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# Youth And The Environment Training And Employment Program

***The environment is a growth industry — providing widespread career opportunities for a trained workforce.***

youth and the Environment

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# Turn on Youth To Careers in Environmental Protection

*For a small assemblage of high school kids from cities and towns across the United States, this ride on spaceship earth will never be quite the same. The flush of the toilet has taken on a new and complex significance. Drinking water, garbage, heat and electricity are no longer simply facts of life. These young people know, probably better than most people do, that the environment belongs to everybody and that everybody has a stake in its future. They also know that environmental protection, conservation, and preservation will require not only an enlightened public, but a workforce that is trained to carry out the vast numbers of pivotal tasks necessary to balance society's needs with a healthy environment. Finally, they know what thousands of other high school age people need to know—that there are challenging and worthwhile career opportunities in environmental protection.*

We're talking about high school kids who have participated in EPA's "Youth and the Environment" program (Y&E)—a program that began in the summer of 1990 to introduce economically disadvantaged urban and rural youth to career opportunities in the environmental field by combining summer employment with academic training and hands-on experience. In an effort to expose students to the many and varied environmental career possibilities, the program provides a blueprint for establishing youth awareness and training in such fields as water supply, wastewater treatment, recycling, energy, marine environments, hazardous waste, and natural resources protection.

Because Y&E was conceived to help meet workforce needs in the wastewater pollution control and water supply fields, many work sites are located at wastewater and water supply facilities. But when it comes to work sites, environmental professions offer unlimited possibilities. In fact, considerable flexibility is built into the program so that it can be structured to meet any and all environmental training needs of participating communities.

Programs established at city zoos in Boston, Massachusetts; Providence, Rhode Island; and Los Angeles, California bring inner city teens into exotic environments where they get to know many of the animals not only by feeding and caring for them, but by helping to create exhibits that reflect the ecological habitats of the animals.

In Arizona, the State Environmental Technology Training Center, the Indian Public Health Service, and the Intertribal Council work cooperatively to provide water and wastewater training to Native American students with the hope that some will answer the call for much needed trained and experienced personnel at Native American facilities.

Kids in the Pacific Northern Mariana Islands work in various sections of the Division of Environmental Quality while another group works at the Commonwealth Utilities Corporation.

As the environmental call to action peals out with heightened urgency, more and more trained and experienced men and women will be needed at the frontlines of all environmental disciplines. Students involved in Youth and the Environment are given a special glimpse at some of the many opportunities they have to play a role in improving the man-earth story line. These students better understand the environmental problems we face, the technologies that can help solve these problems, and how their own communities are dealing with these problems.

Because of its success so far, EPA is working to expand the Youth and the Environment program so that many more students are able to participate through both public and private funding sources. For those who have already participated, the experience has been remarkably fulfilling. All share an enthusiasm and a commitment to make the program continue. This is why efforts are underway to recruit sponsors and co-sponsors from other government agencies, business, industry, and community organizations who recognize the need for opening up career possibilities to today's and tomorrow's high school students.

***"The Youth and the Environment program gives our teenagers an opportunity to learn by doing while contributing to environmental protection."***

Michael B. Cook
Director, U.S. EPA
Office of Wastewater Enforcement and Compliance

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***"This is not just a job...it's a place where you can learn as a person and know how to take care of things and treat this world better."***

Shawn Allen, Wyandotte High School, Kansas City

# A New England Potpourri

New England's Youth and the Environment program began at the Lowell, Massachusetts Wastewater Treatment Plant in 1990. Since then, a small group of Lowell High School students have participated each summer in that eight-week program, earning salaries by assisting the plant operators in day-to-day wastewater plant operations, which include routine monitoring and lab analysis, plant operations, inspections, maintenance, and safety. The students rotate through each of these areas so that at the end of eight weeks they have a broad understanding of how the plant handles wastewater from collection to discharge into the nearby Merrimack River. Training emphasizes math, computer, and science skills necessary for entry into water and wastewater fields.

By summer 1992, New England Y&E programs had expanded to Rhode Island, Maine, and Boston, Massachusetts. In Rhode Island, inner city youth take part in a program at the Narragansett Bay Commission Wastewater Treatment Plant, which is modeled after the Lowell program.

The seven-week Maine program takes a slightly different approach. Participating students are assigned to several different community treatment plants where, working side by side with plant personnel, they undertake a variety of job tasks.

*"One of our major roles as coordinators of this program is to provide the students with an awareness of job opportunities in the environmental disciplines. For those who demonstrate interest in this field, it is critical that we follow-up—that we promote their continued schooling with the hope that they will choose the environmental discipline as a career path."*

Kirk Laflin
NEIETC Director

*"They asked questions. They weren't satisfied just to be told something. They wanted to know the why's and the how's."*

Mark Young
Lowell Wastewater Treatment Plant

Two New England programs take place at zoos: the Franklin Park Zoo in Boston and the Roger Williams Park Zoo in Providence, Rhode Island. In these environments students get involved with animal care, habitat development, conservation issues, and environmental career education.

One day a week students in each program are transported to different locations to attend either seminars or tours to learn about various environmental issues and career opportunities, including wastewater treatment, drinking water, solid waste/recycling, energy production, and protecting environmentally sensitive areas. This training is often reinforced with field trips to such places as water treatment facilities, power plants, conservation areas, recycling, and composting facilities.

Each program has a youth coordinator staff person who manages the day to day aspects of the program and has overall responsibility for the students. While working at job sites students are expected to carry out their job tasks responsibly and professionally.

**Sponsors:**
U.S. EPA, Region 1
New England Interstate Water Pollution Control Commission/ Environmental Training Center (NEIWPCC/NEIETC)
U.S. Department of Labor Youth Summer Employment Program

*"In my 23 years with the EPA, this has been one of the most rewarding projects I've been involved in....so far, almost 100 high school students have participated in the New England program; many have expressed interest in environmental careers, all have been recognized for a job well done."*

Charles Conway
EPA, Region 1
Y&E Coordinator

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# Maryland Targets Disadvantaged Rural Kids

Maryland's Y&E enrollees are recruited through the "Maryland's Tomorrow" program, a statewide school-based organization which identifies high school students in significant danger of dropping out of school for economic, family, or other reasons. The 1991 and 1992 Y&E programs took place at water and wastewater treatment facilities located in three rural counties in the southern part of the state.

The cornerstone of the Maryland program is its one-on-one mentor arrangement, whereby each student is assigned to a senior level, experienced operator or lab technician to provide instruction and guidance during the eight-week period. The mentor provides mature companionship, professional encouragement, and an example of professional behavior. The student works with the mentor through a seven-hour work day, wearing the same uniform and learning specific duties as well as overall aspects of plant operations. The mentors also provide students with transportation to and from the job site.

*"Working one-on-one with a mentor gives each kid a chance to act like an adult—there's no peer group pressure...no one to laugh when he or she asks or answers a question."*

Jake Bair
Maryland Center for Environmental Training

Every other Friday half of the students participate in enrichment trips designed to explore environmental questions, problems, technical solutions, and to provide an interlude of fun and relaxation in natural settings unknown to most of the enrollees. Some of these natural settings are visited because they benefit directly from the proper management and operation of neighboring wastewater treatment plants. One of the responsibilities of the program's project coordinator is to organize and conduct these enrichment days.

**Sponsors**
U.S. EPA, Region 3
Maryland Center for Environmental Training, Charles County Community College
Job Training Network of Southern Maryland
"Maryland's Tomorrow" Program

## From Water to Solid Waste to Energy in Memphis, Tennessee

Youth and the Environment training and education holds up a magnifying glass to simple everyday things, such as clean drinking water, wastewater disposal, trash disposal, and electricity, to reveal that they are anything but simple. That leap through the looking glass truly characterizes the Memphis State University-sponsored Summer Environmental Enrichment Project (SEEP), Solid Waste Environmental Enrichment Project (SWEEP), and most recent Radon, Energy, and Air Pollution Project (REAP). Through these programs, participating students interested in pursuing careers in science have the opportunity to observe as well as take part in a wide range of activities associated with and planned by Memphis Light, Gas, and Water (MLGW), the expansive utility monopoly in that area, and the City of Memphis Public Works Division.

During the six-week period, students engage in such hands-on tasks as water quality testing, maintenance, surveying, water production and distribution, systems control and data acquisition, and utility services. They learn about the importance of protecting and monitoring Memphis' groundwater aquifer and the connection between groundwater quality and human activities. Students get involved in wastewater treatment, including how wastewater is collected, treated, and analyzed for various chemical compounds.

*"Kenya (a student) seemed particularly excited to find she could apply her math skills to the real world. In school she couldn't imagine how or why she'd use algebra."*

Bonnie Mattingly
Solomon's Wastewater Treatment Plant
Lusby, Maryland

At the MLGW 4000-acre EARTH (Environmental Resource and Technology) Complex students are exposed to different means for managing solid and hazardous waste, including experimental agriculture using composted sludge as fertilizer. The EARTH Complex also houses a bird sanctuary; here a local ornithologist guides the students into the world of birds and bird habitats. Students in the REAP program home in on such activities as classroom and laboratory chemistry, air pollution monitoring, radon testing, energy production, and energy alternatives.

Through field trips students see the different ways that communities handle lifestyle/environmental issues. By examining recycling strategies, visiting local landfills, underground storage tank removal sites, or talking with officials in the County Health Department, students meet and interact with many professional role models in the environmental arena. Students visit such places as the U.S. Coast Guard to discuss prevention and cleanup of chemical and oil spills in rivers and lakes; the Army Corps of Engineers to study flood control and wetlands protection; Tennessee Valley Authority facilities; and hazardous waste management facilities.

**Sponsors:**
Memphis State University
U.S. EPA, Region 4
U.S. Department of Energy
Memphis Public Works Division
Memphis Light, Gas, and Water
Chemical Waste Management, Inc.
Memphis Private Industry Council
Metropolitan Inter-Faith Association
Tennessee Valley Authority

*"He (the student) went the whole nine yards. He did the variety of jobs that our operators and lab technicians do at the facility, and as he completed each task he took pride in what he had done."*

Dick Goodnow
Falmouth, Maine
Wastewater Treatment Facility

## Kansas City's Project Choice

Youth and the Environment in the Kansas City area is made up of high school students who are involved in "Project Choice," a program supported by the Ewing Kauffman Foundation to encourage inner city youths to finish high school and continue their education through college and vocational training programs. To be considered for the program the students must submit a resume, an application which includes an essay on why they wish to participate, and be interviewed by city personnel. Students who are selected spend a week in training to learn about wastewater treatment and environmental career opportunities.

Participating students are given four different job assignments during the eight-week program. They spend two weeks on each job, learning about wastewater operations, sewer maintenance, and laboratory analysis. The Kansas City Youth and the Environment organizers hope to expand their program to many other communities in the Kansas City, Kansas and Missouri area.

**Sponsors:**
U.S. EPA, Region 7
Kauffman Foundation, Project Choice
City of Kansas City, Kansas
Environmental Resource Center, Crowder College

*"The students have discovered that the environmental field is full of people who are very dedicated and professional."*

Lorene Lindsay
Environmental Resource Center, Crowder College

## Full-time Work Experience for Denver Young Adults

Youth and the Environment is a flexible program that bends to suit the needs of program sponsors. Because the Denver Youth Employment Service in Colorado is geared to young adults who are not in high school and who have no full-time employment experience, the Denver Y&E program is directed toward this group.

Because these young adults are somewhat older than high school age youth, they are expected to assume more responsibility and to engage in activities that may present a greater degree of risk. Thus, before beginning work each participant receives required OSHA health and safety training. Each young adult selected for the program works with one professional as a full-fledged assistant with real world responsibilities. In 1991, for example, participating young adults were assigned jobs as assistant utility workers at the Denver Wastewater Treatment Plant—work that involved the dangerous business of entering sewers to check for leaks and backups.

As a result of this work experience and time spent one-on-one with wastewater professionals, most of the alumni went on to full-time permanent employment.

**Sponsors:**
U.S. EPA, Region 8
Metro Wastewater Reclamation District
Denver Wastewater Management
Denver Youth Employment Service

*"The program is invaluable, that's all there is to it. It both teaches them and holds them accountable. It's the real life work experience they've needed so much."*

Grover
Denver Youth Employment Service

# Turning Kids Around in Los Angeles

Following the civil disturbances that swept Los Angeles in the spring of 1992, the City of Los Angeles Environmental Affairs Department and EPA joined together to address the need for jobs for city youth while promoting environmental awareness. In this initial Y&E program youth were placed at the Los Angeles Zoo and the Hyperion Wastewater Treatment Plant.

Michael Fritzen, Program Coordinator at the zoo notes, "I never understood how important this type of hand-on education was until I had this experience. The kids became so aware of what was around them. From their interest, they started telling their friends who also wanted to be a part of it. For example, one girl who was a drop out, kicked drugs and went back to school; one student went to San Diego State and is majoring in Environmental Sciences; and one girl is now working at the zoo."

Next summer the City sponsors plan to expand the program to include more students at more facilities. The goal is to go for a year-round program that prepares junior high school kids to enter the Y&E program by pairing them up with high school mentors.

## Report from the Los Angeles Zoo

*Michael Fritzen, Program Coordinator*

**August 7** "We went back out to Whittier Narrows for a second look at a freshwater marsh. Now that the students have had a chance to get a feel for the marsh exhibit, they went back out into the field to expand their ideas on the renovation project. We talked about how we can create the same environment at the zoo as the one we were standing in."

**August 10-13** "The students started the actual landscaping and development of the marsh. They planted cattails and water iris in buckets to be put into the marsh pool. They collected duckweed and floating water hyacinth from the zoo ponds to add to the water. Native grasses were planted in the soil to provide nesting material and hiding places for the birds. By Thursday we were finished the project and the students were proud of their accomplishment. They knew they had created this exhibit and the pride shined in their faces."

## Report from Hyperion Wastewater Treatment Plant

*John Woehrle, Program Coordinator*

**August 3** "All the interns reported to new assignments. The weekly rotation is exposing the students to four different stations in this facility. Already they have job preferences in the waste treatment field."

**August 10** "Lofreisha and Keiser learned more about data processing. Analilia worked in Air Quality. Dante and Vida worked together in Design. Eric was rotated to the Process Control Lab. Montina spent her week in the Biology Lab. Dennis rotated to the Micro Lab. Donyell spent the week in the Chemistry Lab separating influent water and solid samples. Terrance worked with experiments dealing with polymers in the ERD Lab."

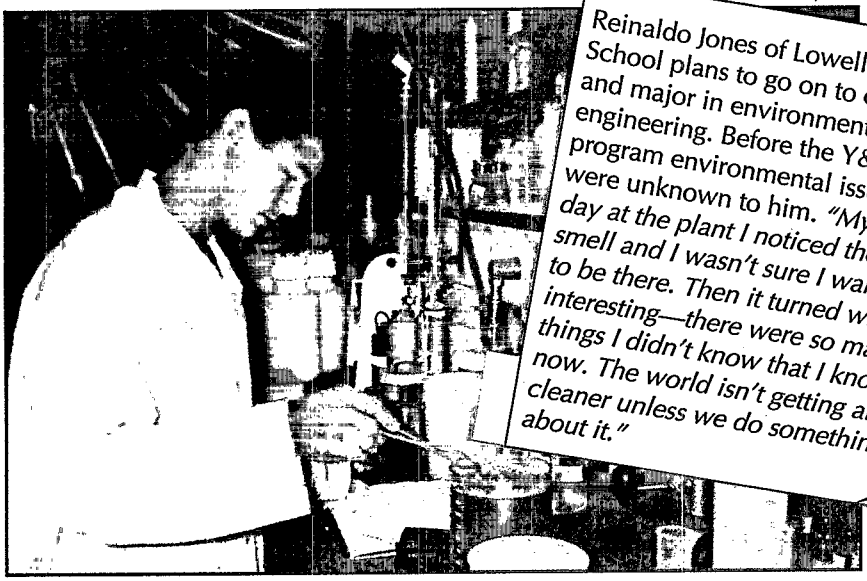
**August 13** "The day was spent gathering fish and water samples from Santa Monica Bay. The fish were netted during a 10-minute trawl, pulled aboard, and separated by group classification, counted, measured, and weighed. The water samples were to be tested later in the lab for bacteria levels."

**Sponsors:**
City of Los Angeles Environmental Affairs Department
U.S. EPA, Region 1
New England Interstate Environmental Training Center

*"The people there [Hyperion Treatment Plant] are so nice and they see that we want to learn and that we are interested in what they are doing. I never dreamed of working with the sewer and sludge, but after working there I want to work permanently. This summer youth program is a good way to help kids stay out of gangs and trouble. It has really turned my life around. I conserve water, recycle, and now that I know where the water we use goes, I tell other people that don't know."*

Montina Seay, 15,
Los Angeles

# Reaping the Benefits



Reinaldo Jones of Lowell High School plans to go on to college and major in environmental engineering. Before the Y&E program environmental issues were unknown to him. *"My first day at the plant I noticed the smell and I wasn't sure I wanted to be there. Then it turned wicked interesting—there were so many things I didn't know that I know now. The world isn't getting any cleaner unless we do something about it."*

Krisenda Ortiz is now majoring in water technology at Dona Ana Community College in New Mexico. She says the Y&E program *"opens your eyes to things you take for granted...like water. The first time I looked at a drop of water under a microscope I guess I got to like those cute little bugs that I saw. What I saw was a whole other community with everybody doing their own thing."*

Sid LeBlanc is also majoring in Wastewater Technology at Dona Ana College. He says, *"I know jobs in this profession are going to be more demanding—just dealing with our environmental problems. Youth and the Environment helped me learn how I could use chemistry in a career. When I heard about all the private industries that have need for trained water and wastewater professionals, I felt I had a good chance at getting a good job anywhere in the world."*

**youth and the Environment**

# You Can Help Make A Difference

Would your agency or organization like to help extend the opportunities of the Youth and the Environment program to more students in your area? Participation in the program can be done in a variety of ways. No two programs are ever alike.

*Participation is easy!*

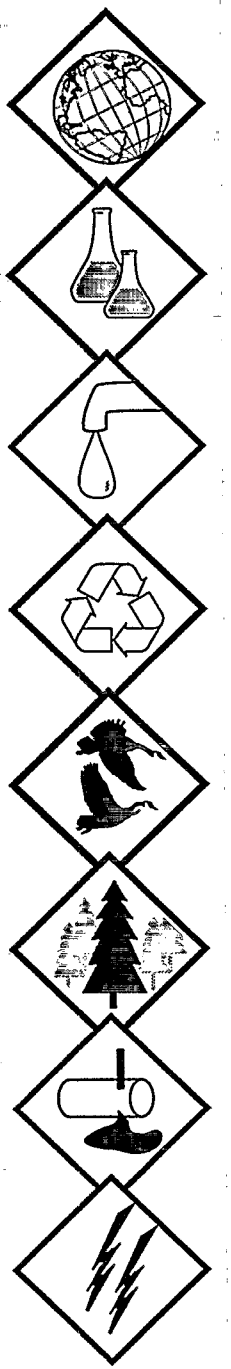
***"I love the enthusiasm of participating students. Most cities will find the development of a Youth and the Environment program a rewarding experience."***

Mary S. Settle, Program Director
Youth and the Environment
U.S. Environmental Protection Agency

## Cities Opening Doors to Careers in the Environment

From four cities in 1990, Youth and the Environment has grown—but not enough. Many more kids in many more places can benefit from this kind of opportunity...given the chance. As of 1992, the following cities have participated in the program:

Atlanta, Georgia
Boston, Massachusetts
Denver, Colorado
Falmouth, Maine
Hillsboro, Oregon
Juneau, Alaska
Kansas City, Kansas
Lafayette, Louisiana
LaPlata, Maryland
Los Angeles, California
Las Cruces, New Mexico
Lowell, Massachusetts
Memphis, Tennessee
Midwest City, Oklahoma
Portland, Maine
Providence, Rhode Island
Richmond, Virginia
Saipan, Mariana Islands
Scarborough, Maine
South Portland, Maine
Tucson, Arizona
Washington, D.C.



## Getting Started

If you are interested in sponsoring or co-sponsoring a "Youth and the Environment" program in your area, or if you want to know more about the program, contact:

Mary S. Settle
U.S. Environmental Protection Agency
401 M Street, S.W. (WH-547)
Washington, D.C. 20460
(202)-260-5810

- The issue of funding must be considered. Student salaries, the Youth Coordinator's salary, and transportation costs make up the bulk of expenses. Student expenses must also include both liability and health and accident insurance for the protection of the student and the host worksite. To address this important issue, the Y & E program relies on joint ventures with established youth employment programs such as those supported by the U.S. Department of Labor. Other items provided include: uniforms for the students and safety equipment. Both public and private funding sources should be considered.

- The local wastewater treatment facility or facilities in your area are ideal training bases provided they are willing to get involved. The work assignments should be designed to provide meaningful employment and exposure to work in the water and wastewater fields. Participants should receive a "hands-on" education and experience. Contact your State Environmental Training Center or other qualified entities to establish options for the academic component of the program.

- Approach secondary schools in your area to select appropriate participants. Student selection is important.

- Get an early start on designing your program. Gathering the necessary funding, students and treatment plant participation can be time consuming. Solid preparation will assure the success of your program.