

WATER QUALITY CONTROL TRAINING GRANTS

1971 Grant Awards

**PROFESSIONAL TRAINING GRANTS
TECHNICAL TRAINING GRANTS
RESEARCH FELLOWSHIPS**

ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF WATER PROGRAMS

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DISCRIMINATION PROHIBITED

Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance."

Therefore, The Division of Manpower and Training of the Office of Water Programs, like every program or activity receiving financial assistance from the Environmental Protection Agency, must be operated in compliance with this law.

F O R E W A R D

AUTHORITY: Grants for training projects and for research fellowship awards are authorized in Section 5 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1151 et seq.) effected by the Water Quality Improvement Act of 1970 (P.L. 91-224; 84 Stat. 91).

PURPOSE: *The purpose of these grants are to encourage, cooperate with and assist appropriate agencies, institutions, and individuals in the conduct of studies and training relating to the causes, control and prevention of water pollution.*

APPLICATION: To obtain details concerning the various awards and to request forms for the submission of applications, write to:

Training Grants Branch
Division of Manpower and Training
Office of Water Programs
Environmental Protection Agency
Washington, D. C. 20242

WATER QUALITY CONTROL
TRAINING GRANTS
1971 AWARDS

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WATER QUALITY CONTROL
TRAINING GRANT PROGRAM
SUMMARY OF AWARDS

Fiscal Year 1971

Grants	Number States	Number Institutions	Grants Awarded	Amount Awarded
Professional Training Grants	43	83	91	\$4,562,682
Technical Training Grants	10	16	12	496,365
Research Fellowships	27	58	108	600,000
ALL GRANTS	45	109	211	\$5,659,047

PROFESSIONAL TRAINING GRANT PROGRAM

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SUMMARY OF AWARDS

FISCAL YEAR 1971

States	Institutions and Agencies	Number Awards	Amount Awarded
Alabama	2	2	\$103,729
Arizona	1	1	46,513
Arkansas	1	1	54,861
California	5	6	380,086
Colorado	2	2	116,621
Connecticut	1	1	44,264
District of Columbia	1	1	33,236
Florida	1	1	106,962
Georgia	1	1	37,653
Hawaii	1	1	33,157
Illinois	4	4	245,041
Indiana	2	2	113,363
Iowa	2	2	99,204
Kansas	1	1	41,368
Kentucky	1	1	47,249
Louisiana	1	1	38,597
Maine	1	1	36,036
Maryland	2	2	105,118
Massachusetts	5	6	317,325
Michigan	3	2	83,415
Minnesota	1	2	32,831
Mississippi	1	1	44,150
Missouri	2	1	99,628
Montana	1	1	60,339
Nebraska	1	1	40,608
New Jersey	2	2	97,372
New Mexico	1	1	43,152
New York	6	8	286,621
North Carolina	2	2	92,622
Ohio	4	4	223,719
Oklahoma	3	4	151,173
Oregon	1	2	86,592
Pennsylvania	3	3	127,847
Rhode Island	1	1	30,938
South Carolina	1	2	116,713
South Dakota	1	1	33,750
Tennessee	2	1	45,487
Texas	4	2	145,336
Utah	2	3	138,878
Virginia	1	0	10,149
Washington	2	3	207,696
West Virginia	1	1	28,475
Wisconsin	2	6	334,808
43 States	83	91	\$4,562,682

Active Professional Training Grants 1971

43 States
83 Institutions and Agencies
103 Active Professional Training Grants

Professional Training Grants - These grants are awarded to educational institutions to provide for the establishment, expansion, and continuation of graduate training programs including traineeship support of students in water pollution control. By this means institutions are encouraged to develop specialized water pollution control courses within multidisciplinary curricula for scientists, engineers and management planning personnel. The grants can cover expansion and improvement of faculties and equipment, as well as primary support for trainees participating in the training program.

PROFESSIONAL TRAINING GRANTS

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FISCAL YEAR 1971

LOCATION AND PROJECT DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>ALABAMA</u>			
<u>Tuskegee Institute</u> <u>Tuskegee</u>			
Chahal, Kulwant S., Ph.D. Dept. of Agricultural Sciences	Graduate Training in Water Quality	5P1-WP-260-02	54,353
<u>University of Alabama</u> <u>University</u>			
Whittle, George P., Ph.D. Dept. of Civil Engineering	Graduate Training in Sanitary Engineering	1T1-WP-225-01S1 5P1-WP-225-02	3,866 45,510
<u>ARIZONA</u>			
<u>University of Arizona</u> <u>Tucson</u>			
Sierka, Ray A., Ph.D. Dept. of Civil Engineering	Training in Water Management, Development and Reuse	1P1-WP-283-01	46,513
<u>ARKANSAS</u>			
<u>University of Arkansas</u> <u>Fayetteville</u>			
Heiple, Loren R., Ph.D. Dept. of Civil Engineering	Training in Environmental Engineering (Water Supply and Pollution Control)	5P1-WP-270-02	54,861
<u>CALIFORNIA</u>			
<u>California Institute of Technology</u> <u>Pasadena</u>			
Brooks, Norman H., Ph.D. Dept. of Environmental Engineering and Science	Water Quality Analysis and Control	1P2-WP-294-01	50,962
<u>San Jose State College</u> <u>San Jose</u>			
Agardy, Franklin J., Ph.D. Dept. of Civil Engineering and Applied Mechanics	Environmental Engineering Graduate Training Program	5P1-WP-198-04	37,094
<u>Stanford University</u> <u>Stanford</u>			
Kruger, Paul, Ph.D. Dept. of Civil Engineering	Nuclear Methods in Water Supply and Pollution Control	5P1-WP-237-02	39,210
McCarty, Perry L., Sc.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P2-WP-193-03	116,572
<u>University of California</u> <u>Davis</u>			
Krone, Ray B., Ph.D. Dept. of Civil Engineering	Environmental Engineering Including Irrigation Science and Chemical Engineering	5P2-WP-206-02	71,435
<u>University of California</u> <u>Berkeley</u>			
Kaufman, Warren J., Sc.D. Div. of Hydraulics and Sanitary Engineering	Professional Training of the General Practitioner in Water Quality Control	5P2-WP-269-02 5P2-WP-269-01S1	64,462 351

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>COLORADO</u>			
<u>Colorado State University</u> <u>Fort Collins</u>			
Morrison, Sumner M., Ph.D. Dept. of Microbiology	Training in Water Supply and Pollution Control	1P3-WP-295-01	\$52,741
<u>University of Colorado</u> <u>Boulder</u>			
Flack, J. Ernest, Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	1P1-WP-290-01	63,880
<u>CONNECTICUT</u>			
<u>University of Connecticut</u> <u>Storrs</u>			
Sundstrom, Donald W., Ph.D. Dept. of Chemical Engineering	Chemical Engineering Training in Water Pollution Control	5P2-WP-244-02	44,264
<u>DISTRICT OF COLUMBIA</u>			
<u>Howard University</u> <u>Washington</u>			
Varma, Man Mohan, Ph.D. Dept. of Civil Engineering	Bio-Environmental Engineering and Sciences	5P1-WP-178-03	33,236
<u>FLORIDA</u>			
<u>University of Florida</u> <u>Gainesville</u>			
Pyatt, Edwin E., Ph.D. Dept. of Environmental Engr.	Water Pollution Control	3P2-WP-119-04S1	15,663
		5P2-WP-119-05	73,852
		5P2-WP-119-05S1	17,447
<u>GEORGIA</u>			
<u>Georgia Institute of Technology</u> <u>Atlanta</u>			
Kindsvater, Carl E. Dept. of Civil Engineering	Water Resources Planning and Management	5P2-WP-226-03	37,653
<u>HAWAII</u>			
<u>University of Hawaii</u> <u>Honolulu</u>			
Burbank, Nathan C., Sc.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-218-02	33,157
<u>ILLINOIS</u>			
<u>Illinois Institute of Technology</u> <u>Chicago</u>			
Patterson, James W., Ph.D. Dept. of Environmental Engr.	Environmental Engineering Water Quality Control	2P1-WP-289-01	27,906
<u>Northwestern University</u> <u>Evanston</u>			
Gotaas, Harold B., Sc.D. Dept. of Civil Engineering	Water Resources and Pollution Control Engineering	5P2-WP-135-04	104,073

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
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ILLINOIS (Continued)

<u>Southern Illinois University</u> <u>Carbondale</u> Verduin, Jacob, Ph.D. Dept. of Botany	Interdisciplinary Training in Aquatic Ecology	5P2-WP-231-03	\$42,161
<u>University of Illinois</u> <u>Urbana</u> Engelbrecht, Richard S., Sc.D. Dept. of Civil Engineering	Training in Water Quality and Pollution Control	5T3-WP-128-05S1 1P3-WP-280-01	11,304 59,597

INDIANA

<u>Purdue University</u> <u>Lafayette</u> Etzel, James E., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5T1-WP-247-02S2 5P2-WP-247-03	7,000 50,688
<u>University of Notre Dame</u> <u>Notre Dame</u> Singer, Phillip C., Ph.D. Dept. of Civil Engineering	Chemical Aspects of Water Pollution Control	5P1-WP-245-02	55,675

IOWA

<u>Iowa State University</u> <u>Ames</u> Baumann, E. Robert, Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P2-WP-195-04	49,475
<u>University of Iowa</u> <u>Iowa City</u> Paulson, Wayne L., Ph.D. Dept. of Civil Engineering	Engineering and Science of Water Quality Management	5P1-WP-257-02	49,729

KANSAS

<u>University of Kansas</u> <u>Lawrence</u> McKinney, Ross E., Sc.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-239-03	41,368
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KENTUCKY

<u>University of Kentucky</u> <u>Lexington</u> Lauderdale, Robert A., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-216-03	47,249
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LOUISIANA

<u>Louisiana Polytechnic Institute</u> <u>Ruston</u> Murad, John L., Ph.D. Dept. of Agricultural Engineering	Training Program for Joint Treatment of Municipal, Industrial and Agricultural Wastes	5P1-WP-234-02	38,597
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LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>MAINE</u>			
<u>University of Maine</u> <u>Orono</u>			
Sproul, Otis J., Sc.D. Dept. of Civil Engineering	Water Supply and Pollution Control Training	5P1-WP-182-04	\$36,036
<u>MARYLAND</u>			
<u>Johns Hopkins University</u> <u>Baltimore</u>			
Wolman, M. Gordon, Ph.D. Dept. of Environmental Engr.	Water Sciences and Manage- ment Program	5P3-WP-197-04	51,171
<u>University of Maryland</u> <u>College Park</u>			
Birkner, Francis B., Ph.D. Dept. of Civil Engineering	Training in Water Quality Management	1P1-WP-292-01	53,947
<u>MASSACHUSETTS</u>			
<u>Harvard University</u> <u>Cambridge</u>			
Spielman, Lloyd, Ph.D. Dept. of Engineering and Applied Physics	Research Education in Aquatic Chemistry	5P2-WP-147-04	54,052
Mitchell, Ralph, Ph.D. Dept. of Engineering and Applied Physics	Training Program in Environmental Biology	5P3-WP-268-02	30,044
<u>Massachusetts Institute of</u> <u>Technology</u> <u>Cambridge</u>			
Harleman, Donald R., Ph.D. Dept. of Civil Engineering	Water Quality Systems Modeling and Management	1P1-WP-303-01	76,298
<u>Northeastern University</u> <u>Boston</u>			
Cochrane, John J., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-136-05	53,862
<u>Tufts University</u> <u>Medford</u>			
Hanes, Norman, B., Ph.D. Dept. of Civil Engineering	Graduate Training for Environmental Engineering	5P1-WP-192-04	62,598
<u>University of Massachusetts</u> <u>Amherst</u>			
Feng, Tsuan Hua, Ph.D. Dept. of Civil Engineering	Water Supply and Pollution Control	5P1-WP-267-02	40,471
<u>MICHIGAN</u>			
<u>Michigan State University</u> <u>East Lansing</u>			
Roelofs, Eugene W., Ph.D. Dept. of Fisheries & Wildlife	Training in Water Supply and Pollution Control	1P3-WP-264-01	21,826
<u>University of Michigan</u> <u>Ann Arbor</u>			
Weber, Walter J., Jr., Ph.D. Dept. of Conservation	Integrated Program of Training in Water Resources	5T3-WP-177-03S1 5T3-WP-177-03S2	32,253 14,568

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>MICHIGAN (Continued)</u>			
<u>Wayne State University</u> <u>Detroit</u>			
Dirasian, Henry A., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-101-05	\$14,768
<u>MINNESOTA</u>			
<u>University of Minnesota</u> <u>Minneapolis</u>			
Olson, Theodore A., Ph.D. Dept. of Public Health and Biology	Training in Water Supply and Pollution Control	1P5-WP-275-01	16,910
Schroepfer, George J. Dept. of Civil Engineering	Sanitary Engineering and Water Resources Program	5P1-WP-191-04	15,921
<u>MISSISSIPPI</u>			
<u>Mississippi State University</u> <u>State College</u>			
Williford, Howard K. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	1P1-WP-253-01 5T1-WP-108-01S1	39,950 4,200
<u>MISSOURI</u>			
<u>University of Missouri</u> <u>Columbia</u>			
King, Darrell L., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P2-WP-220-02S1	8,093
<u>University of Missouri</u> <u>Rolla</u>			
Grigoropoulos, S.G., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	1P2-WP-278-01 1P2-WP-278-01S1 1P2-WP-278-01S2	47,770 38,252 5,513
<u>MONTANA</u>			
<u>Montana State University</u> <u>Bozeman</u>			
Wright, John C., Ph.D. Dept. of Environmental Studies	Aquatic Biology and Sanitary Engineering	5P2-WP-228-02	60,339
<u>NEBRASKA</u>			
<u>University of Nebraska</u> <u>Lincoln</u>			
Hammer, Mark J., Ph.D. Dept. of Civil Engineering	Sanitary Engineering and Fresh-Water Biology	1P1-WP-291-01	40,608
<u>NEW JERSEY</u>			
<u>Rutgers - The State University</u> <u>New Brunswick</u>			
Kaplovsky, A. Joel, Ph.D. Dept. of Environmental Sciences	Training in Water Supply and Pollution Control	5P2-WP-163-04	65,312
<u>Newark College of Engineering</u> <u>Newark</u>			
Griskey, Richard G., Ph.D. Dept. of Chemical Engineering	Interdisciplinary Training for Control and Abatement of Industrial Waste Pollutants	2P1-WP-287-01	32,060

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>NEW MEXICO</u>			
<u>New Mexico State University</u> <u>University Park</u>			
Gebhard, Thomas G., Ph.D. Dept. of Civil Engineering	Water Quality Manage- ment	5P1-WP-196-04	\$43,152
<u>NEW YORK</u>			
<u>Adelphi University</u> <u>Garden City, Long Island</u>			
Brenowitz, A. Harry Ed. D. Dept. of Biology and Earth Science	Training Program in Water Pollution and Water Resources	5P1-WP-246-02	50,801
<u>American Association of</u> <u>Professors in Sanitary</u> <u>Engineering</u> <u>Ithaca</u>			
Loehr, Raymond C., Ph.D.	Aquatic Chemistry Experiments A Laboratory Text	1P4-WP-309-01	18,036
<u>American Association of</u> <u>Professors in Sanitary</u> <u>Engineering</u> <u>Ithaca</u>			
Loehr, Raymond C., Ph.D.	Criteria Development and Guidelines for Professional Training	1SE-WP-1-01	19,298(1)***
<u>Cornell University</u> <u>Ithaca</u>			
Gates, Charles D. Dept. of Water Resources Engineering	Water Quality Control Engineering	5P2-WP-172-03S1	13,748
Loehr, Raymond C., Ph.D. Dept. of Agricultural Engr.	Management of Animal Wastes	5P2-WP-212-03	20,261
<u>Rensselaer Polytechnic Institute</u> <u>Troy</u>			
Aulenbach, Donald B., Ph.D. Dept. of Environmental Engineering	Water Quality Management Training	2P1-WP-282-01	32,074
<u>Manhattan College</u> <u>Bronx</u>			
Jeris, John S., Sc.D. Dept. of Civil Engineering	Training of Engineers in Water Pollution Control	5P2-WP-188-04	85,427
O'Connor, Donald J., Sc.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P5-WP-190-04	22,228
<u>New York University</u> <u>New York</u>			
Molof, Alan H., Ph.D. Dept. of Civil Engineering	Water Supply and Water Pollution Control Engineering	2P2-WP-186-04	44,046
<u>NORTH CAROLINA</u>			
<u>North Carolina State University</u> <u>Raleigh</u>			
Smallwood, Charles, Jr. Dept. of Civil Engineering	Water Supply and Pollution Control	5P1-WP-230-03	26,033
Smallwood, Charles, Jr. Dept. of Civil Engineering	Industrial Waste Control and Abatement	5T3-WP-165-03S1 5P3-WP-165-04	6,480 49,358

*** (1) Supported by Supplemental Funds

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>NORTH CAROLINA (Continued)</u>			
<u>University of North Carolina</u> <u>Chapel Hill</u>			
Weiss, Charles M., Ph.D. Dept. of Environmental Sciences and Engineering	Graduate Training in Water Quality Management	5P2-WP-173-03S1	\$10,751
<u>OHIO</u>			
<u>Case Western Reserve University</u> <u>Cleveland</u>			
Prober, Richard Ph.D. Dept. of Chemical Engineering	Chemical Engineering Training Applied to Water Pollution Control	1P2-WP-250-01A1 5P2-WP-250-02	11,576 52,596
<u>Ohio State University</u> <u>Columbus</u>			
Washington, Donald R., Ph.D. Water Resources Center	Multidisciplinary Training in Water Pollution Control	5P1-WP-219-03	72,466
<u>University of Cincinnati</u> <u>Cincinnati</u>			
Eye, J. David, Sc.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-209-03	59,154
<u>University of Toledo</u> <u>Toledo</u>			
Bennett, Gary F., Ph.D. Dept. of Chemical Engineering	Training in Water Supply and Pollution Control	5P2-WP-199-03	27,927
<u>OKLAHOMA</u>			
<u>Oklahoma State University</u> <u>Stillwater</u>			
Dorris, Troy C., Ph.D. Dept. of Zoology	Aquatic Ecology Specialists in Water Pollution	5P1-WP-185-04	40,200
Gaudy, Anthony F. Jr., Ph.D. Dept. of Civil Engineering	Training in Water Pollution Control Engineering	5P2-WP-238-03	44,521
<u>University of Oklahoma</u> <u>Norman</u>			
Reid, George W. Dept. of Civil Engineering and Environmental Sciences	Water Resources Development	5P2-WP-189-04	49,196
<u>University of Tulsa</u> <u>Tulsa</u>			
Manning, Francis S., Ph.D. Dept. of Chemical Engineering	Training of Masters of Science Engineers in Water Pollution Control	2P1-WP-265-01A1	17,256
<u>OREGON</u>			
<u>Oregon State University</u> <u>Corvallis</u>			
Burgess, Fred J. Dept. of Civil Engineering	Graduate Training in Water Quality Engineering	5T2-WP-187-03S1	15,216
Curl, Herbert C., Jr., Ph.D. Dept. of Oceanography	Training in Water Supply and Pollution Control	5T1-WP-111-05	_____*
Stoevenner, Herbert H., Ph.D. Dept. of Agricultural Economics	Economics of Water Quality and Supply	5P3-WP-217-03	34,605
Warren, Charles E., Ph.D. Dept. of Fisheries & Wildlife	Training in Freshwater and Marine Pollution Biology	5P2-WP-208-04	36,771

*Active 1971 Supported by funds awarded in previous years

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>PENNSYLVANIA</u>			
<u>Academy of Natural Sciences</u> <u>Philadelphia</u>			
Patrick, Ruth Ph.D. Dept. of Limnology	The Training of Graduate Students in the Field of Limnology	5P3-WP-227-03	\$41,597
<u>Drexel University</u> <u>Philadelphia</u>			
Strandberg, William B., Ph.D. Dept. of Environmental Engr. and Science	Training in Water Quality Management and Control	5P1-WP-125-04	41,193
<u>Pennsylvania State University</u> <u>University Park</u>			
Whisler, Benjamin A., Sc.D. Dept. of Civil Engineering	Water Quality Management	5P1-WP-156-02	45,057
<u>RHODE ISLAND</u>			
<u>University of Rhode Island</u> <u>Kingston</u>			
Sieburth, John McN., Ph.D. Dept. of Oceanography	Estuarine and Coastal Pollution	5P1-WP-252-02	30,938
<u>SOUTH CAROLINA</u>			
<u>Clemson University</u> <u>Clemson</u>			
Andrews, John F., Ph.D. Dept. of Environmental Systems Engineering	Operations and Management of Treatment Plants	2P1-WP-302-01	26,924
Rich, Linvil G., Ph.D. Dept. of Environmental Systems Engineering	Teaching in Process Engineering	5P3-WP-181-04	89,789
<u>SOUTH DAKOTA</u>			
<u>South Dakota State University</u> <u>Brookings</u>			
Dornbush, James M., D. Sc. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-272-02	33,750
<u>TENNESSEE</u>			
<u>Tennessee Tech. University</u> <u>Cookeville</u>			
Bustamante, Raphael B., Ph.D. Dept. of Civil Engineering	Training of Environmental Engineers	1P1-WP-276-01	32,124
<u>Vanderbilt University</u> <u>Nashville</u>			
Krenkel, Peter A., Ph.D. Dept. of Environmental and Water Resources Engineering	Water Resources and Environmental Engineering	5P2-WP-201-03S1	13,363
<u>TEXAS</u>			
<u>North Texas State University</u> <u>Denton</u>			
Silvey, Joseph K. G., Ph.D. Dept. of Biology	Training in Water Supply and Pollution Control	1P3-WP-300-01	56,971

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>TEXAS (Continued)</u>			
<u>Texas A&M University</u> <u>College Station</u>			
Davis, William B., Sc.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5T2-WP-240-02S1	_____*
<u>University of Texas</u> <u>Austin</u>			
Malina, Joseph F., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5T2-WP-183-03S1	12,847
<u>William Marsh Rice University</u> <u>Houston</u>			
Busch, Arthur W. Dept. of Environmental Science and Engineering	Training in Water Supply and Pollution Control	5P2-WP-194-04	75,518
<u>UTAH</u>			
<u>University of Utah</u> <u>Salt Lake City</u>			
Gaufin, Arden R., Ph.D. Dept. of Environmental Biology	Water Supply and Water Pollution Biology	5P2-WP-242-03	44,423
<u>Utah State University</u> <u>Logan</u>			
Jones, Norman B. Dept. of Civil Engineering	Interdisciplinary Training Program in Water Quality	5T1-WP-157-03(S1) 5P1-WP-157-04	5,838 42,638
Peterson, Howard B., Ph.D. Dept. of Agricultural and Irrigation Engineering	Irrigation Return Flow Pollution Control Training	5T2-WP-213-02(S1) 5P2-WP-213-03	1,858 44,121
<u>VIRGINIA</u>			
<u>Virginia Polytechnic Institute</u> <u>Blacksburg</u>			
King, Paul H., Ph.D. Dept. of Civil Engineering	Water Resources Management and Quality Control	3T2-WP-166-03(S1)	10,149
<u>WASHINGTON</u>			
<u>University of Washington</u> <u>Seattle</u>			
Brown, George W., Jr. Ph.D. College of Fisheries	Biological Effects of Water Pollution	5P1-WP-175-04	30,697
Sylvester, Robert P., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5T2-WP-122-05(S1) 5T2-WP-122-05(S2) 1P2-WP-293-01	10,270 1,760 95,264
<u>Washington State University</u> <u>Pullman</u>			
Proctor, Donald E., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-170-04	69,705
*Active 1971 Supported by funds awarded in previous years			

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>WEST VIRGINIA</u>			
<u>West Virginia University</u> <u>Morgantown</u>			
Sack, William A., Ph.D. Dept. of Civil Engineering	Training in Waste Water Control and Reclamation	5P1-WP-223-03	\$28,475
<u>WISCONSIN</u>			
<u>Marquette University</u> <u>Milwaukee</u>			
Zanoni, Alphonse, E., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	5P1-WP-129-05	36,999
<u>University of Wisconsin</u> <u>Madison</u>			
Chesters, Gordon, Ph.D. Dept. of Soils	Soil and Water Sanitation	3P1-WP-100-04	43,574
Hasler, Arthur D., Ph.D. Dept. of Zoology	Biological Aspects of Water Resource Management	5P1-WP-204-04	51,565
Lee, G. Fred Ph.D. Dept. of Civil Engineering	Chemistry of Water Supply and Pollution Control	5P2-WP-184-04	58,251
Polkowski, Lawrence B., Ph.D. Dept. of Civil Engineering	Training in Water Supply and Pollution Control	2P3-WP-301-01	37,168
Stephenson, David A., Ph.D. Dept. of Geology and Geophysics	Water Resources Management	5P1-WP-215-02B	107,251

TECHNICAL TRAINING GRANT PROGRAM

SUMMARY OF AWARDS

FISCAL YEAR 1971

States	Institutions and Agencies	Number Awards	Amount
California	1	1	\$ 29,063
Delaware	1	1	15,158
District of Columbia	5	4	102,232
Maryland	1	1	43,723
Michigan	1	0	-0-
New Hampshire	1	0	2,361
Ohio	1	1	57,057
Oregon	1	1	48,500
South Carolina	2	1	144,925
Wisconsin	1	1	40,418
Wyoming	1	1	12,928
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10 States	16	12	\$496,365

Active Technical Training Grants 1971

10 States and the District of Columbia
 16 Institutions and Agencies
 18 Technical Training Grants

Technical Training Grants - These grants are awarded to technical schools, junior colleges, and similar non profit institutions for establishing or expanding training of technicians in water pollution control. They provide funds to develop the potential of such institutions for specialized training of engineering and scientific aides. Support is provided for faculty, equipment, and student stipends. The purpose of the technician training grant program is to utilize the capability of appropriate schools for training subprofessional specialists in water pollution control. Awards normally will be made to schools in localities where trained technicians are needed as waste treatment plant operators, laboratory assistants, and related technical staff.

TECHNICAL TRAINING GRANTS

FISCAL YEAR 1971

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>CALIFORNIA</u>			
<u>Sacramento State College</u> <u>Sacramento</u>			
Kerri, Kenneth D., Ph.D. Dept. of Civil Engineering	The Development of a Pilot Correspondence Course For Treatment Plant Operators	5TT1-WP-16-03	\$29,963 (4)
<u>DELAWARE</u>			
<u>Delaware State College</u> <u>Dover</u>			
Seidel, George R., Ph.D. Dept. of Chemistry	Water Chemistry, Basic Theory and Methods for Water Treatment Laboratories	1"0"1-WP-5-01	15,158 (4)
<u>DISTRICT OF COLUMBIA</u>			
<u>League of Women Voters Education Fund</u> <u>Washington</u>			
Clusen, Donald E., Mrs. Environmental Education Fund	Schools for Citizens on Water Use for Tomorrow's Living	5TT1-WP-46-02	55,882 (4)
<u>Water Pollution Control Federation</u> <u>Washington</u>			
Burke, George W., Jr. Dept. of Technical Services	Development of Lecture Guides For Wastewater Treatment Plant Operators	1TT1-WP-40-01	_____ * (4)
Burke, George W., Jr. Dept. of Technical Services	Aids for Wastewater Systems Personnel Safety and Advancement	2TT1-WP-32-03	_____ * (4)
<u>Washington Ecology Center</u> <u>Washington</u>			
Tod, Marguerite Director	Environmental Education and Awareness for Youth	1TT1-WP-60-01	5 100 (1)
<u>Earth Satellite Corporation</u> <u>Washington</u>			
Porter, J. Robert Director	New Approaches for Cooperation Between Office of Water Programs and Universities	1TT1-WP-58-01	30,000 (1)
<u>Izaak Walton League of America</u> <u>Washington</u>			
Penfold, Joseph W. Director	Young Adults for Resources and the Environment (YARE)	1TT1-WP-59-01	11,250 (3)
<u>MARYLAND</u>			
<u>Charles County Community College</u> <u>La Plata</u>			
Schwing, Carl M. Director	Wastewater Technology Training Programs	1"0"1-WP-8-01	43,723

*Active 1971 Supported by Funds Awarded in Previous Years

- (1) Supported by Administrative Funds- Managed by Training Grants Branch
- (2) Supported by Regional Funds (SCOPE) Managed by Training Grants Branch
- (3) Supported by Manpower Development Funds Managed by Training Grants Branch
- (4) Supported by Professional Training Grant Funds - Managed by Training Grants Branch
- (5) Supported by R&D Managed by Training Grants Branch

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
<u>MICHIGAN</u>			
<u>University of Michigan</u> <u>Ann Arbor</u>			
Mancy, Khalil H., Ph.D. Dept. of Environmental Health	Application of Programmed Learning Techniques to Water Chemistry	5TT1-WP-20-03	____*(4)
<u>NEW HAMPSHIRE</u>			
<u>Tilton School</u> <u>Tilton</u>			
Chadbourn, Joseph H. Science Department	Water Pollution Control Science Program and Curricula Development for Secondary Schools	1TT1-WP-41-01 1TT1-WP-41-01(S1) 1TT1-WP-41-01(S2) 1TT1-WP-41-01(S3)	____*(4) \$ 486(4) 1,875(4) 3,296(1)
<u>OHIO</u>			
<u>Institute for Environmental</u> <u>Education</u> <u>Cleveland Heights</u>			
Chadbourn, Joseph H. Director	Development of a National Program in Environmental Education	1TT1-WP-63-01 1TT1-WP-63-01(S1)	49,561 (3) 4,200 (5)
<u>OREGON</u>			
<u>Linn-Benton Community College</u> <u>Albany</u>			
Suddreth, James H. Director	Wastewater Technology Training	1"0"1-WP-7-01	48,500
<u>SOUTH CAROLINA</u>			
<u>Clemson University</u> <u>Clemson</u>			
Austin, John H., Ph.D. Dept. of Civil Engineering	Criteria for Establishment of Two Year Post High School Technology Programs	5TT1-WP-52-02 5TT1-WP-52-02(S1)	84,267 7,668
Rich, Linvil G., Dean Department of Environmental Systems Engineering	Criteria Development for Design Engineering Curricula	5P1-WP-181-03(S1)	____*
<u>Greenville Technical Education</u> <u>Center</u> <u>Greenville</u>			
Paxton, John H. Director	Wastewater Technology Training	1"0"1-WP-6-01	52,990
<u>WISCONSIN</u>			
<u>University of Wisconsin</u> <u>Milwaukee</u>			
Bacon, Vinton D. Dept. of Civil Engineering	Undergraduate Training in Design Engineering	1D1-WP-3-01	40,418
<u>WYOMING</u>			
<u>University of Wyoming</u> <u>Laramie</u>			
Champlin, Robert L., Ph.D. Dept. of Civil Engineering	Development of a Learning Course in Monitoring and Surveillance	1TT1-WP-44-01A1	12,928

*Active 1971 Supported by Funds Awarded in Previous Years

- (1) Supported by Administrative Funds - Managed by Training Grants Branch
- (2) Supported by Regional Funds (SCOPE) Managed by Training Grants Branch
- (3) Supported by Manpower Development Funds Managed by Training Grants Branch
- (4) Supported by Professional Training Grant Funds Managed by Training Grants Branch
- (5) Supported by R&D Managed by Training Grants Branch

RESEARCH FELLOWSHIP PROGRAM

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SUMMARY OF AWARDS

FISCAL YEAR 1971

States	Institutions and Agencies	Number Awarded	Amount Awarded
Arizona	1	1	\$ 6,600
California	4	9	52,412
Colorado	2	3	12,440
Florida	1	3	17,000
Illinois	2	3	6,433
Indiana	3	6	30,100
Iowa	2	4	22,067
Maryland	1	1	5,100
Massachusetts	4	3	24,355
Michigan	2	8	39,108
Minnesota	1	2	10,400
Missouri	2	5	24,250
Montana	1	3	18,200
New Hampshire	1	1	5,367
New Jersey	1	2	8,000
New York	5	14	66,743
North Carolina	2	3	18,124
Oklahoma	2	2	12,400
Oregon	1	2	10,400
Pennsylvania	4	5	24,350
Rhode Island	1	2	11,768
South Carolina	1	3	17,800
Texas	2	5	36,945
Utah	2	3	19,467
Virginia	1	1	5,300
Washington	2	2	14,100
Wisconsin	1	8	51,073
Foreign	6	4	29,698
27 States	58	108	\$600,000

Active Research Fellowships 1971

27 States
 7 Foreign
 58 Institutions and Agencies
 161 Active Research Fellowships

Research Fellowships These fellowships are awarded to outstanding individuals for the support of graduate and postgraduate training in educational institutions. Research fellowship awards increase the number of scientists and engineers qualified to conduct independent research in water pollution control problems. The research fellowship program assists in meeting the critical need for professional manpower having specialized training in a variety of disciplines.

RESEARCH FELLOWSHIPS

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FISCAL YEAR 1971

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>ARIZONA</u>			
<u>University of Arizona</u> <u>Tucson</u>			
Slocum, Charles W. College of Law and Engineering	Juris Doctor Degree with Emphasis on Water Law	1F1-WP-26,686-01	\$ 6,600
<u>CALIFORNIA</u>			
<u>Stanford University</u> <u>Stanford</u>			
Beattie, Alex D. Dept. of Civil Engineering	Measurement of Water Quality	1F1-WP-26,588-01	6,612
	Associated Benefits	1F1-WP-26,588-02	6,800
Haug, Roger T. Dept. of Civil Engineering	Submerged Filter for Low Temperature Nitrification	5F1-WP-26,451-02	5,800
Selznick, Howard L. Dept. of Civil Engineering	Effectiveness of Pollution Abatement Techniques in Sanitary Landfills	5F1-WP-26,460-02	5,300
Williamson, Kenneth J. Dept. of Civil Engineering	Nitrification in Natural Waters	1F1-WP-26,681-01	6,100
Wyland, Jacqueline V. Dept. of Biological Sciences	Levels of Six Heavy Metals in Some Marine Organisms	5F1-WP-26,498-02	5,300
<u>University of California</u> <u>Berkeley</u>			
Cordes, Ronald A. Dept of Chemical Engineering	Filtration of Aqueous Effluents Carrying Emulsified Oils	5F1-WP-26,276-04	2,900
Hills, David J. Dept. of Civil Engineering	Environment Engineering Program	5F1-WP-26,347-02	_____*
<u>University of California</u> <u>Davis</u>			
Sloss, Judith S. Dept. of Water Science and Engineering	Systems Model of Ecological Systems	1F2-WP-26,660-01	7,000
<u>University of Southern California</u> <u>Los Angeles</u>			
Lockwood, Robert A. Dept. of Civil Engineering	Mode of Mercury Dissolution in Natural Waters	1F1-WP-26,620-01	6,600
<u>COLORADO</u>			
<u>Colorado State University</u> <u>Fort Collins</u>			
Deason, Wayne O. Dept. of Microbiology	Effects of Heavy Metal Ions on Bacteria	5F1-WP-26,417-02	_____*

*Active 1971 - Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>COLORADO (cont'd)</u>			
<u>Colorado State University</u> <u>Colorado</u>			
Grimes, Darrell J. Dept. of Microbiology	Insecticide Accumulation by Aquatic Bacteria	1F1-WP-26,592-01	\$ 6,300
Peters, John C. Dept. of Fisheries & Wildlife	Effects of Sedimentation by a Trout Stream	5F1-WP-26,268-01	_____*
<u>University of Colorado</u> <u>Boulder</u>			
Cannon, Joseph N. Dept. of Chemical Engineering	Evapotranspiration Mechanisms and Control in Plants	1F1-WP-26,464-01S1	1,040
Merrill, Douglas T. Dept. of Chemical Engineering	Research on Water Pollution Control Processes	1F1-WP-26,465-01A1	5,100
<u>FLORIDA</u>			
<u>University of Florida</u> <u>Gainesville</u>			
Gillette, Fred L. Holland Law Center	Proposed Legislation for Artificial Ground Water Recharge	1F3-WP-26,501-01	_____*
Keirn, Michael A. Dept. of Environmental Engineering	Characterization and Activities of Aquatic Bacterial Heterotrophs in Lakes	1F1-WP-26,590-01	5,600
Maslin, Karolyn Dept. of Zoology	Eutrophication Induced Changes in the Lake Littoral Zone	1F1-WP-26,450-01	_____*
Steinberg, Jerry A. Dept. of Environmental Engineering	Determining Vertical Diffusion Coefficients in Lakes	1F1-WP-26,589-01 1F1-WP-26,589-02	5,600 5,800
<u>ILLINOIS</u>			
<u>Northwestern University</u> <u>Evanston</u>			
Letterman, Raymond Dept. of Civil Engineering	Chemical Clarification and Adsorption Processes in Water and Wastewater Treatment	1F1-WP-26,491-01	_____*
Lin, Andar, C. Y. Dept. of Civil Engineering	Simulation Model for Settling Basin Design	1F1-WP-26,471-01S1	500**
Liu, Shuang S. Dept. of Civil Engineering	Studies of Wastewater Treatment by Cladophora	1F1-WP-26,647-01	5,600
<u>University of Illinois</u> <u>Urbana</u>			
Betchart, Will B. Dept. of Civil Engineering	Optimum Sample Intervals for Water Quality Monitoring	5F1-WP-26,407-02	_____*
Fileccia, Robert Dept. of Civil Engineering	Particle Aggregation Phenomena in Sludge Dewatering	1F1-WP-26,509-01S1	333**
Foster, David H. Dept. of Civil Engineering	Virus Removal by Porous Media	5F1-WP-26,406-02	_____*
Saunders, Fred M. Dept. of Civil Engineering	Bioflocculation in the Activated Sludge Process	1F1-WP-26,411-01A1	_____*

*Active 1971 Supported by funds awarded in previous years

**Supply, travel or dependent allowance

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
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INDIANA
Indiana University
Bloomington

Darland, Gary Dept. of Microbiology	Ecology of Heterotrophic Bacteria in Acid Environments	1F2-WP-26,445-01	\$ _____ *
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Purdue University
West Lafayette

Bishop, Paul L. Jr. Dept. of Civil Engineering	Sublethal Effects of Toxicants on Methane Fermentation	1F1-WP-26,596-01	5,300
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Campbell, Hugh J. Jr. Dept. of Environmental Engineering	Ion Exchange in Series with Reverse Osmosis	1F1-WP-26,573-01A1	6,600
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Rollag, Dwane A. Dept. of Civil Engineering	Anaerobic Pretreatment for Aerobic Treatment Systems	5F3-WP-26,312-02S1	_____ *
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University of Notre Dame
Notre Dame

Carberry, Judith Dept. of Civil Engineering	Mechani of Phosphate Removal in Activated Sludge	5F1-WP-26,446-02	6,300
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Pavoni, Joseph Dept. of Civil Engineering	Aspects of Bioflocculation	5F1-WP-26,446-02	_____ *
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Theis, Thomas L. Dept. of Civil Engineering	Iron-Organic Matter in Natural Waters	1F1-WP-26,602-01 5F1-WP-26,602-02	5,600 6,300
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IOWA
Iowa State University
Ames

Breland, Elton D. Dept. of Civil Engineering	Development of Granula Media Filtration Theory	5F1-WP-26,422-02	4,600
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Huang, Jerry Dept. of Civil Engineering	Optimum Design of Sand Filters	5F1-WP-26,384-03	6,300
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Schara, Jerald Dept. of Civil Engineering	Biological Inhibition by Industrial Waste Stream	1F3-WP-26,380-01	_____ *
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University of Iowa
Iowa City

Abron, Lilia A. Dept. of Civil Engineering	Removal of Organic Pollutants by Reverse Osmosis	5F1-WP-26,346-03	4,367
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Wallace, Douglas A. Dept. of Civil Engineering	A System Approach to Agricultural Pollution Control	5F3-WP-26,463-02	6,800
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MARYLAND
University of Maryland
College Park

O'Brien, Dennis J. Dept. of Civil Engineering	Oxygenation of Reduced Sulfur Species in Sewers	1F1-WP-26,608-01	5,100
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*Active 1971 - Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>MASSACHUSETTS</u>			
<u>Boston University</u> <u>Boston</u>			
Yarnell, Roy M. Dept. of Biology	Simulated Pollution Effects on Primary Consumer Dynamics	1F1-WP-26,505-01	\$ _____ *
<u>Harvard University</u> <u>Cambridge</u>			
Ferguson, John F. Dept. of Engineering and Applied Physics	Calcium Phosphates in Natural and Wastewaters	1F2-WP-26,345-01	_____ *
Jenkins, David Dept. of Engineering and Applied Physics	Chemical Treatment of Wastewater	1F3-WP-26,404-01	_____ *
<u>Marine Biological Laboratory</u> <u>Woods Hole</u>			
Markel, Raymond P. Dept. of Marine Biological Laboratory	Biological and Ecological Effects of Thermal Effluent	5F2-WP-26,382-02	10,000
Pollock, Leland W. Systematics, Ecology Program	Meiofauna and Pollution	5F2-WP-26,391-02S1	755
		5F2-WP-26,391-02S2	1,000
<u>University of Massachusetts</u> <u>Amherst</u>			
Clark, Edward Dept. of Civil Engineering	Dewatering and Drying Sludge on Open Air Drying Beds	1F1-WP-26,453-01	_____ *
DesRosiers, Paul E. Dept. of Civil Engineering	Removal of Herbicides by Reverse Osmosis	1F1-WP-26,376-01	_____ *
Kohler, Joseph T. Dept. of Chemical Engineering	Minimizing of Effects of Concentration Polarization in Reverse Osmosis	1F1-WP-26,561-01	5,300
Ray, Donald L. Dept. of Civil Engineering	A Regional Approach to Combined Sewer Overflows	5F1-WP-26,454-02	7,300
<u>MICHIGAN</u>			
<u>Michigan State University</u> <u>East Lansing</u>			
Atchison, Gary J. Dept. of Fisheries & Wildlife	DDT and Lipid Movements in Fish Eggs and Larvae	1F1-WP-26,359-01	_____ *
Eyman, Dean L. Dept. of Fisheries & Wildlife	A Tropical Level Effect on Cs-137 Content in Fish	5F1-WP-26,354-03	6,800
Fast, Arlo Dept. of Fisheries & Wildlife	Effects of Artificial Aeration on Lake Ecology	5F1-WP-26,292-03	5,300
Haines, Terry Dept. of Fisheries & Wildlife	Some Effects of Nutrient Pollution on Fish Population	5F1-WP-26,225-04	_____ *
Manny, Bruce Dept. of Botany & Plant Pathology	Nitrogen Content of Net Nanno Phytoplankton	5F1-WP-26,378-03	358

*Active 1971 Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROGRAM TITLE	NUMBER	AMOUNT
<u>MICHIGAN</u>			
<u>Michigan State University</u> <u>East Lansing</u>			
McIntosh, Alan W. Dept. of Fisheries & Wildlife	The Effects of Herbicides on Aquatic Ecosystems	5F1-WP-26,436-02	\$ 5,300
Miller, Michael Dept. of Botany	Organic Excretion and Heterotrophy Within a Plankton Community	5F1-WP-37,449-03	_____*
<u>University of Michigan</u> <u>Ann Arbor</u>			
Asano, Takashi Dept. of Civil Engineering	Quantity Determining and Control of Algal Productivity	1F1-WP-26,208-01A2	_____*
Gould, Joseph P. Dept. of Sanitary Engineering	Reactions of Ozone with Phenols in Aqueous Solutions	5F1-WP-26,078-02	5,300
Hallett, Leroy A. Dept. of Environmental Health	Survival Pattern Coliform and Selected Pathogenic Bacteria	1F1-WP-26,523-01	5,600
Ketchum, Lloyd K. Jr. Dept. of Civil Engineering	Chemical Coagulation of Wastewater	1F1-WP-26,531-01	_____*
Life, Jeffrey Dept. of Fisheries & Wildlife	Histopathological Responses of Fish Chronically Exposed to Sublethal Levels of Heavy Metal Pollutants	5F1-WP-26,315-02S1	_____*
Nolan, Melvin Dept. of Environmental Health	Determining the Forms of Phosphorus in Natural Waters	5F1-WP-26,399-03	3,650
Parrott, Robert W. Dept. of Environmental and Industrial Health	Computer Aided Design of Sewage Treatment Facilities	5F1-WP-26,297-02	6,300
Posselt, Hans S. Dept. of Civil Engineering	Aqueous Environmental Chemistry of Cadmium	1F1-WP-26,535-01	_____*
Sharpin, Ronald E. Dept. of Environmental Health	Reaeration Coefficient Relationship to Longitudinal Mixing and Roughness	5F1-WP-26,299-03	_____*
<u>MINNESOTA</u>			
<u>University of Minnesota</u> <u>Minneapolis</u>			
Carlson, Robert E. Dept. of Ecology	Effects of Eutrophication on Zooplankton Distribution	1F1-WP-26,551-01	5,100
Joyce, John M. Dept. of Limnological Research Center	Responses of Algal Populations	5F1-WP-26,482-02	5,300
<u>MISSOURI</u>			
<u>University of Missouri</u> <u>Columbia</u>			
Atherton, Michael J. Dept. of Civil Engineering	Equilibrium Carbon Chemistry and Eutrophication	5F1-WP-26,410-03	6,600
Sievers, Dennis M. Dept. of Civil Engineering	Role of Carbon Availability in Pond Eutrophication	5F1-WP-26,408-03	2,900
<u>University of Missouri</u> <u>Rolla</u>			
Matthews, James R. Dept. of Civil Engineering	Doctoral Study and Research in Trace Organic Pollutants	5F1-WP-26,387-03	3,150
Yue, Checkman M. Dept. of Civil Engineering	Doctoral Study and Research in Nutrient Removal	1F1-WP-26,599-01 5F1-WP-26,599-02	5,600 5,500

*Active 1971 Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>MONTANA</u>			
<u>Montana State University</u> <u>Bozeman</u>			
Bahls, Loren L. Dept. of Botany and Microbiology	Diatom Studies on the Domestically Polluted E. Gallatin River, Montana	5F1-WP-26,381-02	\$ _____ *
Klarich, Duane A. Dept. of Botany and Microbiology	Effects of Water Quality on Aquatic Plant Physiology	5F1-WP-26,467-02	6,800
Sargent, Jerome W. Dept. of Civil Engineering	Light Energized Oxidation of Organic Wastes	1F1-WP-26,665-01	6,100
Sinning, James A. Dept. of Botany and Microbiology	The Effects of Improved Sewage Treatment on the Chemistry and Biology of the East Gallatine River, Montana	5F1-WP-26,489-02	5,300
<u>NEW HAMPSHIRE</u>			
<u>University of New Hampshire</u> <u>Durham</u>			
Haynes, Robert C. Dept. of Zoology	Ecological Effects of Aerating a Eutropic Lake	5F1-WP-26,461-02	5,367
McGill, Hugh J. Jr. Dept. of Zoology	Ectocrine Effects on Algal Blooms in Eutropic Waters	5F1-WP-26,265-03	_____ *
<u>NEW JERSEY</u>			
<u>Rutgers University</u> <u>New Brunswick</u>			
Allan, Harry L. Dept. of Environmental Science	Benthal Decomposition of Adsorbed Hydrocarbons	5F1-WP-26,347-02	_____ *
Berdahl, Barry J. Dept. of Environmental Science	Nitrification in Estuarine Waters	5F1-WP-26,365-02	_____ *
Carton, Robert J. Dept. of Environmental Science	Study of Wastewaters and Effluents Using Gel Filtration	5F1-WP-26,375-03	2,200
Gallina, Charles O. Dept. of Environmental Science	Influences of Ionizing Radiation on Sewage Sludge	1F1-WP-26,519-01	_____ *
Hemmett, Ronald B. Dept. of Environmental Science	Biodegradation Kinetics of 2, K-D	1F1-WP-26,373-02	_____ *
Shelton, Theodore B. Dept. of Environmental Science	Decomposition of Oils in Benthal Deposits	5F1-WP-26,470-02	5,800
<u>NEW YORK</u>			
<u>Columbia University</u> <u>New York</u>			
Zimmerman, Rae Dept. of Urban Planning	Organizational Structure and Water Pollution Control	1F1-WP-26,673-01	5,300

*Active 1971 Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>NEW YORK (cont'd)</u>			
<u>Cornell University</u>			
<u>Ithaca</u>			
Bedford, Keith W. Dept. of Water Resources Engineering	Salt Water Dynamics in Estuaries	1F1-WP-26,651-01	\$ 5,100
Gablinger, Moshe Dept. of Water Resources Engineering	Application of Operation Research to Water Management	5F1-WP-26,02S1	717**
Haith, Douglas A. Dept. of Water Resources Engineering	River Basin Management Procedures	5F1-WP-26,366-02	5,300
Inyard, Fredrick H. Dept. of Water Resources Engineering	Water Resources Systems Engineering	1F1-WP-26,473-01S1	500**
Johnson, Glenn M. Dept. of Water Resources Engineering	Water Resources Systems Engineering	5F1-WP-26,367-02 5F1-WP-26,367-03	5,800 2,683
Merkens, Paul W. Dept. of Water Resources Engineering	Water Resources Systems Engineering	1F1-WP-26,476091	_____ *
Milnes, Thomas R. Dept. of Water Resources Engineering	Use of Systems Analysis in Water Pollution Control	5F1-WP-26,264-02	1,250
Scherer, Charles R. Dept. of Environmental Systems Engineering	Environmental Systems Engineering	5F1-WP-26,365-02	5,300
Schulte, Dennis D. Dept. of Agricultural Engineering	Animal Waste Pollution Control	5F1-WP-26,369-02 5F1-WP-26,369-03	5,100 5,300
Simpson, Robert L. Jr. Dept. of Entomology and Limnology	Aquatic Ecosystem Responses to Pesticide Application	1F1-WP-26,458-01S1	276**
Stensel, David H. Dept. of Water Resources Engineering	Optimization of Waste Water Treatment Processes	5F1-WP-26,284-02	_____ *
Whitlatch, Elbert E. Dept. of Water Resources Engineering	Institutional Alternatives in Water Resources Management	1F1-WP-26,477-01	_____ *
Yen, Alan Fong-I Dept. of Water Resources Engineering	Occurrence and Removal of Nitrogen in Physicochemical Treatment Systems	1F1-WP-26,640-01	6,100
<u>New York University</u>			
<u>Bronx</u>			
Fillos, John Dept. of Civil Engineering	Benthal Deposit Effects on Oxygen Balance in Rivers	1F1-WP-26,421-01	_____ *
Lutz, Francis C. Dept. of Civil Engineering	Wind, Salinity, Estuarine Contaminant Dispersion	1F1-WP-26,432-01	2,417
Segall, Burton A. Dept. of Civil Engineering	Dispersion of Pollutants in Tidal Rivers	1F3-WP-26,586-01	8,000

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>NEW YORK (cont'd)</u>			
<u>Rensselaer Polytechnic Institute</u> <u>Troy</u>			
Hardt, Frederick Dept. of Environmental Engineering	The Use of Ultrafiltration for Wastewater Treatment	5F1-WP-26,336-03	\$ 2,300
<u>Syracuse University</u> <u>Syracuse</u>			
Fox, George E. Dept. of Chemical Engineering	The Axial Dispersion Model Applied to Activated Sludge	1F1-WP-26,555-01	5,300
<u>NORTH CAROLINA</u>			
<u>North Carolina State University</u> <u>Raleigh</u>			
Sechtel, Timothy J. Dept. of Zoology	Pesticides in an Estuarine Food Web	1F1-WP-26,469-01A1 5F1-WP-26,469-02	6,224 6,300
<u>University of North Carolina</u> <u>Chapel Hill</u>			
Marsh, James A. Jr. Dept. of Environmental Science and Engineering	Heterotrophy in Polluted Marine Ponds	1F2-WP-26,435-01	_____*
Raps, Martin E. Dept. of Environmental Science and Engineering	Waste Effluent Marine Ponds and the Nitrogen Cycle	1F1-WP-26,503-01A1	5,600
Shuman, Mark S. Dept. of Environmental Science and Engineering	Stripping Analysis of Trace Metals in Natural Waters	1F3-WP-26,516-01	_____*
<u>OKLAHOMA</u>			
<u>Oklahoma State University</u> <u>Stillwater</u>			
Burks, Sterling L. Dept. of Zoology	Aqueous Organic Chemical Pollutants	5F2-WP-28,210-02	_____*
Richardson, Dennise Reservoir Research Center	Tissue Culture Bioassay Treated Oil Refinery Effluent	1F1-WP-26,637-01	5,100
<u>University of Oklahoma</u> <u>Norman</u>			
Thung, Hok J. Dept. of Civil Engineering	Nonbiodegradable Organic Wastes	5F1-WP-26,418-02	7,300
<u>OREGON</u>			
<u>Oregon State University</u> <u>Corvallis</u>			
Bolen, John J. Dept. of Oceanography	Marine Bioecology	1F1-WP-26,321-01	_____*
Broaderius, Steven J. Dept. of Fisheries and Wildlife	Toxicity of Complex Metal Cyanides to Fish	1F1-WP-26,364-02	_____*
Mahoney, Joseph L. Dept. of Botany and Plant Pathology	Effects of Kraft Mill Wastes on Algae in Streams	1F1-WP-26,591-01 5F1-WP-26,591-02	5,100 5,300

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>PENNSYLVANIA</u>			
<u>Drexel Institute of Technology</u> <u>Philadelphia</u>			
Ambrosini, John R. Dept. of Environmental Engineering and Science	Taste and Odor Water Quality Requirements for Potable Water	1F1-WP-26,552-01	\$ 6,100
Marcinkiewicz, Charles J. Dept. of Environmental Engineering and Science	Analysis of Pesticide Transport in Waterways	1F1-WP-26,566-01 1F1-WP-26,566-01S1	5,100 500**
<u>Pennsylvania State University</u> <u>University Park</u>			
Dolsky, Mary F. Dept. of Botany	Pituitary Nucleic Acid Changes in Acid Exposed Trout	1F1-WP-26,626-01	5,100
<u>University of Pittsburgh</u> <u>Pittsburgh</u>			
Novak, Sharon M. Dept. of Environmental Health	Decision Making and Planning in Water Quality Control	1F1-WP-26,600-01	5,100
<u>Villanova University</u> <u>Villanova</u>			
Teittinen, Eric P. Dept. of Civil Engineering	Master of Water Resources Engineering Degree	1F1-WP-26,642-01	2,450
<u>RHODE ISLAND</u>			
<u>University of Rhode Island</u> <u>Kingston</u>			
Farrington, John W. Dept. of Oceanography	Organic Matter in Estuarine Sediments	5F1-WP-26,426-02 5F1-WP-26,426-01S1	6,300
Felder, Joan Dept. of Bacteriology and Biophysics	Nutrient Thresholds for Bacteria in the Coastal Zone	1F1-WP-26,588-01	5,100
<u>SOUTH CAROLINA</u>			
<u>Clemson University</u> <u>Clemson</u>			
Busby, Joseph B. Dept. of Environmental Systems Engineering	Development of Control Systems for Wastewater Treatment Plants	1F1-WP-26,671-01	6,100
Cline, David M. Dept. of Environmental Systems Engineering	Population Dynamics in Surface Attached Organisms	5F1-WP-26,287-02	_____*
Jones, James W. Dept. of Electrical Engineering	Investigation of Improved Water Quality Monitoring Electronics	5F1-WP-26,504-02	5,600
Tracy, Kenneth D. Dept. of Environmental Systems Engineering	Modeling and Control of Secondary Clarification	1F1-WP-26,670-01	6,100
Young, Thomas B. Dept. of Bio Engineering	Analysis of a Pure Continuous Culture	5F1-WP-26,331-02	_____*

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>TEXAS</u>			
<u>North Texas State University</u>			
<u>Denton</u>			
Abshire, Robert L. Dept. of Biology	Immunofluorescence a Method for Rapidly Detecting Pollution	1F2-WP-26,624-01	\$ 8,500
Lawley, Gary G. Dept. of Biology	In Situ N ₂ Fixation Studies of Nuisance Algae	1F1-WP-26,690-01	7,100
McDaniel, Michael Dept. of Biology	Influence of Nutrient Ratios on Primary Production	5F1-WP-26,232-02	6,800
Newton, Charles E. Dept. of Biology	A Eutrophication Study on a Unique Reservoir	5F1-WP-26,423-03	6,300
Smith, Jerry A. Dept. of Biology	Comparative Productivities in a Dual Aged Reservoir	1F1-WP-26,536-01S1 5F1-WP-26,536-02	445** 7,800
<u>University of Texas</u>			
<u>Austin</u>			
Bird, John Dept. of Environmental Health Engineering	Use and Evaluation of a Submerged Filter in Treatment of Agricultural Products Process Wastes	1F3-WP-26,494-01	_____*
Clay, Herman Dept. of Civil Engineering	Selective Withdrawal from Southwestern Impoundments	1F1-WP-26,518-01	_____*
<u>UTAH</u>			
<u>University of Utah</u>			
<u>Salt Lake City</u>			
Baumann, Richard W. Dept. of Environmental Biology	The (Nemouridae Plecoptera) of Western North America	1F1-WP-26,393-01S1	_____*
Miner, Michael Dept. of Biology	Ecological Studies of Stoneflies in the Elk Creek Drainage System	5F1-WP-26,395-02	_____*
Morgan, Garth R. Dept. of Environmental Biology	Phytoplankton Productivity vs. Mineral Nutrient Levels	5F1-WP-26,212-04	_____*
Oblad, Briant R. Dept. of Biology	Thermal Tolerance Study-Plecoptera-Freshwater Springs	1F1-WP-26,488-01 5F1-WP-26,488-02	500** 6,800
<u>Utah State University</u>			
<u>Logan</u>			
Bergersen, Eric Dept. of Wildlife Resources	Fish Production and Pollution Abatement in a River	1F1-WP-26,492-01A1 5F1-WP-26,492-02	267** 5,800
Reynolds, James H. Dept. of Civil Engineering	Effects of Baffling on Pilot Scale Stabilization Basins	1F1-WP-26,689-01	6,100

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>VIRGINIA</u>			
<u>VIRGINIA INSTITUTE OF MARINE SCIENCE</u> <u>GLOUCESTER POINT</u>			
Boesch, Donald F. Department of Ecology	Benthic Community Structure in a Gradient Estuary	5-F1-WP-26,457-02	\$5,300
<u>WASHINGTON</u>			
<u>UNIVERSITY OF WASHINGTON</u> <u>SEATTLE</u>			
DesVoigne, David M. Department of Civil Engineering	Tolerance of Dungeness Crab to Sublethal Temperatures	5-F1-WP-26,468-02	7,300
Emery, Richard M. Department of Civil Engineering	Response of Lake Sammamish Limoplankton to Sewage Waste Diversion	5-F1-WP-26,447-02	6,800
<u>WASHINGTON STATE UNIVERSITY</u> <u>PULLMAN</u>			
Edmundson, Eldon H. Department of Zoology	Interactions of Three Pollutants on Fish Survival	5-F1-WP-26,371-02	_____*
<u>WISCONSIN</u>			
<u>UNIVERSITY OF WISCONSIN</u> <u>MADISON</u>			
Barth, Clyde L. Department of Civil Engineering	Dairy Manure Storage and Utilization	1-F1-WP-26,485-01	_____*
Cowen, William F. Department of Civil Engineering	Algal Growth Stimulants in Tertiary Treated Sewage	5-F1-WP-26,207-03	6,300
Gardner, Wayne S. Department of Civil Engineering	Amino Acids in Natural Water Systems	1-F1-WP-26,224-01	_____*
Hackbarth, Douglas A. Department of Geology	Influence of Spent Sulfite Liquor on Ground-water Flow	1-F1-WP-26,415-01S1	650
Jebens, Harold J. Department of Civil Engineering	Nitrogen Transformation in Streams	1-F1-WP-26,311-02	_____*
Klehr, Edwin H. Department of Water Chemistry	To Ellucidate Aqueous Chemistry of Selected Elements by Modern Methodology	1-F3-WP-26,507-01	_____*
Koonce, Joseph F. Department of Zoology	Biological Investigation on Polluted Impoundments	5F1-WP-26,279-03	_____*
Mague, Timothy H. Department of Biochemistry	Nitrogen Fixation by Algae and Nodulated Plants	5-F1-WP-26,424-02	5,300
O'Connor, Ralph C. Jr. Department of Civil Engineering	Degradation of Insecticides in Lake Sediments	5-F1-WP-26,529-02	6,800
O'Connor, Theron P. Department of Water Resources Management	Private Rights in Water Quality Control	1-F3-WP-26,597-01	8,415

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
<u>WISCONSIN (cont'd)</u>			
<u>University of Wisconsin</u> <u>Madison</u>			
Ruedisili, Lon C. Dept. of Geology and Geophysics	Wisconsin's Ground Water Policy for Maintenance of Water Quality	1F2-WP-26,678-01	\$ 2,000
Torrey, Marguerite L. Dept. of Civil Engineering	Use of Sedimentary Algal Pigments to Estimate Eutrophication	5F1-WP-26,307-02	_____*
Weimer, Walter C. Dept. of Civil Engineering	Characterization of Sedimentary Organic-P Compounds	5F1-WP-26,419-02 5F1-WP-26,419-03	5,683 2,625
Zaporozec, Alexander Dept. of Geology and Geophysics	Hydrogeologic Analysis of Waste Disposal	5F1-WP-26,495-02	6,300
<u>FOREIGN</u>			
<u>AUSTRALIA</u>			
<u>University of Melbourne</u> <u>Australia</u>			
Weber, Walter J. Dept. of Physical Chemistry	Surface and Interfacial Phenomena in Physicochemical Treatment Processes	1F3-WP-26,594-01	8,000
<u>CANADA</u>			
<u>University of Western Ontario</u> <u>London, Ontario</u>			
Chaney, Edward L. Dept. of Engineering Science	Program in Environmental Engineering	1F2-WP-26,617-01	8,555
<u>ENGLAND</u>			
<u>Water Pollution Research Laboratory</u> <u>Elder Way, Stevenage Herts</u>			
Dick, Richard I. Dept. of Water Pollution Research Laboratory	Fundamental Characteristics of Sludges	1F3-WP-26,510-01S1 1F3-WP-26,510-01S2	83** 1,000
Johnson, Walter K. Dept. of Water Pollution Research Laboratory	Advancements in Biological Treatment Operation	1F3-WP-26,619-01	5,860
<u>University of Bristol</u> <u>Bristol</u>			
Heath, Alan G. Dept. of Zoology	Influences of Thermopollution on Fish Respiration	1F3-WP-26,427-01	_____*
<u>MONACO</u>			
<u>International Laboratory of</u> <u>Marine Radioactivity</u> <u>Monaco</u>			
Mancy, Khalil H. Musee Oceanographique	Radio Tracer Studies on Aquatic Metal Distribution	1F3-WP-26,697-01	6,200
<u>SWEDEN</u>			
<u>University of Gothenburg</u> <u>Goteborg</u>			
Johnson, James D. Dept. of Analytical Chemistry	Fluoride Ion Stability in Metal Hydroxide Coordination	1F3-WP-26,500-01	_____*

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To obtain details concerning the various awards and to request forms for the submission of applications, write to:

Training Grants Branch
Office of Water Programs
Division of Manpower and Training
Environmental Protection Agency
Washington, D. C. 20242