developed and demonstrated. For the control of oil pollution, several methods to remove oil from water and several methods of preventing oil spills are under development. Finally, methods for removing organic contaminants in the treatment of drinking waters are being researched.

In 1972, these lines of research, development, and demonstration will be continued with greater emphasis devoted to in-house work in lieu of grant and contract work.



## **10: Building Facilities**



Facilities  
(dollars in thousands)

	<u>1971 Total</u>		<u>1972 Total</u>		<u>Increase or Decrease</u>	
	<u>Pos.</u>	<u>Amount</u>	<u>Pos.</u>	<u>Amount</u>	<u>Pos.</u>	<u>Amount</u>
Facilities.....	...	...	...	\$28,000	...	+\$28,000

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Manpower Resources:

Man-years.....	...	...	...
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No January 1971 pay raise requirements for this activity.

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## Operations, Research, and Facilities

### Facilities

#### Purpose

This activity includes two general categories of effort in support of EPA programs. They are new facilities and repairs, improvements, and alterations. Funds for site acquisition, planning, designing, constructing, and the initial equipping of a new facility, when applicable, are budgeted under this activity. Also, essential repairs, improvements, and alterations for existing EPA facilities are included in this activity. Facility modification or equipment which is required by virtue of a specific program activity are budgeted under the appropriate activity of the Operations, Research, and Facilities appropriation. Budget authority requested for 1972 is as follows:

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
New facilities.....	...	\$28,000,000	\$28,000,000
Repairs, improvements, and alterations.....	...	...	...
Total.....	...	28,000,000	28,000,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	...	...	...
Man-years.....	...	...	...

Summary of Increases and Decreases

New facilities	\$28,000,000
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- To construct an Environmental Protection Laboratory  
in Cincinnati, Ohio, for multidisciplined research  
of environmental problems.....28,000,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
New facilities	...	\$28,000,000	\$28,000,000

Fiscal year 1972 funds are requested for construction of an Environmental Protection Laboratory to be located adjacent to the University of Cincinnati in Cincinnati, Ohio. This laboratory, which will be available in 1975, is envisioned as a facility which will provide for multidisciplined research over the wide spectrum of environmental problems.

As we look ahead to the research and pollution problem-solving needs of the future, the requirement for bringing together groups which can seek solutions from multidiscipline backgrounds and over the total range of environmental conditions becomes apparent. A comprehensive approach to our environmental crises requires coordinated and compatible enforcement which must be based on criteria developed from a scientific base. Construction of this laboratory presents a unique and timely opportunity to consolidate small categorical efforts into an EPA prototype multidisciplinary research laboratory to help provide this base. Related training would also be provided from this laboratory to public and private organizations to stimulate the rapid application of improved prevention and control technology.

The choice of Cincinnati as a location for such a facility was influenced by several factors:

1. At the outset there is a reasonable core of EPA activity located in Cincinnati. This core will permit an orderly expansion and growth to achieve our desired end result.

2. The University of Cincinnati and its associated colleges (including the medical college) have a significant research program covering a wide range of environmental problems under way.

3. Prior to establishment to EPA, the need for an environmental-oriented facility had been recognized and HEW negotiations with the City of Cincinnati had proceeded to a point of considerable commitment on the city's part and on the part of the Federal Government. The city had offered, at no cost, a 20 acre site adjacent to the University of Cincinnati and the Federal Government had informally accepted. This action necessitated that the city, through urban renewal, condemn, purchase, and raze properties, as needed, for this purpose. This condemnation procedure is still under way. At the end of December 1970, out of 188 sites involved only 40 still remain to be acquired.

4. Planning and design of the Cincinnati facility is expected to be completed this spring and therefore provides an opportunity to both benefit from a design effort costing some \$1.4 million and shorten the time for commencing the construction phase.

The facility is planned as a 356,000 gross square foot laboratory and office building which will provide facilities for research and training in fields such as solid waste management, radiation, air pollution control, and domestic and recreational water supply control. It will also house expertise to provide technical assistance on environmental problems to other Federal agencies, State and local governments, and the private sectors as needed. The building has been designed for maximum flexibility, providing approximately 200,000 net square feet of interchangeable office and laboratory space to accommodate changing program needs. The structure will provide for 750 professional, administrative, and technical personnel, many of whom are currently employed at nine separate locations. Included in these are eight locations involving leases costing the Federal Government \$755,231 per year. The budget request includes \$28,000,000 to construct and initially equip this facility. It is estimated that a construction contract amounting to \$20,500,000 will be let by the end of calendar year 1971. This will result in the facility being completed and occupied in 1975. See page F-8 for a photograph of the proposed facility.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Repairs, improvements, and alterations	...	...	...

No new budget authority is requested for this purpose. It is proposed to reprogram \$1,300,000 from funds appropriated in prior years for new facilities. These funds are available for reprogramming as a result of decisions to defer new construction over the past several years. Two points must be made here. First, the passage of time coupled with rising construction costs make it impossible to proceed with these facilities as originally funded. Second, and perhaps more important, the EPA need for facilities must be carefully reviewed to determine a proper priority for these activities. A major review of existing facilities is being undertaken along with an assessment of our future needs. The results of this study will permit us to make reasonable recommendations with regard to EPA facility needs.

The following is a summary of funds available.

	<u>Available</u>	<u>Proposed to be Reprogrammed</u>	<u>Revised Availability</u>
I. Water Quality:			
A. Water Pollution			
Narragansett, Rhode Island.	\$1,727,926a/	...	\$1,727,926
Boston, Massachusetts.....	860,716a/	\$860,716	...
Ann Arbor, Michigan.....	2,537,449a/	439,284	2,098,165
Jackson-Vicksburg, Mississippi.....	160,000b/	...	160,000
Columbia, Missouri.....	160,000b/	...	160,000
Middle Atlantic.....	160,000b/	...	160,000
B. Water Hygiene:			
Manchester, Washington.....	1,035,000a/	...	1,035,000
Narragansett, Rhode Island.	1,108,000a/	...	1,108,000
II. Air Pollution:			
Durham, North Carolina.....	1,164,500b/	...	1,164,500
Total.....	8,913,591	1,300,000	7,613,591

It should be noted that the water quality activity reprogrammed--by congressional consent in the past several years-- \$1,850,000 of funds appropriated for a laboratory to be located in Boston, Massachusetts. The plans and specifications for this facility were completed. However, because of the construction moratorium, the land which was donated by the State reverted back to the State since it was not used within the period cited in the deed transferring the property to the Federal Government. Therefore, if a laboratory was to be built in Boston, Massachusetts, a new site would have to be acquired, new plans and specifications designed, and additional funds would be needed due to increased construction costs since the estimate was made some years ago. For this reason, these funds have been reprogrammed to meet essential repairs, improvements, and/or alteration needs. In all cases where funds have been appropriated for construction, they would be inadequate if decisions were made to proceed, due to the increase in construction costs. Therefore, pending any such decisions, it is proposed to use the balance of \$860,716 from the funds appropriated for the Boston, Massachusetts, laboratory and \$439,284 of the Ann Arbor, Michigan, laboratory funds for a total of \$1,300,000.

a/ Construction  
b/ Planning

These funds are required for essential repairs, improvements, and alterations to existing laboratory facilities for the following purposes:

1. College, Alaska.....\$35,000

Additional mechanical services are required for a special purpose laboratory for the Alaska Water Laboratory.

2. Alameda, California.....\$330,000

Storage area modifications, entrance weatherproofing and hardware, shop and maintenance area provisions, and a fish tank enclosure are required at the California/Nevada Basins Office. Recent consolidation of the Salt Lake City Laboratory with the Alameda facility will provide multidisciplinary capabilities for the Pacific Southwest region. To accommodate this consolidation, modification of the existing facility is required to provide additional office and laboratory space along with the necessary associated utilities. Classroom and laboratory training facilities are also required for presentation of training material and instruction in biology and chemistry.

3. Athens, Georgia.....\$40,000

Projects necessary at the Southeast Water Laboratory include modification to a laboratory, a boat shelter/parking area, relocation of building mechanical equipment, weatherproofing, and landscaping.

4. Grosse Ile, Michigan.....\$250,000

Extensive building modifications, including installation of utilities and partitions to provide a research and development laboratory/office complex for Great Lakes studies in the Lake Huron Basin Office.

5. Duluth, Minnesota..... \$55,000

The National Water Quality Laboratory requires a boiler and second floor expansion of the storage structure, seal coating of drives and parking areas, partitioning, corridor painting, and exterior electric outlets for cold weather storage of government vehicles.

6. Edison, New Jersey.....\$90,000

Installation of suspended ceilings and lighting fixtures in two bays, replacement of floor tile, and painting of one bay required at the Hudson-Delaware Basin Office.

7. Cincinnati, Ohio.....\$150,000

The Robert A. Taft Water Research Center requires a steam totalizer and pressure recorder, resurfacing of walls, replacement of door hardware, installation of shop exhaust vents, suspended corridor ceilings, solar screening, relamping, replacement of toilet hardware, and vacuum breakers.

8. Newtown, Ohio.....\$45,000

Replacement of mechanical equipment, replacement of a water distribution system, roofing of open water storage tanks, refinishing of parking area and drives, and painting required at the National Water Quality Laboratory Field Station.

9. Ada, Oklahoma.....\$135,000

Modification to existing unfinished space at the Robert S. Kerr Water Research Center, Ada, Oklahoma, is required for the needs of technical service field sampling programs, resurface the parking area, replace the distilled water tanks, and finish the second floor of the storage structure.

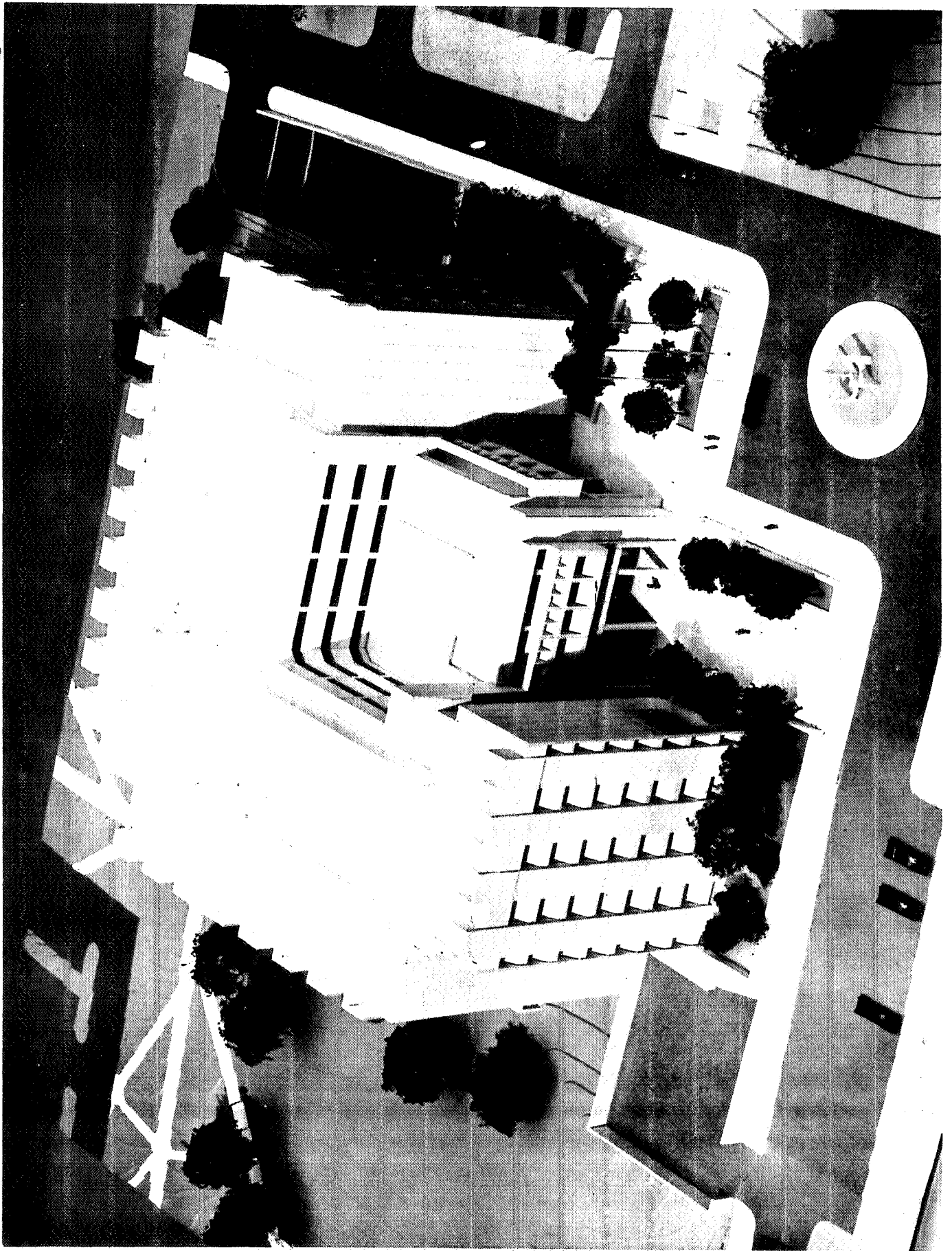
10. Corvallis, Oregon.....\$35,000

Roof extension over the loading dock, laboratory floor drains, and dechlorinators are required for the Pacific Northwest Laboratory.

11. Bears Bluff, South Carolina.....\$135,000

A structure to store hazardous materials, controlled temperature space and emergency electric power, and docking facility repairs required at the National Marine Water Quality Laboratory Field Station.





## Environmental Control Laboratory

Cincinnati, Ohio

### Planning

Pre-design planning studies.....	\$55,000	
Design drawings and specifications.....	<u>1,330,000</u>	\$1,385,000

### Site Work

Site development.....	1,100,000	
Utilities.....	<u>900,000</u>	2,000,000

### Structures

Basic structure.....	20,500,000	
Built-in laboratory facilities.....	<u>3,500,000</u>	24,000,000

### Equipment

Initial portable equipment.....	<u>2,000,000</u>	
---------------------------------	------------------	--

Total cost.....29,385,000

### Less previously appropriated planning funds:

1966, for pre-design planning study.....	-100,000	
1967, for design drawings and specifications.....	<u>-1,285,000</u>	

Total budget request, 1972.....28,000,000

Program Direction and Support  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Program Direction and Support.....	1,480	\$25,998	1,666	\$34,664	+186	+\$8,666
<hr/>						
Agency Management.....	(1,079)	(\$18,990)	(1,188)	(\$20,906)	(+109)	(+\$1,916)
Office of Admin.....	167	3,000	173✓	3,223	+6	+223
AA for Planning and Management.....	811	13,890	840	14,812	+29	+922
AA for Field Coord....	5	150	25	324	+20	+174
AA (for Standards and Enforcement)and General Counsel.....	71	1,400	75	1,483	+4	+83
AA for Research and Monitoring.....	25	550	75	1,064	+50	+514
Headquarters Relocation.	...	...	...	(2,200)	...	(+2,200)
Program Management.....	(172)	(3,908)	(199)	(4,614)	(+27)	(+706)
Air Pollution.....	53	1,500	62✓	1,620	+9	+120
Noise.....	3	15	3✓	75	...	+60
Pesticides.....	16	510	20	614	+4	+104
Radiation.....	25	582	25	612	...	+30
Solid Wastes.....	34	501	41	798	+7	+297
Water Quality.....	41	800	48	895	+7	+95
Regional Management.....	(229)	(3,100)	(279)	(4,762)	(+50)	(+1,662)
Reg. I, Boston.....	23	311	28	477	+5	+166
Reg. II, New York.....	24	332	29	498	+5	+166
Reg. III, Philadelphia	23	313	28	479	+5	+166
Reg. IV, Atlanta.....	23	311	28	477	+5	+166
Reg. V, Chicago.....	22	295	27	461	+5	+166
Reg. VI, Dallas.....	22	295	27	461	+5	+166
Reg. VII, Kansas City.	22	292	27	458	+5	+166
Reg. VIII, Denver.....	23	313	28	479	+5	+166
Reg. IX, San Francisco	24	327	29	495	+5	+168
Reg. X, Seattle.....	23	311	28	477	+5	+166
Regional Relocation.....	...	...	...	(2,182)	...	(+2,182)
Total.....	1,480	25,998	1,666	34,664	+186	+8,666
<hr/>						
Estimate Herein.....		\$25,998		\$34,664		+\$8,666
Requirement for Jan.						
1971 Pay Raise.....		584		1,374		+790
Total.....		26,582		36,038		+9,456
<hr/>						
Manpower Resources:						
Man-years.....	1,288		1,512		+224	

## Operations, Research, and Facilities

### Program Direction and Support

#### Purpose

This activity provides for the overall leadership and direction of Environmental Protection Agency programs. Included are personnel and support costs required for centralized agency management activities, including the Administrator and immediate staff, and the five Assistant Administrators' management level; for program management activities of the air pollution control, water quality, solid waste management, pesticides, radiation, and noise offices; and for regional management, including the Regional Administrators of 10 EPA regional offices.

The offices included at these three management levels are shown in the organizational chart on page PDS-6.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Agency management....	\$18,990,000	\$23,106,000	\$4,116,000
Program management...	3,908,000	4,614,000	706,000
Regional management..	3,100,000	6,944,000	3,844,000
Total.....	25,998,000	34,664,000	8,666,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions:	1,480	1,666	186
Agency management...	1,079	1,188	109
Program management..	172	199	27
Regional management.	229	279	50
Man-years:	1,288	1,423	135
Agency management...	950	1,009	59
Program management..	150	169	19
Regional management.	188	245	57

## Summary of Increases and Decreases

Program direction and support \$8,666,000

- Strengthen agency level management..... 1,916,000
- Lease, movement, and other related costs associated with the transfer of EPA headquarters to one location..... 2,200,000
- Provide additional manpower for program management to meet increased information and assistance requirements and for more effective planning and program evaluation..... 706,000
- Build up regional level management..... 1,662,000
- Lease, movement, and other related costs associated with regional offices..... 2,182,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Agency management	\$18,990,000	\$23,106,000	\$4,116,000

Agency management includes the top management leadership team and the centralized agency-wide management support activities. Specific organizational elements are: the Office of the Administrator; the Office of Congressional Affairs; the Office of Public Affairs; the Office of International Affairs; the Office of Equal Opportunity; the Assistant Administrator for Planning and Management; the Assistant Administrator for Research and Monitoring; the Assistant Administrator (for Standards and Enforcement) and General Counsel; the Assistant Administrator for Field Coordination; and an Assistant Administrator not yet assigned.

A major initial consideration in structuring the Environmental Protection Agency has been the need to organize an agency management team while at the same time assuring that the environmental responsibilities transferred to EPA were aggressively fulfilled. This objective is reflected in the program direction and support activity in two ways. First, the initial staffing of agency level functions has been accomplished primarily through centralization of management support activities such as accounting, budgeting, personnel, administrative services, etc. These centralized activities are responsible for providing support to all levels of EPA management. The centralization approach has made the initial EPA agency level operations possible while avoiding large-scale recruitment of management staff. The second major theme reflected here is that the EPA management structure will be evolutionary. This means that, as we bring together the management team, we will determine specific staffing requirements based on operating experience rather than stipulate detailed organizational design in advance. This approach recognizes the need for participation of the Assistant Administrator management level in determining detailed organizational design and staffing. This approach also requires considerable flexibility in the allocation of manpower and funds during the evolutionary phase.

As we complete the centralization of management staff activities and determine the staffing requirements for the Assistant Administrator level, we find many instances where the manpower resources are inadequate to perform a function. During the next year we can also expect to find instances where the manpower resources exceed the requirements in some areas. As a result, it is not possible to determine specific manpower requirements for each organizational element at this point. The plan for 1972 involves careful management attention to the problem of balancing manpower requirements. This will require a continuous review of vacant positions created by attrition to ensure assignments to priority needs. It also involves central control and allocation of the 109 positions requested in the 1972 budget.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Program management</u>	<u>\$3,908,000</u>	<u>\$4,614,000</u>	<u>\$706,000</u>

Program management includes personnel and support costs for top level leadership of the water quality office, the air pollution control office, the solid wastes management office, the radiation office, the pesticides office, and the noise office. This activity provides the Commissioner and immediate staff function of these offices.

To a large degree, agency level support activities have been created by centralizing functions and personnel previously assigned at the water quality, air pollution control, etc., levels. The centralized staff now supports both agency level and program level requirements serving the Commissioner responsible for those activities directly related to program accomplishment. Generally, each Commissioner has retained a staff capability in two areas to facilitate accomplishment of program responsibilities. These include a small staff to assist in the coordination of program direction who report to the Commissioner and a program development staff to support planning of future program and execution of the current program.

The 1972 increase for program management is directly related to the overall growth in EPA programs. The air pollution control office will increase the planning staff and provide for additional manpower at the air pollution control center in Durham, North Carolina. The water quality office will require a small increase in the planning office and in the immediate office of the Commissioner. The solid waste management office and the pesticides office will be increased to provide for strengthening the program development staff.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Regional management</u>	<u>\$3,100,000</u>	<u>\$6,944,000</u>	<u>\$3,844,000</u>

The regional management activity will provide personnel and support costs for a Regional Administrator and his immediate staff in each of the 10 regions. Regional administration will be responsible for directing the various environmental protection activities within the boundaries of their respective regions. These offices will require program staff to ensure that environmental problems are attacked in a coordinated manner and management support staff such as personnel, contracting, and housekeeping activities. The 10 EPA regions and their boundaries are shown on pages PDS-7 and 8.

The organizational transfer to EPA involved numerous small groups scattered throughout the United States which were performing a variety of activities in support of water quality, air, radiation, solid wastes, and pesticides programs. One of the first conclusions within EPA was

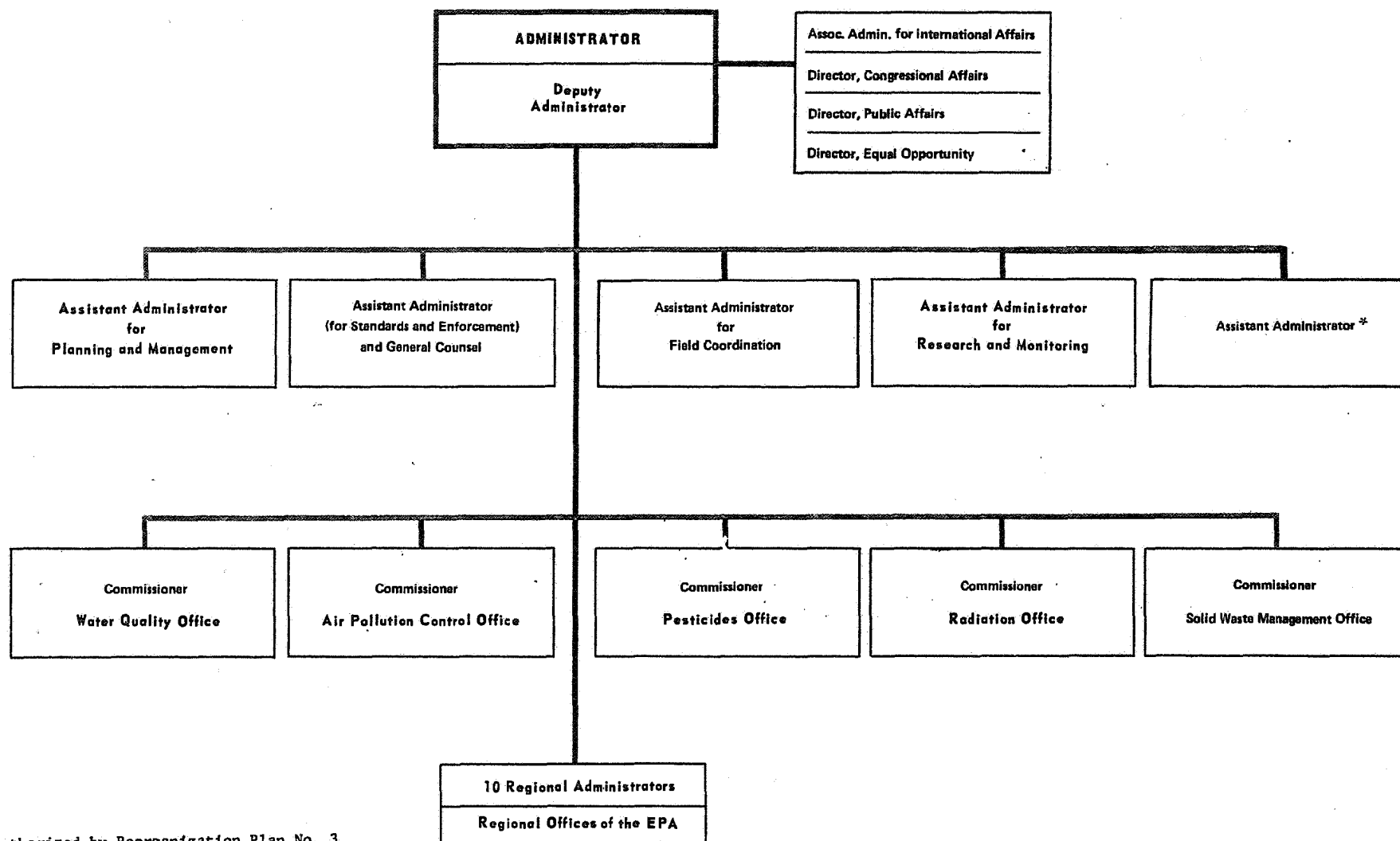
that these efforts must be brought together along regional lines so that the environmental program can be pursued in a coordinated fashion. We are taking these steps. A reorganization of regional offices in the Environmental Protection Agency's 10 regions is to take effect on July 1, 1971 and is expected to be completed by September 30 of this year. Three of the nine regional offices that EPA inherited from the former Federal Water Quality Administration will be transferred to new headquarters cities. The regional offices affected involve the moving of personnel and activities involved in water pollution control from Charlottesville, Virginia, to Philadelphia, Pennsylvania; from Cincinnati, Ohio, to Chicago, Illinois and Denver, Colorado; and from Portland, Oregon, to Seattle, Washington.

In 1971 the major effort in regional management was to staff the most critical positions and to start organizing and structuring each regional organization in the most efficient manner possible. Existing regional direction personnel within the water quality office regional organization were used to the greatest extent possible but it was apparent that additional manpower would be required to provide an effective regional management. This staffing began in 1971 and continues in 1972. Also, because of the proposed program acceleration in 1972, additional resources are needed to meet the related administrative management support requirements that are associated with such activities. Increased budget authority of \$1,662,000 is requested to support additional manpower needs. In addition, the relocation and centralization necessary to some degree in all regional cities, requires additional resources to fund office and household moves and to cover leasing costs through the end of 1972. The amount being requested for this purpose is \$2,182,000.

As in the agency management area, we have provided for staffing of regional offices in an evolutionary manner. The 1971 supplemental request provided for 50 positions and the 1972 request for an additional 50. This will permit an average of 10 additional positions for each region but the actual allocation will depend upon individual circumstances such as the transfer of existing staff and rate of growth.



# ENVIRONMENTAL PROTECTION AGENCY



\* Authorized by Reorganization Plan No. 3 of 1970 but not assigned at this time.

Region I                    Headquarters, Boston, Massachusetts  
Connecticut, Maine, Massachusetts,  
New Hampshire, Rhode Island, Vermont

Region II                   Headquarters, New York, New York  
New Jersey, New York, Puerto Rico,  
Virgin Islands

Region III                  Headquarters, Philadelphia, Pa.  
Delaware, Maryland, Pennsylvania, Virginia,  
West Virginia, District of Columbia

Region IV                   Headquarters, Atlanta, Georgia  
Alabama, Florida, Georgia, Kentucky,  
Mississippi, North Carolina,  
South Carolina, Tennessee

Region V                   Headquarters, Chicago, Illinois  
Illinois, Indiana, Michigan, Minnesota,  
Ohio, Wisconsin

Region VI                   Headquarters, Dallas, Texas  
Arkansas, Louisiana, New Mexico,  
Texas, Oklahoma

Region VII                  Headquarters, Kansas City, Missouri  
Iowa, Kansas, Missouri, Nebraska

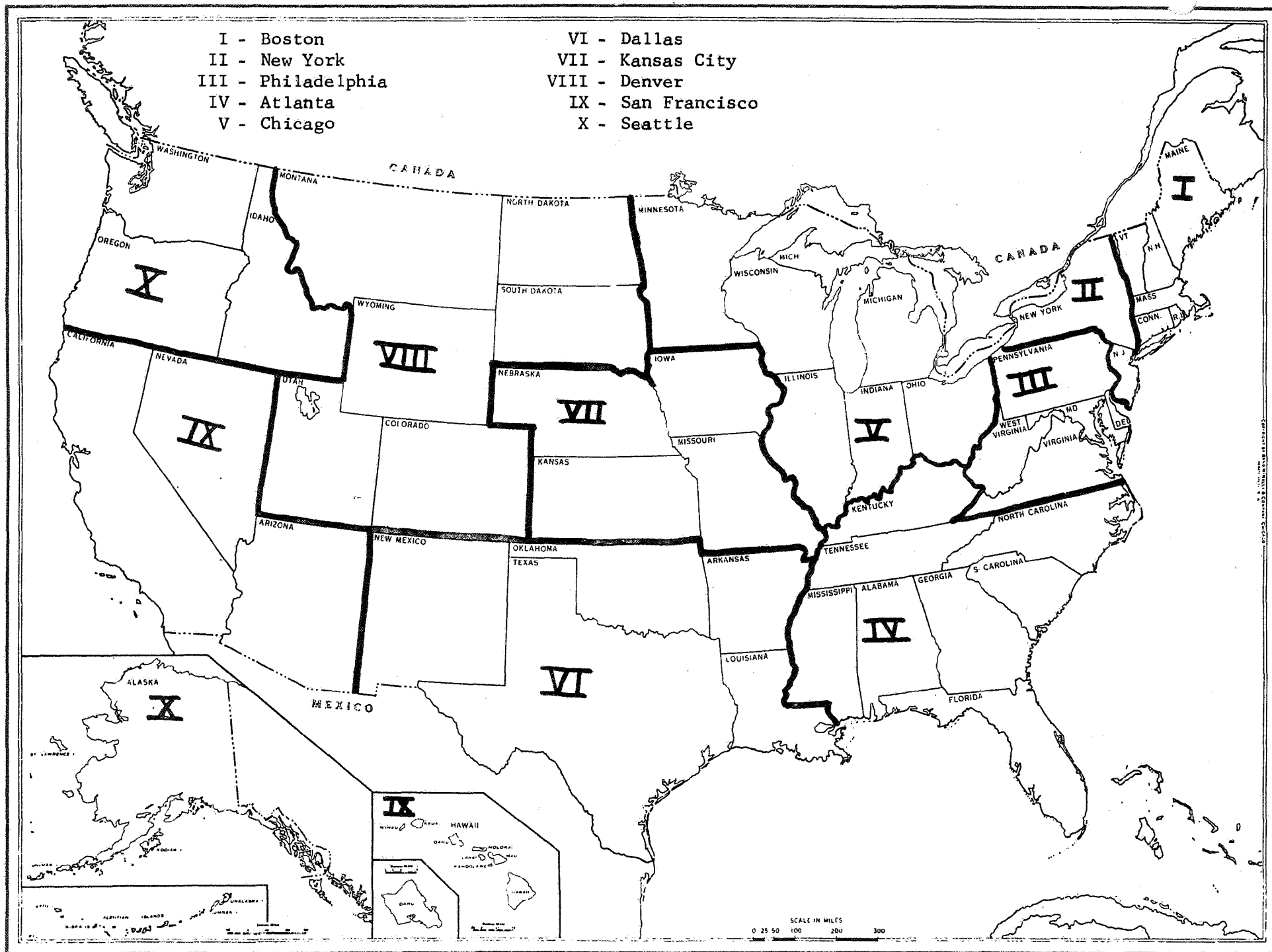
Region VIII                Headquarters, Denver, Colorado  
Colorado, Montana, North Dakota,  
South Dakota, Utah, Wyoming

Region IX                   Headquarters, San Francisco, California  
Arizona, California, Hawaii, Nevada,  
American Samoa, Guam, Trust Territories of  
Pacific Islands, Wake Island

Region X                   Headquarters, Seattle, Washington  
Alaska, Idaho, Oregon, Washington

I - Boston  
 II - New York  
 III - Philadelphia  
 IV - Atlanta  
 V - Chicago

VI - Dallas  
 VII - Kansas City  
 VIII - Denver  
 IX - San Francisco  
 X - Seattle



*P. self*

ENVIRONMENTAL PROTECTION AGENCY  
Operations, Research, and Facilities  
FY 1972 Man-years  
(Permanent Positions)  
NOT REFLECTED IN BUDGET

	Abatement and Control							Manpower Development	Research, Development and Demonstration			Program Direction & Support	TOTAL
	Planning	Monitoring & Surveillance	Standards & Enforcement	Control Agency Support	Technical Support	Federal Activities	Construction Grants Administration		Pollution Sources & Effects	Pollution Control Technology	Total		
<u>AIR</u>													
Base.....	...	77.0	147.0	41.0	327.0	22.0	...	614.0	66.0	331.0	173.0	504.0	[261.0] 1,184.0
Add-ons.....	...	42.0	60.0	...	...	20.0	...	122.0	...	47.0	...	47.0	[7.0] 169.0
Total, Air.....	...	119.0	207.0	41.0	327.0	42.0	...	736.0	66.0	378.0	173.0	551.0	[268.0] 1,353.0
<u>SOLID WASTES</u>													
Base.....	34.0	3.0	14.9	...	71.8	30.4	...	154.1	17.3	13.0	80.6	93.6	[37.4] 265.0
Add-ons.....	7.8	...	1.8	...	3.0	...	...	12.6	...	...	12.8	12.8	[3.0] 25.4
Total, Solid Wastes.....	41.8	3.0	16.7	...	74.8	30.4	...	166.7	17.3	13.0	93.4	106.4	[40.4] 290.4
<u>RADIATION</u>													
Base.....	...	136.0	14.0	...	14.0	18.0	...	182.0	10.0	106.0	...	106.0	[32.0] 298.0
Add-ons.....	...	5.4	3.0	...	9.0	...	...	17.4	...	7.8	...	7.8	[2.4] 25.2
Total, Radiation.....	...	141.4	17.0	...	23.0	18.0	...	199.4	10.0	113.8	...	113.8	[32.0] 323.2
<u>PESTICIDES</u>													
Base.....	...	70.0	319.0	...	39.0	...	...	428.0	...	124.0	...	124.0	[17.0] 552.0
Add-ons.....	...	18.6	62.4	...	1.8	...	...	82.8	...	81.0	...	81.0	[2.4] 163.8
Total, Pesticides.....	...	88.6	381.4	...	40.8	...	...	510.8	...	205.0	...	205.0	[19.4] 715.8
<u>NOISE</u>													
Base.....	...	...	...	...	...	1.5	...	1.5	...	4.6	...	4.6	[2.2] 6.1
Add-ons.....	...	...	...	...	...	2.4	...	2.4	...	...	...	...	[2.2] 2.4
Total, Noise.....	...	...	...	...	...	3.9	...	3.9	...	4.6	...	4.6	[2.2] 8.5



# **Construction Grants**

Construction Grants  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	<u>Pos.</u>	<u>Amount</u>	<u>Pos.</u>	<u>Amount</u>	<u>Pos.</u>	<u>Amount</u>
Water.....	...	\$1,000,000	...	\$2,000,000	...	\$1,000,000

No pay cost requirement in this appropriation.

## Construction Grants

### Purpose

This appropriation covers the Federal grants that would be made available to municipal, intermunicipal, State, and interstate agencies for the construction of waste treatment works and major interceptor sewers under a proposed bill to extend and amend Section 8 of the Federal Water Pollution Control Act, as amended. Section 8 of the current Act expires on June 30, 1971, and the Agency has transmitted to the Congress a proposed bill to extend and substantially modify the provisions of this section of the Act.

Federal grant assistance for the construction of municipal waste treatment works has been authorized since 1956; since that time, through February 28, 1971, \$2.2 billion of assistance has been provided for 11,397 facilities having a total cost of \$9.3 billion. Over this period both the percentages of Federal grants and the annual amount of monies authorized and appropriated has been increased in several steps. For 1971 \$1.25 billion was authorized with \$1 billion being appropriated. The current percentages of Federal assistance range between 30 and 55 percent.

In December 1970, EPA completed a comprehensive survey of the Nation's municipal waste treatment needs. This showed the need for a national investment of \$12.0 billion through the end of 1974. Such an investment would overcome the backlog of construction needs necessary to bring all municipal discharges into compliance with established water quality standards, or equivalent levels of quality where standards are not established, and the development of self-sufficient programs at the State and local levels for assuring the future operation, maintenance, expansion, and replacement of treatment works. The amount of this investment takes into account the amount of monies available from the 1970 and 1971 appropriations yet unobligated as of the completion date of the survey. It also would provide for the reimbursement of communities and States which have prefunded the Federal share of eligible construction costs because of the insufficiency of grant funds under current and prior appropriations.

The legislative proposal would authorize \$2 billion for each of the years 1972, 1973, and 1974 to provide \$6 billion for the Federal share. The Federal share of \$6 billion was calculated as follows:

	(in billions)
Total requirements to meet construction needs	
by end of 1974.....	\$12.00
Estimated average Federal share, 48.5 percent...	5.82
Federal requirement for reimbursements, 11/30/70	1.46
Total estimated Federal need by end of 1974.....	7.28
Less unobligated Federal funds 11/30/70.....	1.26
New need.....	6.02
Average Federal requirement over three years....	2.007

This Federal share is estimated to average 48.5 percent per new project over the three years, based on expected involvement of the States in providing supplementary financial support and in establishing water quality standards, both of which determine different levels of Federal assistance. Accordingly, the appropriation request for construction grants for 1972 is \$2 billion. This is an increase of \$1 billion over the amount appropriated in 1971.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Waste treatment works construction.....	\$1,000,000,000	\$2,000,000,000	\$1,000,000,000

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.	...	...	...
Man-years.....	...	...	...



Summary of Increases and Decreases

Waste treatment works construction \$1,000,000,000

- To assist State and local communities in constructing needed waste treatment works and major interceptor sewers to abate and control water pollution and continue reimbursing those States who have been prefinancing the Federal share.....1,000,000,000

## Justification

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Waste treatment works construction	\$1,000,000,000	\$2,000,000,000	\$1,000,000,000

The expanded program of grants for the construction of waste treatment works proposed for 1972 represents the first phase of a three year program designed to meet all presently defined municipal waste treatment needs through 1974. The objectives are to bring water pollution from municipalities under control by achieving a rate of construction which will overcome the unmet backlog of needed facilities, keep pace with needs for new facilities resulting from population growth, and keep pace with needs to replace facilities which become obsolete because of age, technical advancement, or population relocation. This program is intended to bring the Nation's municipal waste discharges into full compliance with established water quality standards, enforcement actions, and other Federal and State requirements.

The program is based on EPA's recently completed survey of municipal waste treatment needs. This study indicated a national waste treatment facilities construction need of \$12.0 billion by the end of 1974, based on 1970 dollars. This figure represents an increase over the earlier \$10 billion estimate (presented in the President's Environmental Message of February 1970) because of higher construction costs, recent modifications of water quality standards, and refined engineering estimates. As pointed out previously, the Federal share for this new estimate is estimated to be \$7.28 billion. Of this amount, \$1.46 billion takes into consideration reimbursements under section 8(c) of the Federal Water Pollution Control Act, as amended, to communities that have already proceeded with the construction of treatment plants with no grant or with less than the full, eligible Federal grant amount. However, this \$7.28 billion share is offset by funds remaining from the 1970 and 1971 appropriations. It was realized that the peak demand for Federal funds could occur in 1972 and 1973. However, a constant funding level of \$2 billion annually for 1972, 1973, and 1974 is being requested for authorization in the proposed bill. The \$2 billion requested for 1972 is considered an optimum level which would avoid a sudden drain on construction resources (with its attendant inflationary effects) and would result in a more even distribution of the obligation of funds over the three-year period.

This program, if carried through the three-year period, will permit EPA to fund its national water pollution control goals, based on current cost estimates, by the end of 1974; to provide for Federal commitment to cover all existing and predicted reimbursement projects by the end of 1974; and to help the States and communities become self-sufficient in providing for their waste treatment needs on a current basis.

Table A on page CG-6 presents workload statistics on the program for 1970, 1971, and 1972.

#### Allotment of funds

The existing legislation, Section 8(c), incorporates a formula which requires the allotment of annual appropriations of grant funds among the States on the basis of population (50 percent of the first \$100 million and all amounts over \$100 million) and per capita income (50 percent of the first \$100 million). Public Law 91-439 which provided the \$1 billion appropriation for 1971 provided that \$800 million was to be allotted under this formula and that the remaining \$200 million was to be available for allocation to States, based on eligibility, for reimbursement or severe local and basinwide water pollution problems (see later discussion on this \$200 million). Columns (1) and (2), Table B on page CG-7, show the allotment of 1970 and 1971 appropriated funds in accordance with the formula of the current Act for \$800 million for 1970 and 1971. The additional \$200 million in 1971 for reimbursement or severe local and basinwide pollution problems will be allocated in accordance with prescribed regulations.

Table A  
Statistics for the Construction Grants Program

	<u>1970 Actual</u>	<u>1971 Estimate</u>	<u>1972 Estimate*</u>
Active projects at start of fiscal year:	2,636	2,824	3,574
Projects under construction	(1,504)	(1,658)	(1,958)
Projects not under construction.....	(1,132)	(1,166)	(1,616)
Workload during fiscal year:			
Applications reviewed.....	1,147	1,650	2,000
Plans and specifications reviewed.....	1,394	1,500	1,800
Construction starts.....	918	1,200	1,500
Inspections.....	1,519	2,000	3,000
Plants completed.....	691	900	1,100
Performance inspections....	291	400	800
Sewer certifications.....	474	750	750

\*Based on proposed bill to extend and amend Section 8.

TABLE B

Allocation of Grant Funds for  
Waste Treatment Works Construction

<u>State or Territory</u>	<u>(1)</u> <u>1970</u>	<u>(2)</u> <u>1971</u>	<u>Increase or</u> <u>Decrease</u>
Alabama.....	\$14,672,000	\$14,680,000	8,000
Alaska.....	1,637,900	1,622,500	-15,400
Arizona.....	6,327,100	6,316,000	-11,100
Arkansas.....	8,599,200	8,580,800	-18,400
California.....	65,554,900	65,557,000	2,100
Colorado.....	8,072,600	8,084,200	11,600
Connecticut.....	11,117,600	11,117,800	200
Delaware.....	2,541,600	2,571,000	29,400
District of Columbia...	3,780,500	3,788,000	7,500
Florida.....	21,353,200	21,331,100	-22,100
Georgia.....	17,305,100	17,289,000	-16,100
Hawaii.....	3,398,600	3,410,900	12,300
Idaho.....	3,743,800	3,787,400	43,600
Illinois.....	42,287,100	42,294,100	7,000
Indiana.....	20,042,500	20,052,000	9,500
Iowa.....	12,203,800	12,221,800	18,000
Kansas.....	9,839,400	9,842,200	2,800
Kentucky.....	13,625,800	13,609,300	-16,500
Louisiana.....	14,513,900	14,510,200	-3,700
Maine.....	4,981,500	4,994,600	13,100
Maryland.....	13,550,900	13,550,700	-200
Massachusetts.....	21,983,500	21,980,200	-3,300
Michigan.....	33,033,200	33,043,400	10,200
Minnesota.....	14,928,100	14,930,100	2,000
Mississippi.....	10,377,700	10,359,900	-17,800
Missouri.....	18,690,000	18,690,300	300
Montana.....	3,714,500	3,724,200	9,700
Nebraska.....	6,668,600	6,674,300	5,700
Nevada.....	1,881,900	1,888,000	6,100
New Hampshire.....	3,369,200	3,367,200	-2,000
New Jersey.....	25,737,700	25,741,700	4,000
New Mexico.....	4,958,900	4,976,300	17,400
New York.....	69,938,200	69,927,900	-10,300
North Carolina.....	19,881,800	19,863,000	-18,800
North Dakota.....	3,626,400	3,632,000	5,600

<u>State or Territory</u>	<u>(1)</u> <u>1970</u>	<u>(2)</u> <u>1971</u>	<u>Increase or</u> <u>Decrease</u>
Ohio.....	40,850,400	40,849,800	-600
Oklahoma.....	10,596,800	10,588,200	-8,600
Oregon.....	8,134,100	8,138,900	4,800
Pennsylvania.....	47,524,200	47,525,100	900
Rhode Island.....	4,341,100	4,338,400	-2,700
South Carolina.....	11,028,700	11,021,800	-6,900
South Dakota.....	3,815,600	3,799,800	-15,800
Tennessee.....	15,815,700	15,814,700	-1,000
Texas.....	40,479,900	40,467,200	-12,700
Utah.....	4,655,900	4,672,900	17,000
Vermont.....	2,542,800	2,528,700	-14,100
Virginia.....	17,302,800	17,295,300	-7,500
Washington.....	12,528,700	12,536,600	7,900
West Virginia.....	8,798,000	8,805,000	7,000
Wisconsin.....	17,130,900	17,137,000	7,000
Wyoming.....	2,240,300	2,248,600	8,300
Guam.....	1,667,200	1,649,400	-17,800
Puerto Rico.....	11,085,000	11,067,200	-17,800
Virgin Islands.....	1,523,200	1,505,400	-17,800
Subtotal.....	800,000,000*	800,000,000*	...
Allocation for serious water pollution problems.....	...	200,000,000	200,000,000
Total.....	800,000,000	1,000,000,000	200,000,000

\* Although the total allocation is identical in 1970 and 1971, the existing formula in Section 8(c) of the Federal Water Pollution Control Act, as amended, provides that per capita income of each State is the basis for allocating a portion of the appropriation. Therefore, a change in a State's per capita income from the latest two years available would cause a change in their allocations from 1970 to 1971.

Operating experience has shown that the current allotment formula fails to allocate monies in accordance with water pollution control needs. Accordingly, the proposed bill to extend and amend Section 8 provides for a new allotment formula designed to permit a degree of flexibility in directing grant funds to areas of the Nation where they are most critically needed and can be most effectively used to abate municipal waste pollution. This new allotment formula specifies that 45 percent of each annual appropriation would be allotted to the States on the basis of population; that up to 20 percent of the appropriation would be allotted among those States (see Table C on page CG-10) which agree to pay at least 25 percent of the cost of all projects receiving construction grants during the fiscal year; that up to 25 percent of the appropriation would be allotted to those States which have existing "reimbursables" for which full grants have not been made because of lack of Federal funds under current and prior appropriations; and that the remainder of the appropriation would be allotted to States to meet the most serious water pollution control problems determined by the Administrator.

Table D on page CG-11 shows how the \$2 billion appropriation request for 1972 would be allotted pursuant to the formula of the proposed bill. The footnotes on this table define the assumptions under which these estimates are formulated. (Although the actual allotments would be slightly different for the reasons indicated, this table does provide a reasonably good approximation of the distribution of funds that would be authorized.)

TABLE C

States and Territories With Eligible Financial Assistance Programs  
as of March 31, 1971

Alaska	Mississippi
California	Missouri
Connecticut	New Hampshire
District of Columbia	New Jersey
Florida	New Mexico
Hawaii	New York
Idaho	Ohio
Illinois	Pennsylvania
Indiana	Rhode Island
Iowa	Tennessee
Louisiana	Vermont
Maine	Virginia
Maryland	Wisconsin
Massachusetts	Guam
Michigan	Puerto Rico
	Virgin Islands



TABLE D

Estimated Allotment of Grant Funds  
For Waste Treatment Works Construction  
for 1972a/

State or Territory	Estimated Allocation of			Total Funds
	45 Percent of Funds Based on Population <sup>b/</sup>	20 Percent of Funds Based on State Financial Assistance <sup>c/</sup>	25 Percent of Funds Based on Outstanding Reimbursables <sup>d/</sup>	
Alabama.....	\$15,045,300	...	\$3,700,000	\$18,745,300
Alaska.....	1,320,300	\$815,200	1,700,000	3,835,500
Arizona.....	7,742,700	...	...	7,742,700
Arkansas.....	8,401,500	...	...	8,401,500
California.....	87,163,200	53,836,400	50,000	141,049,600
Colorado.....	9,642,600	...	...	9,642,600
Connecticut.....	13,246,200	8,181,200	42,800,000	64,227,400
Delaware.....	2,394,000	...	1,500,000	3,894,000
District of Columbia.....	3,304,800	2,041,200	9,400,000	14,746,000
Florida.....	29,658,600	18,318,800	5,150,000	53,127,400
Georgia.....	20,049,300	...	9,250,000	29,299,300
Hawaii.....	3,363,300	2,077,200	...	5,440,500
Idaho.....	3,114,900	1,924,000	...	5,038,900
Illinois.....	48,549,600	29,987,200	10,700,000	89,236,800
Indiana.....	22,688,100	14,013,200	900,000	37,601,300
Iowa.....	12,340,800	7,622,400	1,550,000	21,513,200
Kansas.....	9,825,300	...	...	9,825,300
Kentucky.....	14,063,400	...	...	14,063,400
Louisiana.....	15,914,700	9,829,600	...	25,744,300
Maine.....	4,340,700	2,681,200	2,950,000	9,971,900
Maryland.....	17,134,200	10,583,200	21,150,000	48,867,400
Massachusetts....	24,852,600	15,350,000	650,000	40,852,600
Michigan.....	38,770,200	23,946,000	56,250,000	118,966,200
Minnesota.....	16,622,100	...	8,350,000	24,972,100
Mississippi.....	9,684,000	5,981,600	3,450,000	19,115,600
Missouri.....	20,432,700	12,620,400	2,700,000	35,753,100
Montana.....	3,033,900	...	...	3,033,900
Nebraska.....	6,481,800	...	...	6,481,800
Nevada.....	2,134,800	...	...	2,134,800
New Hampshire....	3,222,900	1,990,400	2,550,000	7,763,300

State or Territory	Estimated Allocation of			Total Funds
	45 Percent of Funds Based on Population <sup>b/</sup>	20 Percent of Funds Based on State Financial Assistance <sup>c/</sup>	25 Percent of Funds Based on Outstanding Reimbursables <sup>d/</sup>	
New Jersey.....	31,313,700	19,340,800	17,200,000	67,854,500
New Mexico.....	4,437,900	2,741,200	...	7,179,100
New York.....	79,464,600	49,081,200	244,500,000	373,045,800
North Carolina..	22,200,300	...	500,000	22,700,300
North Dakota....	2,699,100	...	...	2,699,100
Ohio.....	46,532,700	28,740,400	4,300,000	79,573,100
Oklahoma.....	11,179,800	...	...	11,179,800
Oregon.....	9,135,900	...	3,800,000	12,935,900
Pennsylvania....	51,520,500	31,821,600	11,300,000	94,642,100
Rhode Island....	4,149,000	2,562,400	200,000	6,911,400
South Carolina..	11,316,600	...	150,000	11,466,600
South Dakota....	2,910,600	...	...	2,910,600
Tennessee.....	17,142,300	10,588,000	7,700,000	35,430,300
Texas.....	48,912,300	...	...	48,912,300
Utah.....	4,626,900	...	...	4,626,900
Vermont.....	1,943,100	1,200,000	50,000	3,193,100
Virginia.....	20,306,700	12,542,400	1,000,000	33,849,100
Washington.....	14,892,300	...	250,000	15,142,300
West Virginia...	7,619,400	...	...	7,619,400
Wisconsin.....	19,299,600	11,920,000	21,100,000	52,319,600
Wyoming.....	1,451,700	...	...	1,451,700
Guam.....	379,800	234,400	...	614,200
Puerto Rico.....	11,750,400	7,258,000	3,100,000	22,108,400
Virgin Islands..	276,300	170,400	100,000	546,700
Subtotal.....	900,000,000	400,000,000	500,000,000	1,800,000,000
Allocation for serious water pollution problems.....	...	...	...	<u>200,000,000</u>

Total..... 2,000,000,000<sup>e/</sup>

a/ Based on the apportionment formula contained in the proposed bill to extend and amend Section 8 of the Federal Water Pollution Control Act, as amended.

b/ Based on Section 8(a)(4)(A) of the proposed bill, assuming population statistics of July 1, 1970. The July 1, 1971, statistics will be used to make the 1972 allocation.

- c/ Based on Section 8(a)(4)(B) of the proposed bill, assuming eligible State financial assistance programs in only the 31 States listed in Table C. This assumption will change if additional States develop eligible financial assistance programs before July 1, 1971.
- d/ Based on Section 8(a)(4)(C) of the proposed bill, assuming the outstanding reimbursables as of February 28, 1971. The actual allocation of funds for reimbursables will be based on outstanding reimbursables as of June 30, 1971, rather than February 28, 1971. Consequently, the assumption used here gives only order-of-magnitude estimates.
- e/ Based on Section 8(a)(4)(D) of the proposed bill, assuming that the full 20 percent of funds based on State financial assistance and the full 25 percent of funds based on reimbursables are allocated for these purposes (the proposed bill authorized amounts up to these percentage limitations).

### Federal share

Provisions of the existing legislation authorize grants not to exceed 30 percent of the eligible costs of a project, but further provide for (1) grants up to 40 percent in the case where the State provides a 30 percent grant, or (2) grants up to 50 percent where the State provides a 25 percent grant and where enforceable water quality standards have been established, and (3) a 10 percent increase in the amount of the grant if the project conforms with a comprehensive plan developed for a metropolitan area. The proposed bill would slightly modify these provisions by authorizing the same 30 percent basic grant, but permitting (1) grants up to 40 percent where the State provides a 25 percent grant, loan, or other type of financial assistance, or (2) grants up to 55 percent where the State provides the same 25 percent level of assistance and where enforceable water quality standards have been established. As of March 31, 1971, 31 States and territories have applicable financial assistance programs in operation and five to 10 more are expected to have such programs before the end of 1974. In addition, Federal-State water quality standards have been established on all interstate waters and 46 States and jurisdictions have established standards for all or portions of their intrastate waters. On the basis of these facts and projections of additional State involvement in providing financial assistance and establishing intrastate standards over the ensuing three years, it is estimated that the average Federal grant share over the life of the proposed program will be 48.5 percent. On the basis of this estimate, the Federal share of the \$12.0 billion national need for municipal waste treatment plant construction has been placed at \$5.82 billion.

### Reimbursements

The Clean Water Restoration Act of 1966 (PL 89-753) amended the Federal Water Pollution Control Act and provided for reimbursement payments from allotments for any fiscal year ending before June 30, 1971, for treatment works (eligible under Section 8(c) of the Act) for which construction was initiated after June 30, 1966, and which proceeded without a Federal grant or with a lesser percent of the eligible construction costs than was authorized by law. In essence, this amendment provided that any allotments to States prior to July 1, 1971, could be used to reimburse States and municipalities which had used their own funds, in lieu of Federal funds, to finance projects eligible for grants.

Under this provision, the number and dollar value of reimbursable projects and the concomitant need for reimbursement funds has increased continuously. When the appropriations were near or below the \$200 million level in and before 1969, many States were forced to use the reimbursement grant device to enable needed projects to move ahead in a timely fashion without jeopardizing their future eligibility for Federal funds. After 1969, "reimbursement projects" in States having very active construction programs were initiated at an increasing rate. Additional reimbursement balances arose from the establishment of new State matching grant programs.

This resulted from the fact that a community was eligible for a higher Federal grant (30-33 percent versus 50-55 percent) if the State has adopted a matched grant program. As of February 28, 1971, there were 151 active unfunded reimbursement projects (no Federal funds obligated) representing a Federal share of \$247 million; an additional 999 projects have been partially funded (less than full Federal entitlement obligated) representing a Federal share of \$1.3 billion. Thus, the total Federal share (representing the total difference between actual grants made and the total Federal eligibility) of these 1,144 active reimbursable projects amounts to over \$1.5 billion (see Table E on page CG-16).

Under the current legislation and EPA's regulations, the States are permitted to use some or all of their annual allotment to satisfy reimbursables. This, of course, drains monies away from new projects which are needed to abate water pollution and achieve compliance with water quality standards. Consequently, the States are electing to use far less of their allotments than would be necessary to alleviate the backlog of reimbursables within a reasonable time period. In partial response to this, the 1971 appropriation act specified that \$200 million of the \$1 billion appropriation is to be allocated to the States for reimbursables or severe local or basinwide water pollution problems. These funds will be allotted in accordance with prescribed regulations.

To bring about a reasonable and timely alleviation of the reimbursable backlog, the proposed bill to extend and amend Section 8 provides for two substantive changes in current provisions of the Act. First, reimbursable projects initiated after June 30, 1971, would be permitted only with the approval of the Administrator of EPA after a finding of critical need pursuant to specific qualifications. This provision would restrict the continuing growth of reimbursables and provide EPA with a degree of control over their current spiralling accumulation. Secondly, the allotment formula of the proposed bill specifically provides for the allotment for reimbursables of up to 25 percent of each year's appropriated funds. These allotments under the proposed \$6 billion three-year program would enable the alleviation of all currently outstanding reimbursables and all reimbursables accumulated through the end of 1974 provided the restrictions on new reimbursables after June 30, 1971, is placed in effect.

Table E  
Outstanding Reimbursables as of 2/28/71

	Unfunded Reimbursables		Partial Reimbursables		Total Reimbursables	
	No.	Amount	No.	Amount	No.	Amount
Alabama.....	...	...	4	\$11,642,980	4	\$11,642,980
Alaska.....	4	\$3,939,090	1	1,385,370	5	5,324,460
Arizona.....	...	...	...	...	...	...
Arkansas.....	...	...	...	...	...	...
California.....	1	201,300	...	...	1	201,300
Colorado.....	...	...	...	...	...	...
Connecticut....	1	47,100	65	133,677,292	66	133,724,392
Delaware.....	...	...	9	4,645,755	9	4,645,755
District of Columbia.....	3	26,796,710	4	2,573,350	7	29,370,060
Florida.....	7	7,703,510	9	8,457,620	16	16,161,130
Georgia.....	1	6,491,100	15	22,401,080	16	28,892,180
Hawaii.....	...	...	...	...	...	...
Idaho.....	...	...	...	...	...	...
Illinois.....	38	33,454,912	...	...	38	33,454,912
Indiana.....	2	996,500	6	1,846,430	8	2,842,930
Iowa.....	6	4,923,064	...	...	6	4,923,064
Kansas.....	...	...	...	...	...	...
Kentucky.....	...	...	...	...	...	...
Louisiana.....	...	...	...	...	...	...
Maine.....	1	138,500	14	9,013,692	15	9,152,192
Maryland.....	...	...	82	66,125,029	82	66,125,029
Massachusetts..	...	...	4	1,981,650	4	1,981,650
Michigan.....	1	93,500	191	175,903,639	192	175,997,139
Minnesota.....	18	26,082,279	...	...	18	26,082,279
Mississippi....	...	...	37	10,449,920	37	10,449,920
Missouri.....	1	8,590,000	...	...	1	8,590,000
Montana.....	...	...	...	...	...	...
Nebraska.....	...	...	...	...	...	...
Nevada.....	...	...	...	...	...	...
New Hampshire..	7	1,893,470	5	6,092,885	12	7,986,355
New Jersey.....	20	44,582,600	20	9,226,631	40	53,809,231
New Mexico.....	...	...	...	...	...	...
New York.....	...	...	249	764,592,699	249	764,592,699
North Carolina.	...	...	22	1,609,935	22	1,609,935
North Dakota...	...	...	...	...	...	...

	Unfunded Reimbursables		Partial Reimbursables		Total Reimbursables	
	No.	Amount	No.	Amount	No.	Amount
Ohio.....	3	3,710,483	22	9,816,600	25	13,527,083
Oklahoma.....	...	...	...	...	...	...
Oregon.....	11	11,818,980	...	...	11	11,818,980
Pennsylvania...	2	1,449,030	134	33,965,881	136	35,414,911
Rhode Island...	4	687,105	...	...	4	687,105
South Carolina.	...	...	7	545,086	7	545,086
South Dakota...	...	...	...	...	...	...
Tennessee.....	8	6,078,000	17	17,930,230	25	24,008,230
Texas.....	...	...	...	...	...	...
Utah.....	...	...	...	...	...	...
Vermont.....	...	...	2	233,700	2	233,700
Virginia.....	2	1,451,560	14	1,626,350	16	3,077,910
Washington.....	2	617,410	5	160,440	7	777,850
West Virginia..	...	...	...	...	...	...
Wisconsin.....	8	54,832,705	55	11,249,382	63	66,082,087
Wyoming.....	...	...	...	...	...	...
Guam.....	...	...	...	...	...	...
Puerto Rico....	...	...	5	9,862,256	5	9,862,256
Virgin Islands.	...	...	1	305,140	1	305,140
Total.....	151	246,578,908	999	1,317,321,022	1,150	1,563,899,930

### Other elements of the proposed program

The two objectives of the proposed \$12.0 billion national municipal waste treatment construction program are: (1) to relieve the national backlog of waste treatment needs by the end of 1974 and to place the Nation's municipal wastes treatment systems on a self-sustaining basis to handle population growth and obsolescence, and (2) to achieve the greatest degree of cost-effectiveness in the facilities constructed under the program in the next three years. The proposed bill includes several modifications of current provisions of Section 8 to achieve these objectives. In addition, EPA has placed into effect several major changes in its regulations and administrative procedures covering the construction grants program to address these objectives.

Provisions of the proposed bill require, among other things, that grantees (1) provide for adequate operation and maintenance of completed facilities; (2) provide for adequately trained management and operational personnel; (3) provide the institutional, managerial, and financial capability to place the system on a self-sustaining basis to provide for future maintenance, expansion, and replacement of the facilities; and (4) provide for the recovery of costs of facilities attributable to the treatment of industrial wastes and further provide for a user-charge or equivalent system to defray the operation, maintenance, expansion, and replacement costs attributable to such wastes. Other provisions of the proposed bill enable EPA to make a determination of the public benefits of proposed projects and to issue regulations and guidelines to assure the adequate cost effectiveness of facilities constructed under the program.

Actions taken recently by EPA to provide for an improved program include (1) the issuance of regulations requiring that projects be in conformity with river basin and regional water quality management plans; (2) the issuance of regulations and guidelines covering projects which will treat industrial wastes; and (3) the issuance of regulations and guidelines governing the design, operation, and maintenance of projects. It is intended to follow-up on these actions with increased program efforts to aid the States and local governments in completing river basin and regional water quality management plans; to periodically issue technical bulletins on waste treatment plant design, operation, and maintenance; to provide for the rapid and effective transfer of research, development, and demonstration results on new and improved waste treatment technology into operational practice; and to support and assist in the training of waste treatment plant operators and other personnel. These actions, together with the strengthened provisions of the proposed bill, are intended to assure the best utilization of the funds herein requested for construction grants for 1972 and proposed for appropriation in the subsequent two fiscal years.



# Construction Grants

## Summary of Available Funds (in thousands of dollars)

	<u>1970</u>	<u>1971</u>	<u>1972</u>
Budget estimate.....			\$2,000,000
Transferred from other agencies...	\$800,000	\$1,000,000	...
Unobligated balance available, start of year.....	64,890	439,891	254,891
Unobligated balance available, end of year.....	<u>-439,891</u>	<u>-254,891</u>	<u>-349,891</u>
Total.....	<u>424,999</u>	<u>1,185,000</u>	<u>1,905,000</u>



## **Overseas Scientific Activities**

Scientific Activities Overseas  
(dollars in thousands)

	1971 Total		1972 Total		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Pollution.....	...	\$3,500	...	\$9,435	...	+\$5,935
Radiation.....	...	...	...	5	...	+5
Solid Wastes.....	...	...	...	500	...	+500
Water Quality.....	...	...	...	730	...	+730
Total.....	...	3,500	...	10,670	...	+7,170

No pay cost requirement for this appropriation

## Scientific Activities Overseas

### Purpose

This appropriation covers the support of valuable research, development, and demonstration projects in foreign countries. Appropriated funds are used to purchase the currencies of these countries which have accrued to the United States primarily through the sale of surplus agricultural commodities. These purchased currencies are employed to support the projects undertaken in the participating countries. This program is authorized by the Agricultural Trade Development and Assistance Act of 1954 and the International Health Research Act of 1960.

The program is designed to gain greater knowledge of the effects of and means of controlling environmental pollution. Through this program, EPA combines the talents of U. S. scientists with the expertise of foreign specialists in collaborative work that contributes to the advancement of the domestic mission of EPA as well as those of the participating countries. Further, this program enables EPA to study unusual or intensified environmental conditions in the participating countries that are not readily investigable in the U. S.

<u>Budget Authority</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Air quality projects.....	\$3,500,000	\$9,435,000	\$5,935,000
Water quality projects.....	...	730,000	730,000
Solid waste projects.....	...	500,000	500,000
Radiation projects.....	...	5,000	5,000
Total.....	<u>3,500,000</u>	<u>10,670,000</u>	<u>7,170,000</u>

<u>Manpower Resources</u>	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Permanent positions.....	...	...	...
Man-years.....	...	...	...

## Summary of Increases and Decreases

### Air quality projects \$5,935,000

- to support a full scale demonstration in Yugoslavia of a process for controlling sulfur oxide air emissions and to support several new projects in India, Poland, and Yugoslavia, dealing with the effects and control of air pollutants..... 5,935,000

### Water quality projects \$730,000

- to support new projects in India, Pakistan, Poland, and Yugoslavia pertaining to the protection and treatment of drinking water supplies..... 730,000

### Solid wastes projects \$500,000

- to support new projects in India and Pakistan to develop better means of treating solid wastes... 500,000

### Radiation projects \$5,000

- to support a new project in India to evaluate the effects of human exposure to high levels of radiation..... 5,000

## Justification

EPA's Scientific Activities Overseas program provides full support to foreign research, development, and demonstration projects which supplement or complement similar efforts completed or being carried out in the U. S. The objective of the program is to obtain results which are useful for solving environmental problems in this country as well as in the participating Nation and in other foreign countries. Proposals for individual projects are carefully reviewed and negotiated with the participating country. When approved by EPA, they are funded in the fiscal year of approval for the total period of their operation (ranging from one to five years but averaging about three years).

The projects, participating countries, and estimated costs herein delineated for both 1971 and 1972 are based on project proposals which, in many cases, have not been fully negotiated and finalized. Accordingly, the allocation of resources and the planned work described herein are subject to the unanticipated changes that can occur in dealing with foreign programs.

The 1971 appropriation of \$3,500,000 was justified for and is planned to be allocated to air pollution projects only. The evaluation and selection of project proposals has been completed but the final negotiations and award of funds has not been completed.

The 1972 appropriation request of \$10,670,000 is designed to support projects pertaining to air, water, solid waste, and radiation pollution. Meaningful project proposals for this amount have been received and favorably considered in a preliminary evaluation and selection process. Negotiations leading to the final approval and award of funds for these projects will be commenced when the appropriation bill is enacted.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Air quality projects</u>	\$3,500,000	\$9,435,000	\$5,935,000

Under projects approved and initiated prior to 1971, studies are currently being conducted in Poland on the estimation and effects of carcinogenic material in airborne particulate matter. This work is similar to other studies done in several countries. Its conduct in Poland allows comparison with results obtained in somewhat different situations. Comparison of the results from all these studies with their differences and similarities in pollution sources, meteorology, and other factors, permits an improved understanding of the carcinogenic properties of urban air pollution.

In 1971, it is planned to fund new studies in Yugoslavia to investigate lead and manganese as pollutants of the industrial and urban atmosphere, to investigate the exposure and health status of populations

near mines and smelters, and to develop methods for removing sulfur dioxide from power plant stack emissions. Additionally, it is planned to fund projects in Israel, India, and Poland for the translation of important technical and scientific literature dealing with environmental pollution control and to distribute this work to academic institutions and air pollution agencies in the United States.

Proposals for projects to be funded in 1972 include studies to be undertaken in India and Poland dealing with the effects of lead and other trace metal air pollutants on man; the methodology for removing potential air contaminants from fossil fuels; the development of methods for odor control and removal of sulfur oxides and nitrogen oxides from flue gases; and the statistical analysis and processing of air quality data for program control. In addition, these 1972 proposals include a large project in Yugoslavia for a full-scale demonstration of the Monsanto Cat-Ox sulfur oxide control process. Like the U. S., many countries are substantially dependent on sulfur-bearing fossil fuel for energy needs. Sulfur oxides control remains one of the major unsolved technical problems, particularly as it relates to control of emissions from large electric power stations. In the U. S., EPA is supporting, in conjunction with the private sector, a commercial-sized demonstration of the Monsanto process on a medium-sulfur coal burning plant. The Yugoslavia demonstration would be performed with a coal of much higher sulfur content. Generally, utilities in the U. S. have resisted commitment to sulfur oxides control technology because of concern that the limited body of performance data may not be applicable to their situation. By proving the technique with a second test on a different--even more pollution-prone--fuel, the potential effectiveness of the process and motivation for its wide adoption in the U. S. will be enhanced. The economics of the process is directly related to the sulfur-in-fuel content. In addition, aside from chemically converting sulfur oxides in the combustion gas to sulfuric acid, the process removes particulate matter with a highly efficient precipitator. Thus, the process is capable of removing simultaneously at least two of the three major pollutants associated with combustion operations.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
Water quality projects	...	\$730,000	\$730,000

In 1972, it is proposed that community water supply studies will be funded in India, Yugoslavia, Pakistan, and Poland, on problems of drinking water which have potential significance to the health of U.S. citizens. These projects will include the development of methods for isolating viruses from such waters; the study of the suspected relationship of dissolved silica in drinking water to kidney disfunction; the exploration of the fluoride-aluminum hypothesis which suggests that aluminum may combine with fluoride in the water treatment process to reduce the beneficial properties of the fluoride; and the study of the physiological consequences of continuous use of drinking water of substandard quality.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Solid waste projects</u>	...	\$500,000	\$500,000

Solid waste disposal and recycling studies are proposed for 1972 in India and Pakistan, using the excellent scientific talents available in these two countries. Project proposals include recycling of animal wastes, development of separation methods for municipal solid wastes, development of methods for "tagging" materials during production to facilitate later separation from waste conglomerates, and development of procedures for detoxification of selected hazardous materials.

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Radiation projects</u>	...	\$5,000	\$5,000

In 1972, it is planned to fund a study of the effects of continued exposure to low-level radiation on the residents living along the southwest coast of India, where the background radiation is the highest known in the world--eight to 10 times higher than the United States average.



## Scientific Activities Overseas

### Summary of Available Funds (in thousands of dollars)

	<u>1970</u>	<u>1971</u>	<u>1972</u>
Budget estimate.....	...	...	\$10,670
Transferred from other agencies....	...	\$3,500	...
Not transferred from other agencies	<u>\$244</u>	<u>...</u>	<u>...</u>
Total.....	<u>244</u>	<u>3,500</u>	<u>10,670</u>

## **Special Analysis**

## Special Analyses

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Summary of Budget Authority,  
Permanent Positions, and Man-years

	<u>1970*</u>	<u>1971*</u>	<u>1972</u>
<u>Operations, Research, and Facilities</u>			
Budget authority.....	\$203,984,000	\$282,851,000	\$427,149,000
Permanent positions.....	5,244	7,014	8,651
Man-years.....	4,248	5,662	6,839
<u>Construction Grants</u>			
Budget authority.....	\$800,000,000	\$1,000,000,000	\$2,000,000,000
Permanent positions.....	...	...	...
Man-years.....	...	...	...
<u>Scientific Activities Overseas</u>			
Budget authority.....	...	\$3,500,000	\$10,670,000
Permanent positions.....	...	...	...
Man-years.....	...	...	...
<u>Revolving Fund</u>			
Budget authority.....	...	...	...
Permanent positions.....	12	12	12
Man-years.....	7	7	10
<u>Advances and Reimbursements</u>			
Budget authority.....	...	...	...
Permanent positions.....	166	166	184
Man-years.....	161	161	181
<u>Total, Environmental Protection Agency</u>			
Budget authority.....	\$1,003,984,000	\$1,286,351,000	\$2,437,819,000
Permanent positions.....	5,422	7,192	8,847
Man-years.....	4,416	5,830	7,030

\*Figures shown for 1970 and 1971 are as shown in the 1972 President's Budget. Amounts for 1970 reflect only those appropriation accounts which were transferred to EPA in their entirety. Amounts for 1971 reflect those appropriation accounts transferred in their entirety and partial transfer (from December 2, 1970 - June 30, 1971) from split appropriation accounts.

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Summary of  
Budget Authority, Obligations, and Outlays on Full-Year  
Comparable Basis with Amounts Retained by  
Other Agencies Shown in Parentheses

	<u>1971</u>	<u>1972</u>	<u>Increase or Decrease</u>
<u>Operations, Research, and Facilities</u>			
Budget authority.....	\$297,279,000 (14,428,000)	\$427,149,000	\$129,870,000
Obligations.....	313,208,000 (14,428,000)	427,699,000	114,491,000
Outlays.....	272,687,000 (16,687,000)	357,100,000	84,413,000
<u>Construction Grants</u>			
Budget authority.....	1,000,000,000	2,000,000,000	1,000,000,000
Obligations.....	1,185,000,000	1,905,000,000	720,000,000
Outlays.....	422,000,000	1,000,000,000	578,000,000
<u>Scientific Activities Overseas</u>			
Budget authority.....	3,500,000	10,670,000	7,170,000
Obligations.....	3,500,000	10,670,000	7,170,000
Outlays.....	1,160,000	4,700,000	3,540,000
<u>Revolving Fund</u>			
Obligations.....	289,000 (68,000)	283,000	-6,000
<u>Advances and Reimbursements</u>			
Obligations.....	4,994,000 (1,163,000)	5,117,000	123,000
Outlays.....	-160,000	300,000	460,000
<u>Total, Environmental Protection Agency</u>			
Budget authority.....	1,300,779,000 (14,428,000)	2,437,819,000	1,137,040,000
Obligations.....	1,506,991,000 (15,659,000)	2,348,769,000	841,778,000
Outlays.....	695,687,000 (16,687,000)	1,362,100,000	666,413,000

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# Summary of Permanent Positions and Man-years

	1971		1972		Increase or Decrease	
	<u>Positions</u>	<u>Man-years</u>	<u>Positions</u>	<u>Man-years</u>	<u>Positions</u>	<u>Man-years</u>
<u>Operations, Research, and Facilities</u>						
Abatement and Control	3,786	2,847	4,678	3,447	892	600
Planning.....	297	246	422	334	125	88
Monitoring and surveillance....	479	409	653	523	174	114
Standards and enforcement.....	1,340	828	1,730	980	390	152
Control agency support.....	61	54	72	64	11	10
Technical support.....	914	732	972	835	58	103
Federal activities.....	229	168	273	230	44	62
Construction grants administration.....	466	410	556	481	90	71
Manpower Development	193	172	226	201	33	29
Research, Development, and Demonstration	1,555	1,355	2,081	1,768	526	413
Pollution sources and effects..	1,020	920	1,358	1,172	338	252
Pollution control technology...	535	435	723	596	188	161
<u>Facilities</u>	...	...	...	...	...	...
Program Direction and Support.....	1,480	1,288	1,666	1,423	186	135
Subtotal.....	7,014	5,662	8,651	6,839	1,637	1,177
Man-years, other than permanent positions.....	...	602	...	829	...	227
Total, Operations, Research, and Facilities.....	7,014	6,264	8,651	7,668	1,637	1,404

	<u>1971</u>		<u>1972</u>		<u>Increase or Decrease</u>	
	<u>Positions</u>	<u>Man-years</u>	<u>Positions</u>	<u>Man-years</u>	<u>Positions</u>	<u>Man-years</u>
<u>Revolving Fund</u>						
Abatement and Control.....	12	7	12	10	...	3
Man-years, other than permanent positions.....		...		...		...
Total, Revolving Fund.....	<u>12</u>	<u>7</u>	<u>12</u>	<u>10</u>	<u>...</u>	<u>3</u>
<u>Advances and Reimbursements</u>						
Abatement and Control.....	119	115	131	129	12	14
Manpower development.....	2	2	2	2	...	...
Research, Development and Demonstration.....	43	42	49	48	6	6
Program Direction and Support.....	2	2	2	2	...	...
Subtotal.....	<u>166</u>	<u>161</u>	<u>184</u>	<u>181</u>	<u>18</u>	<u>20</u>
Man-years, other than permanent positions.....		48		47		-1
Total, Advances and Reimbursements..	<u>166</u>	<u>209</u>	<u>184</u>	<u>228</u>	<u>18</u>	<u>19</u>
<u>Grand Total</u>						
Permanent positions and man-years.	7,192	5,830	8,847	7,030	1,655	1,200
Man-years, other than permanent positions.....		650		876		226
Total.....	<u>7,192</u>	<u>6,480</u>	<u>8,847</u>	<u>7,906</u>	<u>1,655</u>	<u>1,426</u>

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Transfers From Other Federal Agencies  
1971 Budget Authority  
(in thousands of dollars)

	Budget Authority Transferred				Abatement and Control	Manpower Development	Research, Development, and Demonstration	Program Direction and Support
	5 Months Retained by Parent Agency	7 Months Transferred to EPA	Agencies Transferred in Entirety	Total				
<u>OPERATIONS, RESEARCH, AND FACILITIES</u>								
Water	\$1,135	\$1,573	\$120,000	\$121,573	\$44,377	\$8,958	\$60,784	\$7,454
Department of the Interior, Federal Water Quality Administration.....	...	...	120,000	120,000	43,554	8,940	60,052	7,454
Department of Health, Education, and Welfare, Environmental Control Administration, Bureau of Water Hygiene.....	1,135	1,573	...	1,573	823	18	732	...
Air Pollution	...	...	107,688	107,688	44,006	6,296	50,576	6,810
Department of Health, Education, and Welfare, National Air Pollution Control Administration.....	...	...	107,688	107,688	44,006	6,296	50,576	6,810
Solid Wastes	3,771	13,865	...	13,865	2,262	1,159	9,954	490
Environmental Control Administration, Department of Health, Education, and Welfare, Bureau of Solid Waste Management.....	3,771	13,865	...	13,865	2,262	1,159	9,954	490
Radiation	2,729	4,323	150	4,473	1,933	847	1,314	379
Radiological Health.....	2,679	4,232	...	4,232	1,692	847	1,314	379
Atomic Energy Commission.....	50	91	...	91	91	...	...	...
Federal Radiation Council.....	...	...	150	150	150	...	...	...
Pesticides	4,826	11,373	...	11,373	8,307	...	2,755	311
Department of the Interior, Bureau of Commercial Fisheries-Gulf Breeze Laboratory.....	204	216	...	216	...	...	216	...
Department of the Interior, Bureau of Sports Fisheries and Wildlife...	92	88	...	88	88	...	...	...
Department of Health, Education, and Welfare, Food and Drug Admin.....	1,801	7,424	...	7,424	4,698	...	2,539	187
Department of Agriculture, Agricultural Research Services.....	2,729	3,645	...	3,645	3,521	...	...	124



	5 Months Retained by Parent Agency	Budget Authority Transferred 7 Months Transferred to EPA	Agencies Transferred in Entirety	Total	Abatement and Control	Manpower Development	Research, Development, and Demonstration	Program Direction and Support
Facilities	...	...	...	...	...	...	...	...
Program Direction and Support	1,967	1,892	4,477	6,369	...	...	...	6,369
Environmental Health Service, Office of the Administrator.....	...	-233	4,477	4,244	...	...	...	4,244
Environmental Control Administration, Office of the Commissioner.....	1,545	1,503	...	1,503	...	...	...	1,503
Department of the Interior, Office of the Secretary.....	213	303	...	303	...	...	...	303
Department of the Interior, Office of the Solicitor.....	161	233	...	233	...	...	...	233
Department of Health, Education, and Welfare, Office of the General Counsel.....	19	36	...	36	...	...	...	36
Department of Health, Education, and Welfare, Office of the Assistant Secretary, Health and Scientific Affairs.....	13	24	...	24	...	...	...	24
Department of Agriculture, Office of the General Counsel.....	8	13	...	13	...	...	...	13
Department of Agriculture, Office of the Inspector General.....	8	13	...	13	...	...	...	13
Subtotal.....	14,428	33,026	232,315	265,341	100,885	17,260	125,383	21,813
Pay Cost Supplemental.....	...	1,502	3,008	4,510	2,190	154	1,240	926
Total, Operations, Research, and Facilities.....	14,428	34,528	235,323	269,851	103,075	17,414	126,623	22,739
Scientific Activities Overseas.....	...	...	3,500	3,500				
Construction Grants.....	...	...	1,000,000	1,000,000				
Total, Environmental Protection Agency	14,428	34,528	1,238,823	1,273,351				

March 31, 1971

Transfers From Other Federal Agencies  
1971 Permanent Positions

	Positions Transferred Total	Abatement and Control	Manpower Development	Research, Development and Demonstration	Program Direction and Support
<u>Operations, Research, and Facilities</u>					
<u>Air Pollution</u>	1,261	497	69	450	245
Department of Health, Education, and Welfare, National Air Pollution Control Administration.....	1,261	497	69	450	245
<u>Pesticides</u>	586	441	...	127	18
Department of the Interior, Bureau of Commercial Fisheries - Gulf Breeze Laboratory.....	25	...	...	25	...
Department of the Interior, Bureau of Sports Fisheries and Wildlife.....	8	8	...	...	...
Department of Health, Education and Welfare - Food and Drug Administration.....	201	97	...	91	13
Department of Agriculture, Agricultural Research Service.....	352	336	...	11	5
<u>Radiation</u>	328	187	11	108	22
Radiological Health.....	318	177	11	108	22
Atomic Energy Commission.....	6	6	...	...	...
Federal Radiation Council.....	4	4	...	...	...
<u>Solid Wastes</u>	206	85	12	81	28
Department of Health, Education and Welfare - Bureau of Solid Waste Management.....	206	85	12	81	28
<u>Water</u>	3,153	1,776	94	735	548
Department of the Interior - Federal Water Quality Administration.....	2,973	1,687	88	650	548
Department of Health, Education and Welfare - Environmental Control Administration - Bureau of Water Hygiene.....	180	89	6	85	...
<u>Facilities</u>	...	...	...	...	...

	<u>Positions Transferred Total</u>	<u>Abatement and Control</u>	<u>Manpower Development</u>	<u>Research Development and Demonstration</u>	<u>Program Direction and Support</u>
Program Direction and Support	505	...	...	...	505
Environmental Health Service - Office of the Administrator....	226	...	...	...	226
Environmental Control Administration - Office of the Commissioner.....	215	...	...	...	215
Department of the Interior - Office of the Secretary.....	28	...	...	...	28
Department of the Interior - Office of Solicitor.....	26	...	...	...	26
Department of Health, Education and Welfare - Office of the General Counsel.....	2	...	...	...	2
Department of Health, Education and Welfare - Office of the Assistant Secretary - Health and Scientific Affairs.....	1	...	...	...	1
Department of Agriculture - Office of the General Counsel	4	...	...	...	4
Department of Agriculture - Office of the Inspector General...	3	...	...	...	3
 Total, Operations, Research, and Facilities	 6,039	 2,986	 186	 1,501	 1,366
 Revolving Fund.....	 12				
Advances and Reimbursements.....	166				
Allocation from Department of State.....	6				
	<u>6,223</u>				

1971 Budget Authority Crosswalk To  
Operations, Research, and Facilities Appropriation Structure  
(in thousands of dollars)

<u>Agency and Appropriation Title</u>	<u>Abatement and Control</u>	<u>Manpower Development</u>	<u>Research, Development, &amp; Demonstration</u>	<u>Facilities</u>	<u>Program Direction and Support</u>	<u>Total</u>
<u>Federal Water Quality Administration</u>						
Pollution Control Operations and Research.....	\$43,554	\$8,940	\$60,052	...	\$7,454	\$120,000
Buildings and Facilities.....	...	...	...	...	...	...
<u>National Air Pollution Control Administration</u>						
Air Pollution Control.....	44,006	6,296	50,576	...	6,810	107,688
<u>Solid Wastes</u>						
Environmental Control.....	2,262	1,159	9,954	...	490	13,865
Retained by Parent Agency.....	1,105	145	2,168	...	353	3,771
<u>Pesticides</u>						
Food and Drug Control.....	4,698	...	2,539	...	187	7,424
Management and Investigation of Resources.....	88	...	...	...	...	88
Consolidated Working Fund.....	...	...	216	...	...	216
Salaries and Expenses.....	3,521	...	...	...	124	3,645
Retained by Parent Agencies.....	2,445	...	2,157	...	224	4,826
<u>Radiation</u>						
Environmental Control.....	1,692	847	1,314	...	379	4,232
Atomic Energy Commission.....	91	...	...	...	...	91
Federal Radiation Council.....	150	...	...	...	...	150
Retained by Parent Agencies.....	1,309	324	946	...	150	2,729
<u>Water Hygiene</u>						
Environmental Control.....	823	18	732	...	...	1,573
Retained by Parent Agency.....	595	17	523	...	...	1,135

	<u>Abatement and Control</u>	<u>Manpower Development</u>	<u>Research, Development, &amp; Demonstration</u>	<u>Facilities</u>	<u>Program Direction and Support</u>	<u>Total</u>
<u>Other</u>						
Environmental Health Service - Office of the Administrator.....	...	...	...	...	4,244	4,244
Environmental Control Administration - Office of the Commissioner - Environmental Control.....	...	...	...	...	1,503	1,503
Interior - Office of Secretary; Office of Solicitor - Salaries and Expenses.....	...	...	...	...	536	536
Department of Health, Education, and Welfare - Food and Drug Administration - Office of General Counsel - Departmental Management.....	...	...	...	...	36	36
Department of Health, Education and Welfare - Food and Drug Administration - Office of Assistant Secretary for Health and Scientific Affairs - Departmental Management..	...	...	...	...	24	24
Agriculture - Office of General Counsel - Salaries and Expenses.....	...	...	...	...	13	13
Agriculture - Office of Inspector General - Salaries and Expenses.....	...	...	...	...	13	13
Retained by Parent Agencies.....	...	...	...	...	1,967	1,967
<u>Pay Raise</u>	<u>2,190</u>	<u>154</u>	<u>1,240</u>	<u>...</u>	<u>926</u>	<u>4,510</u>
Total.....	103,075	17,414	126,623	...	22,739	269,851
Retained by Parent Agencies.....	5,454	486	5,794	...	2,694	14,428

March 31, 1971

Operations, Research, and Facilities  
Budget Authority by Activity and Subactivity  
1970-1971-1972  
on Partial-year, Full-year, and Total Basis  
(in thousands of dollars)

	Amounts Not Transferred to EPA		EPA Budget Authority							
	1970	1971	1971		Pay Cost Supplemental	Total 1971	1972	Total		
			1970	1971				1970	1971	1972
<b>Abatement and Control</b>	<b>\$17,362</b>	<b>\$5,454</b>	<b>\$73,990</b>	<b>\$108,624</b>	<b>\$2,190</b>	<b>\$110,814</b>	<b>\$181,465</b>	<b>\$91,352</b>	<b>\$116,268</b>	<b>\$181,465</b>
Planning.....	1,989	666	6,355	10,646	229	10,875	24,584	8,344	11,541	24,584
Grants.....	(1,490)	(461)	(1,782)	(3,699)	...	(3,699)	(7,915)	(3,272)	(4,160)	(7,915)
Direct operations.....	(499)	(205)	(4,573)	(6,947)	(229)	(7,176)	(16,669)	(5,072)	(7,381)	(16,669)
Monitoring and surveillance	6,023	1,674	6,475	12,067	349	12,416	17,699	12,498	14,090	17,699
Standards and enforcement..	5,567	1,862	9,497	17,869	690	18,559	40,757	15,064	20,421	40,757
Control agency support.....	...	...	35,826	41,433	42	41,475	59,420	35,826	41,475	59,420
Grants.....	...	...	(35,175)	(40,200)	...	(40,200)	(57,900)	(35,175)	(40,200)	(57,900)
Direct operations.....	...	...	(651)	(1,233)	(42)	(1,275)	(1,520)	(651)	(1,275)	(1,520)
Technical support.....	3,498	1,129	10,069	18,077	581	18,658	24,987	13,567	19,787	24,987
Federal activities.....	285	123	1,468	2,655	67	2,722	5,321	1,753	2,845	5,321
Construction grants administration.....	...	...	4,300	5,877	232	6,109	8,697	4,300	6,109	8,697
<b>Manpower Development</b>	<b>1,877</b>	<b>486</b>	<b>11,722</b>	<b>17,909</b>	<b>154</b>	<b>18,063</b>	<b>18,981</b>	<b>13,599</b>	<b>18,549</b>	<b>18,981</b>
Grants.....	1,415	180	7,846	12,393	...	12,393	12,121	9,261	12,573	12,121
Direct operations.....	462	306	3,876	5,516	154	5,670	6,860	4,338	5,976	6,860
<b>Research, Development, and Demonstration</b>	<b>16,507</b>	<b>5,794</b>	<b>99,893</b>	<b>129,430</b>	<b>1,240</b>	<b>130,670</b>	<b>164,039</b>	<b>116,400</b>	<b>136,464</b>	<b>164,039</b>
Pollution sources and effects.....	7,478	3,763	37,505	54,529	775	55,304	71,616	44,983	59,067	71,616
Grants and contracts.....	(2,969)	(1,236)	(20,887)	(29,529)	...	(29,529)	(38,831)	(23,856)	(30,765)	(38,831)
Direct operations.....	(4,509)	(2,527)	(16,618)	(25,000)	(775)	(25,775)	(32,785)	(21,127)	(28,302)	(32,785)
Pollution control technology	9,029	2,031	62,388	74,901	465	75,366	92,423	71,417	77,397	92,423
Grants and contracts.....	(7,609)	(1,470)	(49,253)	(60,510)	...	(60,510)	(71,392)	(56,862)	(61,980)	(71,392)
Direct operations.....	(1,420)	(561)	(13,135)	(14,391)	(465)	(14,856)	(21,031)	(14,555)	(15,417)	(21,031)

	Amounts Not Transferred to EPA		EPA Budget Authority							
	1970	1971	1970	1971	Pay Cost Supplemental	Total 1971	1972	1970	Total 1971	1972
Facilities	...	...	...	...	...	...	28,000	...	...	28,000
Program Direction and Support	6,095	2,694	18,379	22,378	926	23,304	34,664	24,474	25,998	34,664
Total.....	41,841	14,428	203,984	278,341	4,510	282,851	427,149	245,825	297,279	427,149

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Operations, Research, and Facilities  
Budget Authority by Activity and Media  
on Partial-year, Full-year, and Total Basis  
(in thousands of dollars)

	Amounts Not Transferred to EPA		EPA Budget Authority							Total		
	1970	1971	1970	1971	1971		1972	1970	1971	1972		
					Pay Raise Supplemental	Total 1971						
Abatement and Control	\$17,362	\$5,454	\$ 73,990	\$108,624	\$2,190	\$110,814	\$181,465	\$91,352	\$116,268	\$181,465		
Air.....	...	...	37,267	47,720	317	48,037	71,660	37,267	48,037	71,660		
Noise.....	...	...	...	10	...	10	70	...	10	70		
Pesticides.....	9,690	2,445	...	8,307	415	8,722	13,629	9,690	11,167	13,629		
Radiation.....	2,715	1,309	132	1,865	145	2,010	4,412	2,847	3,319	4,412		
Solid Wastes.....	3,609	1,105	...	4,045	71	4,116	8,888	3,609	5,221	8,888		
Water.....	1,348	595	36,591	46,677	1,242	47,919	82,806	37,939	48,514	82,806		
Manpower Development	1,877	486	11,722	17,909	154	18,063	18,981	13,599	18,549	18,981		
Air.....	...	...	5,503	6,431	52	6,483	6,235	5,503	6,483	6,235		
Radiation.....	937	324	...	712	19	731	1,062	937	1,055	1,062		
Solid Wastes.....	740	145	...	1,808	10	1,818	1,628	740	1,963	1,628		
Water.....	200	17	6,219	8,958	73	9,031	10,056	6,419	9,048	10,056		
Research, Development, and Demonstration	16,507	5,794	99,893	129,430	1,240	130,670	164,039	116,400	136,464	164,039		
Air.....	...	...	61,953	53,927	393	54,320	72,945	61,953	54,320	72,945		
Noise.....	...	...	...	275	...	275	1,155	...	275	1,155		
Pesticides.....	2,708	2,157	...	2,755	119	2,874	7,846	2,708	5,031	7,846		
Radiation.....	2,437	946	...	1,517	66	1,583	3,054	2,437	2,529	3,054		
Solid Wastes.....	10,147	2,168	...	10,172	67	10,239	17,584	10,147	12,407	17,584		
Toxic Materials.....	...	...	...	...	...	...	1,000	...	...	1,000		
Water.....	1,215	523	37,940	60,784	595	61,379	60,455	39,155	61,902	60,455		
Facilities	...	...	...	...	...	...	28,000	...	...	28,000		
Program, Direction and Support	6,095	2,694	18,379	22,378	926	23,304	34,664	24,474	25,998	34,664		



	Amounts Not Transferred to EPA		EPA Budget Authority							
			1971							
	1970	1971	1970	1971	Pay Raise Supplemental	Total 1971	1972	1970	Total 1971	1972
Total	41,841	14,428	203,984	278,341	4,510	282,851	427,149	245,825	297,279	427,149
Air.....	...	...	104,723	108,078	762	108,840	150,840	104,723	108,840	150,840
Noise.....	...	...	...	285	...	285	1,225	...	285	1,225
Pesticides.....	12,398	4,602	...	11,062	534	11,596	21,475	12,398	16,198	21,475
Radiation.....	6,089	2,579	132	4,094	230	4,324	8,528	6,221	6,903	8,528
Solid Wastes.....	14,496	3,418	...	16,025	148	16,173	28,100	14,496	19,591	28,100
Toxic Materials.....	...	...	...	...	...	...	1,000	...	...	1,000
Water.....	2,763	1,135	80,750	116,419	1,910	118,329	153,317	83,513	119,464	153,317
Facilities.....	...	...	...	...	...	...	28,000	...	...	28,000
Program Direction and Support.....	6,095	2,694	18,379	22,378	926	23,304	34,664	24,474	25,998	34,664

Operations, Research, and Facilities  
Total Funds Available, 1971-1972

	1971			1972		
	Budget Authority	Unobligated Balance	Total Available	Budget Authority	Unobligated Balance	Total Available
<b>Abatement and Control</b>	<b>\$116,268,000</b>	<b>\$3,156,196</b>	<b>\$119,424,196</b>	<b>\$181,465,000</b>	<b>...</b>	<b>\$181,465,000</b>
Planning.....	11,541,000	2,155,105	13,696,105	24,584,000	...	24,584,000
Grants.....	(4,160,000)	(2,010,461)	(6,170,461)	(7,915,000)	...	(7,915,000)
Direct operations.....	(7,381,000)	(144,644)	(7,525,644)	(16,669,000)	...	(16,669,000)
Monitoring and surveillance.....	14,090,000	64,926	14,154,926	17,699,000	...	17,699,000
Standards and enforcement.....	20,421,000	146,935	21,567,935	40,757,000	...	40,757,000
Control agency support.....	41,475,000	...	41,475,000	59,420,000	...	59,420,000
Grants.....	(40,200,000)	...	(40,200,000)	(57,900,000)	...	(57,900,000)
Direct operations.....	(1,275,000)	...	(1,275,000)	(1,520,000)	...	(1,520,000)
Technical support.....	19,787,000	139,345	19,926,345	24,987,000	...	24,987,000
Federal activities.....	2,845,000	28,399	2,873,339	5,321,000	...	5,321,000
Construction grants administration.....	6,109,000	621,486	6,730,486	8,697,000	...	8,697,000
<b>Manpower Development</b>	<b>18,549,000</b>	<b>37,186</b>	<b>18,586,186</b>	<b>18,981,000</b>	<b>...</b>	<b>18,981,000</b>
Grants and contracts.....	12,573,000	6,696	12,579,696	12,121,000	...	12,121,000
Direct operations.....	5,976,000	30,490	6,006,490	6,860,000	...	6,860,000
<b>Research, Development, and Demonstration</b>	<b>136,464,000</b>	<b>8,863,717</b>	<b>145,327,717</b>	<b>164,039,000</b>	<b>\$6,750,000</b>	<b>170,789,000</b>
Pollution sources and effects.....	59,067,000	626,864	59,693,864	71,616,000	...	71,616,000
Grants and contracts.....	(30,765,000)	(513,584)	(31,278,584)	(38,831,000)	...	(38,831,000)
Direct operations.....	(28,302,000)	(113,280)	(28,415,280)	(32,785,000)	...	(32,785,000)
Pollution control technology.....	77,397,000	8,236,853	85,633,853	92,423,000	6,750,000	99,173,000
Grants and contracts.....	(61,980,000)	(7,623,572)	(69,603,572)	(71,392,000)	(6,750,000)	(78,142,000)
Direct operations.....	(15,417,000)	(613,281)	(16,030,281)	(21,031,000)	...	(21,031,000)
<b>Facilities</b>	<b>...</b>	<b>3,831,970</b>	<b>3,831,970</b>	<b>28,000,000</b>	<b>-6,200,000</b>	<b>21,800,000</b>
<b>Program Direction and Support</b>	<b>25,998,000</b>	<b>39,918</b>	<b>26,037,918</b>	<b>34,664,000</b>	<b>...</b>	<b>34,664,000</b>
<b>Total.....</b>	<b>297,279,000</b>	<b>15,928,987</b>	<b>313,207,987</b>	<b>427,149,000</b>	<b>550,000</b>	<b>427,699,000</b>

March 31, 1971

Itemization of Obligations  
by Object Class

	<u>1971</u>	<u>1972</u>
<u>Operations, Research, and Facilities</u>		
11.1 Personnel compensation: permanent positions.....	\$66,273,000	\$99,409,000
11.3 Personnel compensation: positions other than permanent....	4,653,000	7,197,000
11.5 Other personnel compensation.....	918,000	<u>1,277,000</u>
Total personnel compensation.....	<u>71,844,000</u>	<u>107,883,000</u>
12.1 Personnel benefits: civilian employees.....	6,926,000	10,298,000
21.0 Travel and transportation of persons.....	6,845,000	11,071,000
22.0 Transportation of things.....	1,321,000	3,005,000
23.0 Rent, communications, and utilities.....	8,177,000	15,179,000
24.0 Printing and reproduction.....	2,280,000	3,539,000
25.0 Other services.....	89,083,000	120,195,000
26.0 Supplies and materials.....	3,568,000	5,233,000
31.0 Equipment.....	10,780,000	11,328,000
32.0 Lands and structures.....	4,006,000	21,373,000
41.0 Grants.....	<u>93,950,000</u>	<u>118,595,000</u>
Subtotal.....	<u>298,780,000</u>	<u>427,699,000</u>
Obligated balances not transferred to EPA.....	<u>14,428,000</u>	<u>...</u>
Total.....	<u><u>313,208,000</u></u>	<u><u>427,699,000</u></u>
<u>Construction Grants</u>		
41.0 Grants.....	<u><u>1,185,000,000</u></u>	<u><u>1,905,000,000</u></u>
<u>Scientific Activities Overseas</u>		
21.0 Travel and transportation of persons.....	38,000	29,000
25.0 Other services.....	<u>3,462,000</u>	<u>10,641,000</u>
Total.....	<u><u>3,500,000</u></u>	<u><u>10,670,000</u></u>

	<u>1971</u>	<u>1972</u>
<u>Revolving Fund</u>		
11.1 Personnel compensation: permanent position .....	75,000	128,000
11.5 Other personnel compensation.....	3,000	5,000
Total personnel compensation.....	<u>78,000</u>	<u>133,000</u>
12.1 Personnel benefits: civilian employees.....	7,000	11,000
21.0 Travel and transportation of persons.....	4,000	6,000
22.0 Transportation of things.....	2,000	2,000
23.0 Rent, communications, and utilities.....	22,000	25,000
24.0 Printing and reproduction.....	8,000	10,000
25.0 Other services.....	67,000	68,000
26.0 Supplies and materials.....	17,000	18,000
31.0 Equipment.....	16,000	10,000
Subtotal.....	<u>221,000</u>	<u>283,000</u>
Obligated balances not transferred to EPA.....	68,000	...
Total.....	<u>289,000</u>	<u>283,000</u>
<u>Advances and Reimbursements</u>		
11.1 Personnel compensation: permanent positions.....	1,234,000	2,173,000
11.3 Personnel compensation: positions other than permanent.....	319,000	415,000
11.5 Other personnel compensation.....	37,000	42,000
Total personnel compensation.....	<u>1,590,000</u>	<u>2,630,000</u>
12.1 Personnel benefits: civilian employees.....	173,000	292,000
21.0 Travel and transportation of persons.....	233,000	282,000
22.0 Transportation of things.....	36,000	49,000
23.0 Rent, communications, and utilities.....	145,000	257,000
24.0 Printing and reproduction.....	30,000	38,000
25.0 Other services.....	1,124,000	990,000
26.0 Supplies and materials.....	314,000	400,000
31.0 Equipment.....	186,000	179,000
Subtotal.....	<u>3,831,000</u>	<u>5,117,000</u>
Obligated balances not transferred to EPA.....	1,163,000	...
Total.....	<u>4,994,000</u>	<u>5,117,000</u>
Total obligations, EPA.....	1,506,991,000	2,348,769,000

March 31, 1971

ENVIRONMENTAL PROTECTION AGENCY  
 Authorizations VS. Budget Authority  
 (in thousands of dollars)

	1971		1972	
	<u>Authorization</u>	<u>Budget Authority</u>	<u>Authorization</u>	<u>Budget Authority</u>
Federal Water Pollution Control Act, as amended				
Section 5(m), Estuarine Studies.....	\$1,000	\$755	Included in Section 5 Below	
Section 5(g)(1), Training Pilot Program.....	7,500	1,028	\$7,500a/	\$1,918
Section 5(g)(2), Manpower Planning.....	2,500	72	2,500a/	745
Section 5, Research, Investigations, Training and Information (Other than Section 5(m) in 1971 and Section (g) in 1971 and 1972).....	64,000	56,981	65,000a/	58,943
Section 6, Grants for Research and Development.....	60,000	16,661	60,000a/	14,442
Section 7, Grants for Water Pollution Control Programs.....	10,000	10,000	15,000a/	15,000
Section 8, Grants for Construction.....	1,250,000	1,000,000	2,000,000a/	2,000,000
Section 14, Area Acid and Other Mine Water Pollution Control Demonstrations.....	15,000	3,161	11,839b/	2,240
Section 15, Pollution Control in Great Lakes.....	20,000	815	19,185b/	842
Section 19, Authorization for Section 16, Training Grants and Contracts and Section 18, Award of Scholarships.....	25,000	345	25,000	366

	1971		1972	
	<u>Authorization</u>	<u>Budget Authority</u>	<u>Authorization</u>	<u>Budget Authority</u>
Section 20, Alaska Village Demonstration Project.....	1,000	600	400c/	400c/
Total.....	<u>1,456,000</u>	<u>1,090,418</u>	<u>2,206,424</u>	<u>2,094,896</u>

a/ Proposed legislation pending in Congress.

b/ Authorization is available until expended. 1972 figure represents balance remaining of initial authorization.

c/ Authorization did not provide a specific year. 1972 figure represents balance remaining of initial authorization.

Air Quality Act, as amended

Section 103 (f)(3), Research, Investigations, Training, and other Activities.....	15,000*	...	...	...
Section 104, Research Relating to Fuels and Vehicles.....	75,000	29,100	125,000	39,100
Section 212, Development of Low Emission Vehicles.....	5,000	...	25,000	...
Section 316, Research, Investigations, Training and other Activities.....	<u>125,000</u>	<u>86,696</u>	<u>225,000</u>	<u>119,250</u>
Total.....	<u>220,000</u>	<u>115,796</u>	<u>375,000</u>	<u>158,350</u>

\* Amounts appropriated shall remain available until expended and shall be in addition to any other appropriations under this Act.

Solid Waste Disposal Act, as amended

Section 208, Demonstration for Resource Recovery Systems and Improved Solid Waste Disposal Facilities.....	...	...	80,000	4,093
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	<u>1971</u>		<u>1972</u>	
	<u>Authorization</u>	<u>Budget Authority</u>	<u>Authorization</u>	<u>Budget Authority</u>
Section 216 (a)(1) and (2), Authorization for carrying out provisions of Act, other than Section 208 in 1972.....	41,500	20,502	72,000	25,215
Total.....	41,500	20,502	152,000	29,308
<u>Noise Pollution and Abatement Act of 1970</u>				
Section 403, Authorization for carrying out purposes of Act.....	30,000	300	29,700 <sup>1/</sup>	1,300
Grand Total.....	1,747,500	1,227,016	2,763,124	2,283,854
All other EPA funds for which authorization is not provided in Acts; appropriation authorization is by virtue of appropriation act.....	...	73,763	...	153,965
Total.....	1,747,500	1,300,779	2,763,124	2,437,819

<sup>1/</sup> Authorization did not provide a specific year. 1972 figure represents balance remaining of initial authorization.

ENVIRONMENTAL PROTECTION AGENCY

Office, Laboratory and Miscellaneous Facilities

Summary  
by Program Organization, Location, Type of Facility,  
Number of Square Feet and Acreage, and Occupancy Basis

<u>Occupancy Basis</u>	<u>Number of Locations</u>	<u>Square Feet (Facilities)</u>	<u>Acreage (Land)</u>
	157	2,326,172	118.3
GSA Assigned (Federally Owned)	19	211,975	...
GSA Assigned (Leased)	89	898,740	10.0
Federally Owned (EPA is Holding Agency)	21	636,912	32.5
Federally Owned (Agency other than EPA is Holding Agency)	6	79,806	32.5
Leased by EPA	11	414,718	7.0
Leased by HEW or other than EPA	5	35,691	36.3
Miscellaneous (Use Permits, Cooperative Agreements, etc.)	6	48,330	...

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**ENVIRONMENTAL PROTECTION AGENCY**  
**Office, Laboratory and Miscellaneous Facilities**

**HEADQUARTERS SPACE**  
**WASHINGTON/METROPOLITAN AREA**

<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>
Water Quality Office	Crystal Mall Arlington, Va.	Office	107,990	GSA Assigned (leased)
Water Quality Office Program Direction and Support	Jefferson Plaza Arlington, Va.	Office	5,053	GSA Assigned (leased)
Program Direction and Support Office of Radiation, Office of Solid Wastes	Parklawn Building Rockville, Md.	Office	86,613	GSA Assigned (leased)
Office of Radiation	1901 Chapman Avenue Rockville, Md.	Office	8,900	GSA Assigned (leased)
Office of Radiation	12720 Twinbrook Pkwy. Rockville, Md.	Office	6,185	GSA Assigned (leased)
Office of Radiation	Southlawn Avenue Rockville, Md.	Warehouse	2,250	GSA Assigned (leased)
Office of Pesticides	Matomic Building Washington, D. C.	Office	1,000	GSA Assigned (leased)
Program Direction and Support	1616 K Street, N. W. Washington, D. C.	Office	6,850	GSA Assigned (leased)
Program Direction and Support	1626 K Street, N. W. Washington, D. C.	Office	38,630	GSA Assigned (leased)
Office of Pesticides	1129 - 20th Street, N. W. Washington, D. C.	Office	8,400	GSA Assigned (leased)

ENVIRONMENTAL PROTECTION AGENCY  
Office, Laboratory and Miscellaneous Facilities

<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region I</u>					
<u>MASSACHUSETTS</u>					
Water Quality	Boston	Regional Office	5,520	GSA Assigned (Federal)	
Air Pollution	Boston	Regional Office	1,100	GSA Assigned (Federal)	Assigned HEW
Pesticides	Boston (Norwood)	Regional Office-Inspector	640	GSA Assigned (leased)	
Water Quality	Needham Heights	Laboratory-Office	10,561	GSA Assigned (leased)	
Radiation	Winchester	Laboratory-Office	5,000	Federally Owned (HEW)	Reimb. Agreement
<u>RHODE ISLAND</u>					
Water Quality	West Kingston	Laboratory-Office	15,388	GSA Assigned (leased)	Nat'l. Marine Lab.
Water Quality	Narragansett	Land only	7.2 acres (land)	Federally Owned (EPA)	
Water Quality	Narragansett	Laboratory-Office	20,100	Federally Owned (EPA)	Water Hygiene
<u>Region II</u>					
<u>NEW JERSEY</u>					
Water Quality	Edison	Laboratory-Office	127,588	Federally Owned (EPA)	
Air Pollution	Edison	Laboratory-Office	770	GSA Assigned (Federal)	

ENVIRONMENTAL PROTECTION AGENCY  
Office, Laboratory and Miscellaneous Facilities

<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region II (continued)</u>	<u>NEW YORK</u>				
Pesticides	New York City	Office-Inspector	1,100	GSA Assigned (leased)	
Pesticides	New York City	Laboratory-Office	7,145	GSA Assigned (leased)	
Air Pollution	New York City	Regional Office	1,100	GSA Assigned (Federal)	Assigned HEW
Pesticides	Syracuse	Office-Inspector	223	GSA Assigned (leased)	
Water Quality	Rochester	Laboratory-Office	10,500	GSA Assigned (leased)	
	<u>PUERTO RICO</u>				
Water Quality	San Juan	Office	700	No cost occupancy agreement - Comm. of P.R.	
<u>Region III</u>	<u>MARYLAND</u>				
Water Quality	Annapolis	Laboratory-Office	5,720	GSA Assigned (leased)	
Pesticides	Baltimore	Regional Office-Inspector	430	GSA Assigned (leased)	
Pesticides	Beltsville	Laboratories	23,682(6 Bldgs)	Federally Owned (Agric.)	Reimb. Agreement
Radiation	Rockville	Laboratory	19,370	GSA Assigned (leased)	Assigned HEW

ENVIRONMENTAL PROTECTION AGENCY  
Office, Laboratory and Miscellaneous Facilities

<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region III (continued)</u>	<u>PENNSYLVANIA</u>				
Air Pollution	Indiana	Laboratory-Office	2,150	Leased (DHEW)	
Air Pollution	Indiana	Land only (8 sites)	36.3 acres (land)	Leased (DHEW)	
Water Quality	Philadelphia	Office	570	GSA Assigned (Federal)	
Pesticides	Philadelphia	Office-Inspector	360	GSA Assigned (leased)	
Air Pollution	Philadelphia	Air Monitoring Station	485	Federally Owned (EPA)	
Air Pollution	Pittsburgh	Office	200	GSA Assigned (leased)	Assigned HEW
	<u>VIRGINIA</u>				
Water Quality	Charlottesville	Regional Office	23,641	GSA Assigned (leased)	
Water Quality	Charlottesville	Laboratory	6,000	GSA Assigned (leased)	
Pesticides	Richmond	Inspector-Office-Storage	475	GSA Assigned (leased)	
	<u>WEST VIRGINIA</u>				
Water Quality	Wheeling	Laboratory-Office	11,063	GSA Assigned (leased)	
Water Quality	Elkins-Norton	Laboratory-Office	3,023	GSA Assigned (leased Leased (EPA))	

ENVIRONMENTAL PROTECTION AGENCY

Office, Laboratory and Miscellaneous Facilities

<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region III (continued)</u>	<u>DISTRICT OF COLUMBIA</u>				
Pesticides	FOB #8	Laboratory-Office	4,350	GSA Assigned (Federal)	
Pesticides	So. Agriculture	Laboratory-Office	4,750	GSA Assigned (Federal)	
Water Quality	Blue Plains	Laboratory-Pilot Plant	4,000	Co-op Agree. with D.C. (EPA)	
<u>Region IV</u>	<u>ALABAMA</u>				
Pesticides	Birmingham (Homewood)	Inspector-Office	279	GSA Assigned (leased)	
Water Quality	Dauphin Island	Laboratory	9,625	Federally Owned (EPA)	Water Hygiene Lab.
Radiation	Montgomery	Laboratory	7,892) 27,152)	Leased (DHEW) Federally Owned (EPA)	
Water Quality	Montgomery	Office	430	GSA Assigned (leased)	
	<u>FLORIDA</u>				
Water Quality	Port Everglades	Floating Barge-Laboratory	(Not applicable)	Mooring leased (EPA)	
Water Quality	Gulf Breeze	Laboratory	20,000	Federally Owned (EPA)	
Water Quality	Orlando	Office	500	GSA Assigned (leased)	
Pesticides	Perrine	Laboratory	43,000	GSA Assigned (Federal) Federally Owned (EPA)	(3 small bldgs., 4,060 square feet)
Pesticides	Tampa	Inspector-Office	312	GSA Assigned (leased)	

ENVIRONMENTAL PROTECTION AGENCY

Office, Laboratory and Miscellaneous Facilities

<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region IV (continued)</u>	<u>GEORGIA</u>				
Water Quality	Athens	Laboratory	56,134	Federally Owned (EPA)	
Water Quality	Atlanta	Regional Office	14,200	GSA Assigned (leased)	
Pesticides	Atlanta (Decatur)	Regional Office-Inspector	707	GSA Assigned (leased)	
Air Pollution	Atlanta	Regional Office	900	GSA Assigned (leased)	Assigned HEW
Pesticides	Chamblee	Laboratory-Office	27,665	GSA Assigned (Federal)	Assigned HEW
	<u>KENTUCKY</u>				
Solid Wastes	Walton	Land Field Experiment	10 acres (land)	GSA Assigned (leased)	
	<u>MISSISSIPPI</u>				
Pesticides	Gulfport	Chemical Laboratory	2,400	Federally Owned (Agric.)	Reimb. Agreement
Pesticides	Gulfport	Soil Monitoring Lab.	3,000	Federally Owned (Agric.)	Reimb. Agreement
Environmental Protection Agency	Miss. Test Facility	Laboratory-Office	40,000	Federally Owned (NASA)	Interagency Agree.
	<u>NORTH CAROLINA</u>				
Air Pollution	Chapel Hill (U.N.C.)	Office	897	Leased (EPA)	
Air Pollution	Durham (Mutual Bldg.)	Office	38,892	GSA Assigned (leased)	
Air Pollution	Durham (Res. Triangle)	Laboratory	193,000	Leased (EPA)	

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<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region IV (continued)</u>	<u>NORTH CAROLINA (continued)</u>				
Air Pollution	Durham (I.R.L.)	Laboratory-Office	5,766	GSA Assigned (leased)	
Air Pollution	Durham (Roxboro)	Storage	10,000	GSA Assigned (leased)	
Air Pollution	Durham (NCHS Bldg.)	Laboratory-Office	22,514	Leased (HEW)	Use Permit to EPA
Air Pollution	Durham	Air Monitoring	3,248	City Owned	
Air Pollution	Raleigh (Merton)	Laboratory-Office	8,508	GSA Assigned (leased)	
Air Pollution	Raleigh (N.C.State)	Office	2,500	GSA Assigned (leased)	
Air Pollution	Raleigh (Wade)	Office	10,248	GSA Assigned (leased)	
Air Pollution	Raleigh (Hyw. 70)	Warehouse	14,000	GSA Assigned (leased)	
Air Pollution	Raleigh (St. Marys St)	Office	13,761	GSA Assigned (leased)	
	<u>SOUTH CAROLINA</u>				
Water Quality	Bears Bluff (Charleston)	Laboratory	20,000	Leased (EPA)	
Pesticides	Columbia	Inspector-Office	130	GSA Assigned (leased)	

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<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region IV (continued)</u>	<u>TENNESSEE</u>				
Pesticides	Memphis	Inspector-Office	380	GSA Assigned (leased)	
Solid Wastes	Johnson City	Field Station	16,870	Federally Owned	Co-op Agreement with City for land use
<u>Region V</u>	<u>ILLINOIS</u>				
Air Pollution	Chicago	Regional Office	1,300	GSA Assigned (Federal)	Assigned HEW
Air Pollution	Chicago	Monitoring Station	768	Federally Owned (EPA)	
Water Quality	Chicago	Regional Office	11,103	GSA Assigned (leased)	
Water Quality	Chicago	Laboratory	31,875	GSA Assigned (Federal)	
Pesticides	Chicago	Regional Office-Inspector	825	GSA Assigned (leased)	
	<u>INDIANA</u>				
Water Quality	Evansville	Laboratory-Office	7,457	GSA Assigned (leased)	
	<u>MICHIGAN</u>				
Water Quality	Ann Arbor	Land only	14.7 acres (land)	Federally Owned (EPA)	
Air Pollution	Ann Arbor	Office	3,400	GSA Assigned (leased)	
Air Pollution	Ann Arbor	Laboratory (under const.)	90,000	Leased (EPA)	



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<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region V (continued)</u>	<u>MICHIGAN (continued)</u>				
Water Quality	Grosse Ile (Detroit)	Laboratory-Office	20,000	Use Permit from Navy	
Pesticides	Pontiac	Inspector-Office	242	GSA Assigned (leased)	
Air Pollution	Ypsilanti	Laboratory-Office	15,150	GSA Assigned (leased)	
Air Pollution	Ypsilanti	Laboratory-Office	13,775	Leased (EPA)	
	<u>MINNESOTA</u>				
Water Quality	Duluth	National Water Quality Lab.	44,000	Federally Owned (EPA)	
Water Quality	Ely	Laboratory-Pilot Study	3,096	GSA Assigned (leased)	
Water Quality	Minneapolis	Office	5,822	GSA Assigned (leased)	
Pesticides	Minneapolis	Inspector-Office	200	GSA Assigned (leased)	
Water Quality	Oak Park	Laboratory-Pilot Study	5,823	GSA Assigned (leased)	
	<u>OHIO</u>				
Water Quality, Air Pollution	Cincinnati (Col. Pkwy.)	Research Laboratory & Training	184,987	Federally Owned (EPA)	
Air Pollution	Cincinnati (Laidlaw)	Laboratory	62,741	GSA Assigned (leased)	
Air Pollution	Cincinnati (Fairfax)	Laboratory-Office	19,600	GSA Assigned (leased)	
Air Pollution	Cincinnati (Wooster)	Office	3,405	GSA Assigned (leased)	

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<u>Program Orgnaization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region V (continued)</u>	<u>OHIO (continued)</u>				
Air Pollution	Cincinnati (Colonial)	Office	4,981	GSA Assigned (leased)	
Water Quality, Solid Wastes	Cincinnati (Ridge)	Laboratory-Office	105,184	GSA Assigned (leased)	
Water Quality	Cincinnati (Jonlen)	Warehouse	27,000	GSA Assigned (leased)	
Water Quality, Air Pollution, Pesticides	Cincinnati (FOB)	Regional Office	28,973	GSA Assigned (Federal)	
Water Quality	Cincinnati (Broadway)	Laboratory	15,000	GSA Assigned (leased)	
Solid Wastes	Cincinnati (Center Hill)	Laboratory	12,300	Leased (EPA)	
Radiation	Cincinnati (Univ. of Cincinnati)	Laboratory	3,135	Leased (DHEW)	
Water Quality	Cleveland	Laboratory-Office	10,000	GSA Assigned (leased)	
Water Quality	Lebanon	Lab-Pilot Plant	4,954	Co-op Agreement with City of Lebanon	
Water Quality	Newtown	Fish Toxicology Lab.	5,091	Federally Owned (EPA)	
	<u>WISCONSIN</u>				
Water Quality	Stevens Point	Land Only	10.6 acres (land)	Federally Owned (EPA)	

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<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region VI</u>					
<u>ARKANSAS</u>					
Water Quality	Little Rock	Monitoring Station	90	Co-op Agreement with Little Rock	
<u>LOUISIANA</u>					
Water Quality	Baton Rouge	Laboratory-Office	8,432	GSA Assigned (Federal)	
Pesticides	New Orleans (Metairie)	Inspector-Office	240	GSA Assigned (leased)	
<u>NEW MEXICO</u>					
Pesticides	Albuquerque	Inspector-Office	270	GSA Assigned (leased)	
<u>TEXAS</u>					
Water Quality	Dallas	Regional Office	15,542	GSA Assigned (leased)	
Air Pollution	Dallas	Regional Office	1,300	GSA Assigned (leased)	Assigned NEW
Pesticides	Ft. Worth	Inspector-Office	230	GSA Assigned (leased)	
Pesticides	San Antonio	Office	400	GSA Assigned (leased)	
Water Quality	Houston	Office	461	GSA Assigned (leased)	

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<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region VI (continued)</u>	<u>OKLAHOMA</u>				
Water Quality	Ada	Laboratory	50,300	Federally Owned (EPA)	
Pesticides	Oklahoma City	Inspector-Office	585	GSA Assigned (leased)	
<u>Region VII</u>	<u>MISSOURI</u>				
Water Quality	Kansas City	Regional Office	17,067	GSA Assigned (Federal)	
Water Quality	Kansas City	Laboratory	2,791	GSA Assigned (leased)	
Air Pollution	Kansas City	Regional Office	700	GSA Assigned (Federal)	
Pesticides	Kansas City	Inspector-Office	250	GSA Assigned (leased)	
Pesticides	St. Louis	Inspector-Office	250	GSA Assigned (leased)	
	<u>NEBRASKA</u>				
Water Quality	Lincoln	Office	325	GSA Assigned (leased)	
Pesticides	Omaha	Inspector-Office	500	GSA Assigned (leased)	
Pesticides	Omaha	Soil Monitoring Lab.	500	GSA Assigned (leased)	

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<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region VIII</u>					
<u>COLORADO</u>					
Air Pollution	Denver	Regional Office	900	GSA Assigned (Federal)	Assigned HEW
Water Quality	Denver	Office	8,958	GSA Assigned (Federal)	
Pesticides	Denver	Regional Office-Inspector	2,090	GSA Assigned (leased)	
<u>Region IX</u>					
<u>CALIFORNIA</u>					
Water Quality	Alameda	Laboratory-Office	18,345	GSA Assigned (Federal)	
Air Pollution	Commerce	Laboratory-Office	11,400	GSA Assigned (leased)	
Water Quality	Pomona	Pilot Plant	1,880	Co-op Agreement with City of Pomona	
Pesticides	Pomona	Inspector-Office	535	GSA Assigned (leased)	
Water Quality	San Francisco	Regional Office	9,589	GSA Assigned (leased)	
Air Pollution	San Francisco	Regional Office	1,300	GSA Assigned (Federal)	
Pesticides	San Francisco	Inspector-Laboratory	2,890	GSA Assigned (leased)	
<u>HAWAII</u>					
Water Quality	Honolulu	Office	1,025	GSA Assigned (leased)	
Water Quality	Pearl Harbor	Special Purpose	382	Navy Use Permit	

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<u>Program Organization</u>	<u>Location</u>	<u>Type of Facility</u>	<u>Square Feet (Facilities)</u>	<u>Occupancy Basis</u>	<u>Note</u>
<u>Region IX (continued)</u>	<u>NEVADA</u>				
Radiation	Las Vegas	Radiological Health Lab.	66,135 + 7.0 acres (land) 9,000	Leased (EPA) GSA Assigned (leased)	
Radiation	Las Vegas	Laboratory (McCarran Airport)	12,300	Leased (EPA)	
Radiation	Las Vegas	Laboratory Test Site	5,724 + 32.5 Acres (land)	Federally Owned (AEC) Interagency Agreement	
<u>Region X</u>	<u>ALASKA</u>				
Water Quality	Anchorage	Office	1,395	GSA Assigned (leased)	
Water Quality	College	Regional Laboratory	20,000	Federally Owned (HEW) Reimbursable Agreement	
	<u>OREGON</u>				
Water Quality	Corvallis	Regional Laboratory	49,500	Federally Owned (EPA)	
Pesticides	Corvallis	Laboratory	2,000	Leased (EPA)	
Water Quality	Portland (Gilson)	Regional Laboratory	4,430	GSA Assigned (leased)	
Water Quality	Portland (Washington)	Regional Office	17,390	GSA Assigned (leased)	

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<u>Region X (continued)</u>	<u>OREGON (continued)</u>				
Pesticides	Portland	Inspector-Office	300	GSA Assigned (leased)	
Water Quality	Troutdale	Storage	3,500	GSA Assigned (leased)	
	<u>WASHINGTON</u>				
Water Quality	Manchester	Water Hygiene Warehouse	14,148	Federally Owned (EPA)	
Water Quality	Purdy (Gig Harbor)	Water Hygiene Laboratory	4,311	Leased (EPA)	
Pesticides	Wenatchee	Laboratory	3,240	Federally Owned (EPA)	
Air Pollution	Seattle	Office	1,300	GSA Assigned (leased)	