

# Environmental Justice and Hazardous Waste Worker Training Programs

15 Years of Investment in Environmental Justice

2010



Prepared by:

**MDB, Inc.**  
*Doing Well by Doing Good*

Prepared for:



**NIEHS**

National Institute of  
Environmental Health Sciences



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
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## Executive Summary

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Federal hazardous waste worker training programs, such as the National Institute of Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP) and the U.S. Environmental Protection Agency's (EPA) Brownfields Job Training Program, have emerged at the same time as the environmental justice movement. These programs were recommended by and have the support of environmental justice advocates. These programs effectively reach out to the disproportionately impacted residents of communities by environmental hazards and provide them with the needed training to receive equitable opportunities for available jobs associated with assessing, remediating, and reusing the properties that need to be cleaned up and revitalized in their communities. As these training programs evolve to reach out to the trainees from disadvantaged communities, they empower residents from these communities. The training programs allow trainees and their communities a greater potential to receive fair treatment and meaningful involvement in environmental decisions.

### Major Research Findings

- Federally funded hazardous waste worker training programs were established as a result of recommendations from environmental justice stakeholders on the need to include local communities disproportionately impacted by environmental hazards in job opportunities associated with the cleanup of these sites.
- Partnerships between communities, government agencies, academia, non-profit organizations, contractors, and labor unions are extremely important for the success of worker training programs.
- Most worker training programs work with faith-based or community-based organizations to recruit, pre-screen, and evaluate potential candidates before admitting them to the training program.
- Life skills training is an extremely important training program component that helps to prepare trainees for the work environment and culture. Similarly, social support and networking is also an important component of the worker training program.
- Ways to measure the successful performance of worker training programs include: the number of trainees completing the training, the number of graduates placed into jobs, the change in hiring practice by contractors and unions, the number of reduced injury and fatality incidents at the worksite, and the numerous success stories on how worker training programs have transformed the lives of individuals and their communities.
- Hazardous waste worker training programs are the embodiment of environmental justice by providing for the fair treatment of low income and minority residents of environmental justice communities by providing the residents with the knowledge and training necessary for workers to meaningfully participate in addressing the environmental concerns in their community.
- Worker training programs have completely changed the lives of the participants of the program, many of whom were underemployed, unemployed, or ex-offenders that live in low-income and minority communities.
- Worker training programs provide residents of low-income and minority communities the knowledge and skills to prepare them for long-term career opportunities in environmental assessment and cleanup, emergency response, construction and other careers.
- The majority of the trainees participating in worker training programs are African Americans. African Americans represent 86% of the trainee population in the Minority Worker Training Program and 68% of the population in the Brownfields Minority Worker Training Program.

- Depending on the geographic location of the training program, the number of minorities entering apprenticeships may vary greatly. In some areas, e.g., New York and New England, the number of minorities entering this program has increased substantially.
- The approach and technique to incorporate “green jobs” into the curricula has varied from program to program. The majority of the programs adjusted their training curricula to include course components on “green jobs,” such as weatherization, retrofit, and alternative energy.
- Graduates of the worker training program have used their newly gained knowledge on health and safety to improve the public health and environment for their family, relatives, and community.
- Graduates of the Minority Worker Training Program have been actively involved in the cleanup of recent major disasters, including the 2001 World Trade Center terrorist attack, 2005 Gulf Coast Hurricanes, and the 2010 Gulf Coast Oil Spill.

## Major Research Recommendations

- To better support the federal worker training programs and address environmental justice needs in more communities, there is a consensus that more program funding is needed.
- In order to better support the connection between the hazardous waste worker training program and environmental justice, NIEHS should consider strengthening awardee application criteria to place more weight on awardee applications that have training populations who are residents of communities that have documented environmental justice concerns (e.g., contaminated properties, waste transfer stations, or manufacturing facilities).
- Worker training programs should have a screening mechanism built into their recruitment process as a method of ensuring student quality. Individuals who want to be a part of the program should have the commitment necessary to succeed in the program.
- More effort should be made by NIEHS and its awardees to recruit greater percentages of other minority populations, such as Native Americans and Pacific Islanders, and women into the program.
- Federal government agencies should consider adding quantitative and qualitative performance measures in their evaluation process for the worker training programs in order to better assess the progress the program has made in achieving its environmental justice goals (e.g., NIEHS has certain performance measures in its current Request for Applications).
- Training programs should leverage partnerships with local communities, government agencies, employers, academia, private contractors, and labor unions. Federal agencies should do more in promoting partnerships by providing technical guidance and incentives to facilitate such partnerships.
- More effort should be devoted to involving additional Historically Black Colleges and Universities (HBCUs) and other minority academic institutions in worker training programs.
- As Federal agencies and training providers direct more focus to green jobs training, priority should be given to recruitment of residents in communities facing environmental justice concerns.
- Federal program administrators should clarify the level of flexibility available within its training program in order to accommodate the changing economic situation and job market. For instance, NIEHS WETP has been accommodating the rebudgeting and changing needs of awardees due to unforeseen circumstances, such as diversifying the training to include “green construction” training so that trainees can remain competitive in the job market.

- Federal, state, and local government should strongly encourage employers contracted to conduct environmental cleanup to hire local residents who have gone through hazardous waste worker training programs. In addition, local governments should encourage and provide incentives for small businesses and local entrepreneurs to locate in proximity to low-income and minority communities as small businesses are more likely to hire a local workforce.
- Life skills training or pre-employment training should be a fundamental component of worker training programs that target low-income and minority residents in order to effectively address environmental justice concerns.
- Environmental justice should be taught as a component of the worker training program, either as a module on its own or integrated into the training.
- Mentoring is an important part of the training program as it provides a social support network for the trainees.
- More support should be considered for language training, due to the increasing immigrant population.

## Introduction

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In the United States, environmental injustice is often found in minority and low-income communities that are disproportionately impacted by public health and environmental problems. Environmental justice is defined as the fair treatment and meaningful involvement of all populations in the United States in environmental decision-making regardless of race, color, national origin, or income (Environmental Protection Agency, 2010). On February 11, 1994, a Presidential Executive Order was issued to require all federal agencies to integrate environmental justice into their mission, policies, programs and activities. Environmental problems involving adverse impacts in low-income and minority communities that are located in close proximity to toxic waste dump sites, landfills, power plants, brownfields, and other sources of pollution led to the enactment of the Executive Order.

The most effective way to address environmental concerns is to reach out and encourage residents of these affected communities to participate in the process and become part of the solution in addressing the inequity of their plights. Residents of the impacted communities need the proper knowledge to allow them to become involved in a meaningful way in creating sustainable, healthy communities. Thus, federally funded hazardous waste worker training programs, like the National Institute of Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP) and the U.S. Environmental Protection Agency (EPA) Brownfields Job Training Program, which provide needed training to low-income and minority residents, are critically important to ensure that the residents will receive equitable opportunities for available jobs associated with assessing, remediating, and reusing the properties that need to be revitalized in their communities. These programs are fundamental in providing technical training and critical life skills to these residents, which have allowed them to be more useful members of society and have greater potential for job opportunities in environmental remediation, construction, and emergency response. These worker training programs have also created new career opportunities that did not previously exist for the individuals, and have allowed trained residents to obtain new green jobs, which help to both protect the environment and revitalize their communities. These worker training programs have resulted in more than 13,000 new residents being trained for jobs over the last 23 years and have resulted in approximately 68 percent of



the trainees being hired for new jobs in the workplace<sup>1</sup>. The programs allow environmental justice to be achieved in hundreds of communities across America, and have created a national model that needs to be emulated by other federal agencies in the future.

This report documents the implications and benefits of federal hazardous waste worker training programs in addressing environmental justice, in particular for the benefit of the residents of low-income and minority communities. The report provides a brief history of environmental justice and federally funded hazardous waste worker training programs, in particular NIEHS WETP and EPA hazardous waste worker training programs; a statistical analysis of these hazardous waste worker training programs; and documentation of the benefits, best practices, and major findings based upon a literature review and expert interviews. This report also provides recommendations based on lessons learned and major findings on how these training programs could address environmental justice concerns and create green jobs even more effectively in the future, and how similar job training programs should be expanded to other Federal agencies.

“The NIEHS Worker Training and Education Program (WETP) is the most effective hazardous waste worker training program in the nation. Over the past 15 years, it has also provided outstanding benefits to environmental justice stakeholders.”

—Chip Hughes  
Program Director, NIEHS Worker Education and Training Program

## Background

### Brief History of the Environmental Justice Movement

Issues concerning race, socio-economic status and the environment have been prevalent throughout US history. However, the concept of environmental justice attained national attention in 1982 in Warren County, NC, when dump trucks filled with polychlorinated biphenyl (PCB) contaminated soil arrived at the EPA and State approved landfill in Warren County, NC. Residents of the community, comprised of mostly minority and low-income individuals, and the National Association for the Advancement of Colored People (NAACP) demonstrated and filed a lawsuit against the siting and operation of the PCB landfill, the residents ultimately lost and the landfill, but remained open until 1994.

Shortly after the events in Warren County, NC gained national attention, the Government Accountability Office (GAO) was assigned to research the correlation between the location of hazardous waste sites and the racial and economic status of communities around these sites (1983). The subsequent report, “Siting of Hazardous Waste Landfills and Their Correlation with Racial and Economic Status of Surrounding Communities,” documented that three out of four off-site hazardous waste landfills (not part of or contiguous to an industrial facility) were located in communities where the majority of the residents were African American. The United Church of Christ Commission on Racial Justice also released a report in 1987, entitled “Toxic Waste and Race,” that solidified these findings. The report found that commercial hazardous waste facilities were more likely to be located in communities with high racial and ethnic minority residents. The report concluded that race is the most important variable in establishing the siting of toxic waste facilities in the United States (United Church of Christ, 1987).

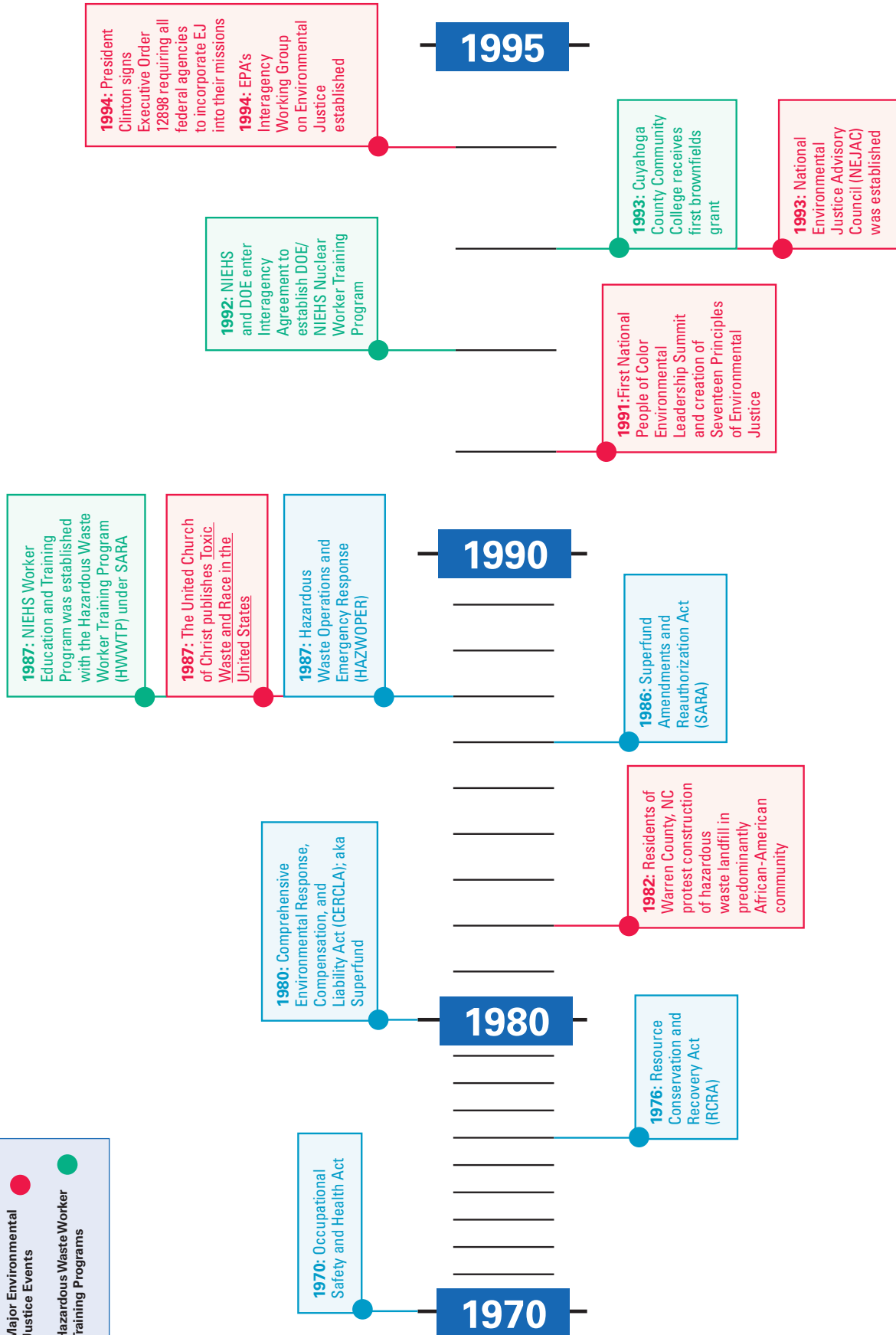
<sup>1</sup> These numbers are rough estimates based on the analysis of data from NIEHS WETP Minority Worker Training Program and Brownfields Minority Training Program and EPA Brownfields Job Training Program and Superfund Job Training Program.

The First National People of Color Leadership Summit met in 1991 in Washington, D.C. and adopted the “Principles of Environmental Justice.” Environmental justice became an official federal government policy in 1994 when President Clinton issued Executive Order 12898, which mandated that all federal agencies “...make environmental justice part of their mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Federally funded hazardous waste worker training programs do exactly what the Executive Order requires by actively reaching out to residents of low-income and minority populations who live near contaminated sites and providing them with the knowledge and tools needed to help address environmental justice concerns. NIEHS created its Minority Worker Training Program and EPA created its Brownfields Job Training Program as a result of this mandate.

## **Federally Funded Job Training Programs and Environmental Justice**

A comprehensive and effective hazardous waste worker training program is crucial to empower residents of environmental justice communities to get involved in the cleanup and redevelopment efforts within their communities. These training programs are essential not only to adequately prepare workers for a career in environmental cleanup or construction, but also to address the critical components of environmental justice, including, but not limited to, social issues, economic issues, employment opportunities, and public health. Timothy Fields, former EPA Assistant Administrator for the Office of Solid Waste and Emergency Response (OSWER), indicated at a NIEHS Technical Workshop in 1995 that residents who live near hazardous waste sites, including brownfields and Superfund sites, want to be involved in their cleanup for employment and economic development, as well as public health reasons (National Clearinghouse for Worker Safety and Health Training and George Meany Center for Labor Studies, 1995). However, according to the Occupational Safety and Health Administration’s (OSHA) Hazardous Waste Operation and Emergency Response Standard (1910.120), before anyone can work on a hazardous waste site, the person must receive and successfully complete hazardous waste operations and emergency response training (Weinstock & Elisburg, April 1998). Federally funded hazardous waste worker training programs, including the NIEHS WETP and the EPA Brownfields and Superfund Job Training Programs, aim to provide the necessary training to the residents of environmental justice communities so they may successfully work in environmental cleanup careers and protect the health of their communities. The knowledge and skills taught by these training programs have empowered residents of communities having environmental justice concerns to be better informed and aware of the hazards in their environment and to be meaningfully involved in environmental justice matters. Through these programs, residents of environmental justice communities can improve their economic status by learning new career skills, gain knowledge regarding the hazards around contaminated property sites and cleanups, participate in rebuilding and revitalizing their communities, take part in community involvement activities, and help build a local economic base (Ruth Ruttenburg & Associates, Inc., 2001).

## NIEHS EJ-Worker Training Program Timeline 1970-1995

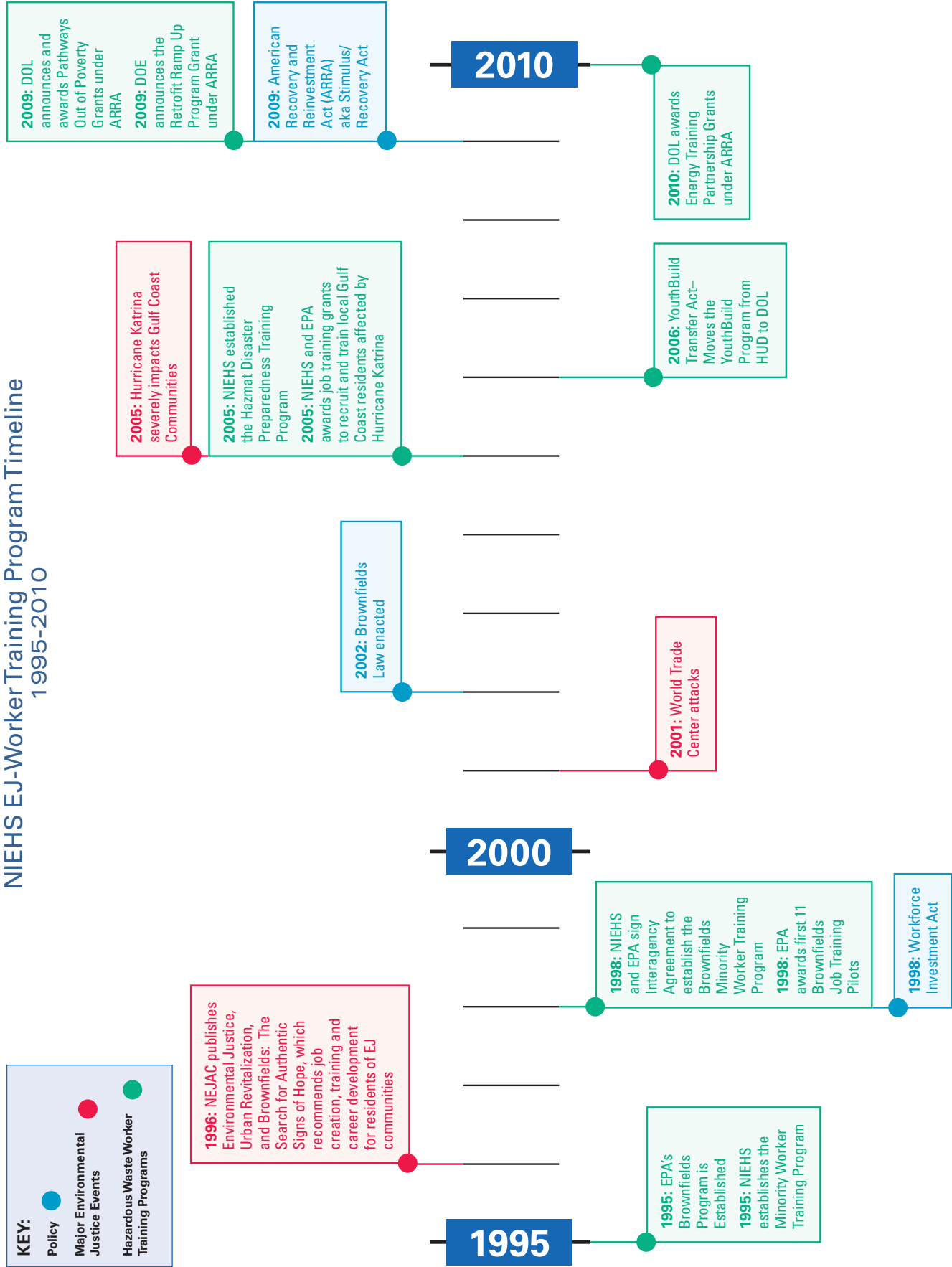




NIEHS EJ-Worker Training Program Timeline  
1995-2010

**KEY:**

- Policy
- Major Environmental Justice Events
- Hazardous Waste Worker Training Programs



## *National Institute of Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP)*

Under the Superfund Amendments and Reauthorization Act of 1986 (SARA), the NIEHS was tasked to initiate a hazardous waste worker training grants program. The primary objective of this program is to fund non-profit organizations with a demonstrated track record of providing occupational safety and health education in developing and delivering high quality training to workers who are involved in handling hazardous waste or in responding to emergency releases of hazardous materials. Since its inception in 1987, the WETP has developed a strong network of non-profit organizations that are committed to protecting workers and their communities by delivering a high-quality, peer-reviewed safety and health curriculum to target populations of hazardous waste workers and emergency responders. The key objectives of the program are to prevent the occurrence of occupational injury by assisting in the training of workers in how best to protect themselves and their communities from exposure to hazardous materials encountered during hazardous waste operations, hazardous materials transportation, environmental restoration of nuclear weapons facilities, chemical emergency response, and brownfields assessment and cleanup.



The whole worker training community has helped the NIEHS Worker Education and Training Program (WETP) to build the program through partnerships with different stakeholders.

– Sharon Beard  
Industrial Hygienist, NIEHS WETP

The WETP has five main program areas, two of which were funded through Interagency Agreements with EPA and the Department of Energy (DOE). The core program is the Hazardous Waste Worker Training Program (HWWTP), which provides model occupational safety and health training for workers who are or may be engaged in activities related to hazardous waste removal, containment or chemical emergency response. The program encourages innovation for training difficult-to-reach populations by addressing issues such as literacy, appropriate adult education techniques, training quality improvement and others. The HWWTP takes pride in the use of peer trainers to deliver the courses. Peer trainers are typically individuals who have similar and real life experiences with hazardous materials and similar craft backgrounds as the people they are training (Ruth Ruttenburg & Associates, Inc., 2001). DOE and the NIEHS WETP entered into an Interagency Agreement in 1992 that resulted in the creation of the NIEHS/DOE Nuclear Worker Training Program (DOE). This program provides safety and health training for workers who may be engaged in hazardous substance response or emergency response at DOE nuclear weapons facilities. The Hazmat Disaster Preparedness Training Program (HDPTP) was developed in response to the experiences and lessons learned in recent national disasters. This program, as an extension to the HWWTP, aims to prepare experienced workers to prevent, deter, or respond to terrorist or man-made incidents in a wide variety of facilities and high-risk operations.

Under the Department of Health and Human Service's mission to eliminating health disparities, NIEHS is in the forefront of addressing environmental justice concerns through its commitment to focus on health disparities by participating in various environmental health initiatives. For instance, Partnerships for Environmental Public Health (PEPH) is an umbrella program that brings together scientists, community members, educators, health care providers, public health officials, and policy makers in the shared goal of advancing the impact of environmental public health research at local, regional, and national levels. A hallmark of this program is that communities will be actively engaged in all stages of the research, dissemination, and evaluation. NIEHS also actively recruits historically black colleges and universities (HBCUs) to participate in environmental health research. In addition,

NIEHS has been an active partner with other federal agencies, including the EPA, in promoting and advocating for environmental justice in conferences and meetings. For instance, NIEHS sponsored the 1995 Cuyahoga Conference on Environmental Job Training for Inner City Youth, a co-sponsored the 2010 Conference on Environmental Justice, Air Quality, Goods Movement, and Green Jobs in New Orleans, LA, and was actively involved in the environmental justice caucuses at EPA Brownfield Conferences

### *Minority Worker Training Program*

The Minority Worker Training Program (MWTP) and the Brownfields Minority Worker Training Program (BMWTP) were established to actively recruit and train young minority individuals who live near hazardous waste sites or in communities at risk of exposure to contaminated properties with the specific focus of obtaining work in environmental remediation. The creation of MWTP followed the recommendations made at the first multi-agency/grassroots health conference on environmental justice, “Symposium on Health Research and Needs to Ensure Environmental Justice,” held in 1994. Furthermore, in line with Executive Order 12898 and under the leadership of Congressman Louis Stokes (D-OH), the U.S. House of Representatives Subcommittee of Appropriations for the Department of Housing and Urban Development (HUD), Veteran’s Affairs (VA) and Independent Agencies, appropriated an additional \$3 million to the Superfund Worker Training Program (i.e., HWWTP) to support the development of a minority worker training program. The Committee recognized the increase in demand for environmental cleanup parallels the increase in demand for workers to perform this work. They also acknowledged that there is a large population of males, ages 18-25, who are residents of communities impacted by pollutants who are unemployed or underemployed due to the lack of skills and knowledge needed to participate in environmental remediation (U.S. House of Representatives. Subcommittee of Appropriations for HUD, VA, and Independent Agencies, 1994).

The MWTP was formally established in September 1995 with the consultation of environmental justice advocates and occupational and environmental health and safety training providers at the NIEHS workshop entitled “Environmental Job Training for Inner City Youth.” At this meeting, stakeholders addressed how jobs, job skills training, and health and safety training serve to recruit, train, place, and keep inner city youth in environmental remediation jobs. The stakeholders provided recommendations on crucial training needed to implement a successful minority worker training program, such as the need for life skills training (National Clearinghouse for Worker Safety and Health Training and George Meany Center for Labor Studies, 1995).

One of the goals of the MWTP is to “recruit target populations that are members of disadvantaged minority groups who live in urban areas near hazardous waste sites or in communities at risk of exposure to contaminated properties” (National Institute of Environmental Health Sciences, 2009). The program aims at increasing the number of under-represented minorities in the construction and environmental remediation industries and is developed within the context of the social and health needs of the community. The program provides for pre-employment job training, including literacy, math, life skills, environmental preparation and other related construction skills training, in addition to environmental worker training, such as hazardous waste, asbestos and lead abatement training, and safety and health training.

In addition, the MWTP prepares the trainees for entry into long-term employment by exposing trainees to work-related behavioral norms and remedial math and science education for those who

need it. Such training prepares workers for long term careers rather than short-term jobs (Ruth Ruttenburg & Associates, Inc., 2001). Some training programs include the opportunity to enroll in an apprenticeship program for construction and environmental remediation worker training. In many instances, program grantees find pre-apprenticeship positions for their trainees, which enables them to join a union and advance to become journeymen. Furthermore, focus is placed in establishing a program of mentoring. This program also helps to enhance the participants' problem solving skills, understanding of individual self-esteem and team work in the application of technical knowledge to environmental and related problems. NIEHS funding is not limited to a cap per organization. Funding is based on the merits of the application and the demonstrated access to the target population. Awardees of the MWTP have trained 4,563 people in over 30 communities, and placed their graduates in jobs, averaging about 68% and as high as 80% job placement of trainees. A list of the current MWTP Awardees is in Text Box 1 and Text Box 3 displays a list of communities where training has been held.

#### **Text Box 1. Current NIEHS MWTP Awardees (FY 2005-2010)**

- CPWR-The Center for Construction Research and Training
- Dillard University Deep South Center for Environmental Justice
- New Jersey/New York Hazardous Materials Worker Training Center
- OAI, inc.

#### **Text Box 2. Cities Where MWTP Training Has Been Held**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Atlanta, GA</li> <li>• Baltimore, MD</li> <li>• Baton Rouge, LA</li> <li>• Biloxi/Gulfport, MS</li> <li>• Chicago, IL</li> <li>• Cleveland, OH</li> <li>• Dallas, TX</li> <li>• Denver, CO</li> <li>• Detroit, MI</li> <li>• East Palo Alto, CA</li> <li>• Granite City, IL</li> <li>• Houston, TX</li> <li>• Jackson, MS</li> <li>• Knoxville, TN</li> <li>• Los Angeles, CA</li> <li>• New Haven, CT</li> </ul> | <ul style="list-style-type: none"> <li>• Exton, PA</li> <li>• Indianapolis, IN</li> <li>• Kansas City, MO</li> <li>• Memphis, TN</li> <li>• Minneapolis-St. Paul, MN</li> <li>• Mississippi River Chemical Corridor, MS</li> <li>• Newark, NJ</li> <li>• New Orleans, LA</li> <li>• New York City, NY</li> <li>• Oakland, CA</li> <li>• Philadelphia, PA</li> <li>• San Francisco, CA</li> <li>• Savannah, GA</li> <li>• St. Louis, MO</li> <li>• Washington, DC</li> </ul> |
|--|---|

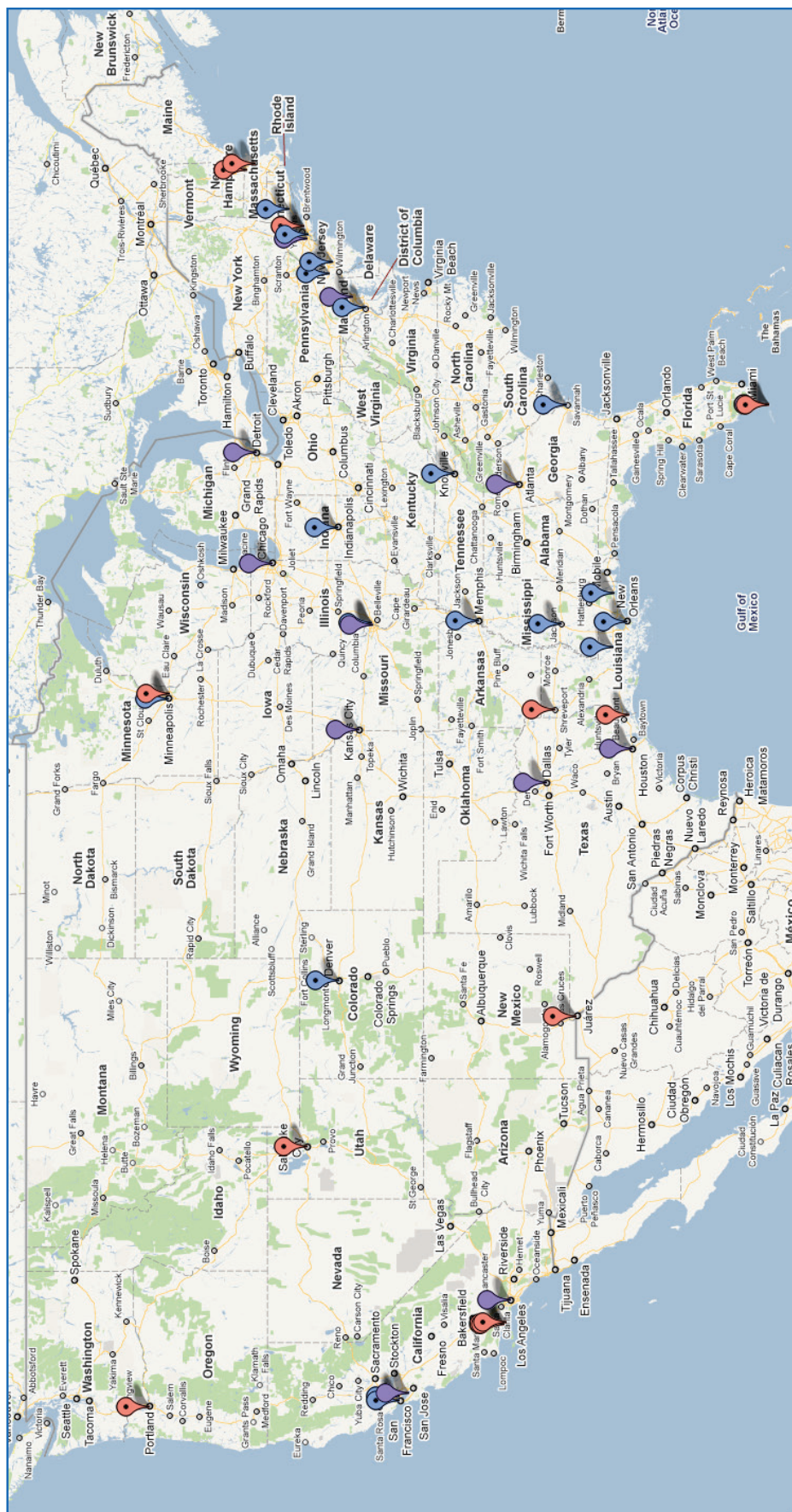
### Brownfields Minority Worker Training Program

The NIEHS MWTP was broadened to include a new component on Brownfields Worker Training as part of an initiative of the Department of Health and Human Services’ (HHS) commitment to the Brownfields National Partnership Agenda. From 1998 to 2008, the BMWTP partnered with EPA through an interagency agreement. The program targeted the Brownfields Showcase Communities and other Brownfields Demonstration Pilots across the U.S. to address the need for a more comprehensive training program to foster assessment and environmental restoration of the identified brownfield sites. The Program actively promoted the goals of the EPA Brownfields Program, which was “to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields” (Environmental Protection Agency, 2010). The WETP also supported the National Brownfields Partnership Action Agenda. The Action Agenda is a compilation of commitments, new initiatives, events, and activities that the participating federal agencies committed to undertake in partnership to help communities deal with brownfields and associated problems. Since 1998, the BMWT program has trained over 3,200 minority adults in over 20 communities (see Text Box 3). Over two thousand of these trainees are employed, representing an overall job placement rate of 71%. Overall, the Minority Worker and Brownfield program collectively achieved great success in moving young workers into long-term employment, including, most recently, in the area of energy retrofitting and solar panel installation.

Text Box 3. List Of Communities Where BMWTP Has Been Held			
<ul style="list-style-type: none"> <li>Atlanta, GA</li> <li>Baltimore, MD</li> <li>Boston, MA</li> <li>Chicago, IL</li> <li>Dallas, TX</li> <li>Detroit, MI</li> </ul>	<ul style="list-style-type: none"> <li>Glen Cove, NY</li> <li>East Palo Alto, CA</li> <li>Eastward Ho, FL</li> <li>El Paso, TX</li> <li>Houston, TX</li> <li>Kansas City, MO</li> </ul>	<ul style="list-style-type: none"> <li>Los Angeles, CA</li> <li>Lowell, MA</li> <li>Newark, NJ</li> <li>Oxnard, CA</li> <li>Port Arthur, TX</li> <li>Portland, OR</li> </ul>	<ul style="list-style-type: none"> <li>Salt Lake City, UT</li> <li>Shreveport, LA</li> <li>St. Louis, MO</li> <li>St. Paul, MN</li> <li>Ventura, CA</li> </ul>



## NIEHS WETP Minority Worker Training Program and Brownfields Minority Worker Training Program Training Locations



## EPA Job Training Programs

### Brownfields Job Training Program

In 1995, EPA and the National Environmental Justice Advisory Council (NEJAC) conducted the “Public Dialogues on Environmental Justice and Brownfields Revitalization.” These Public Dialogues provided the opportunity for environmental justice advocates and residents of impacted communities to systematically provide input regarding issues related to the implementation of EPA’s Brownfields Initiative, announced in January 1995. In a report that NEJAC published in December 1996 on the results of this effort, the subcommittee recommended that EPA establish a Brownfields Job Training Grants Program targeted toward residents living in proximity to brownfield sites. EPA created the Brownfields Job Training Program under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in 1997. In 1998, EPA funded its first round of Brownfields Job Training Pilots to 11 entities (Environmental Protection Agency, 2008). These pilots were designed to complement the four goals of the Brownfields Program—protecting the environment, promoting partnerships, strengthening the marketplace, and sustaining reuse. In January 2002, the Small Business Liability Relief and Brownfields Revitalization Act (commonly known as the “Brownfields Law”) was signed into law. The law amended CERCLA to authorize financial assistance for brownfields remediation and revitalization, including grants for assessment, cleanup and job training.

“The worker training program is addressing Environmental Justice in real time. Local job training programs are training unemployed, mostly low-income and minority residents living in close proximity to hazardous waste sites and helping them find sustainable jobs with livable wages.

—Myra Blakely  
Training Coordinator, Office of Solid Waste  
and Emergency Response, EPA

According to the 2010 Guidelines for Brownfields Job Training Grants, a “critical part of EPA’s job training efforts is to ensure that residents living in communities historically affected by economic disinvestment, health disparities, and environmental contamination have an opportunity to reap the benefits from brownfields redevelopment.” The Brownfields Job Training Program targets communities with active brownfields revitalization programs and attempts to ensure that the economic benefits derived from the brownfields redevelopment remains in those affected communities. Every year, eligible government entities, tribes, or nonprofit organizations compete for a job training grant of up to \$200,000 in the form of a cooperative agreement that is used to fund training in environmental assessment and cleanup job skills to individuals living in areas near brownfields sites. Since this grant does not allow for the money to be spent on life skills courses, applicants of the grant must demonstrate the ability to leverage partnerships with existing workforce development programs (such as Workforce Investment Boards), which can provide life and pre-employment skills, and/or organizations and environmental remediation industry representatives. By working with area employers, training programs are able to adapt their curricula to suit the local needs and to place graduates in jobs through first-source hiring (Environmental Protection Agency, 2008). To assist trainees with finding jobs, Local Grant Programs and EPA hold meetings with employers and contractors who hire the trainees to understand their needs in the market. By seeking input from local stakeholders, such as residents, employers and community-based organizations, these training programs make graduates more attractive to local employers and improve the bonds to the community as graduates are able to participate in remediating their own communities.

## ***Training that Makes a Difference: Cypress Mandela Training Center, Inc., Oakland, CA***

As a former NIEHS Minority Worker Training Program sub-awardee to the Center for Construction Research and Training (CPWR) and current EPA Brownfields Job Training Program, Cypress Mandela Training Center, Inc. serves as a nonprofit training center for low-income and minority young adults who had been under- or un-employed, previously incarcerated, and/or have had substance abuse issues. Cypress Mandela conducts a 16 week pre-apprenticeship program in Oakland, CA, that focuses on a mentorship program including life skills and technical training. Through hands-on and classroom training, expert instructors prepare students for skilled trade jobs that are relevant to today's construction industry. Since its inception in 1993, over 1800 trainees have graduated from Cypress Mandela<sup>1</sup>, and from 1994-2006, they have had an extremely successful 80% job placement rate.<sup>2</sup>

“Building Trades Unions have learned to rely on the Cypress reputation to both prepare & recruit applicants into our Unions who continue on to Journey level. Each time I and other Union Representatives attend a Cypress graduation, we see from both the instructors and the students a unique bond and commitment to moving forward to positive futures.”

–Barry Luboviski,  
Secretary/Treasurer  
Alameda County  
Building Trades<sup>1</sup>

<sup>1</sup> Quote taken from “Cypress Mandela Training Center.” Cypress Mandela Training Center, Inc. Website: <http://www.cypressmandela.org/>

Among the many successes of Cypress Mandela, one worth mentioning is its ability to develop strong partnerships with labor unions and employers in order to leverage job placement for its graduates. For instance, its ability to establish working relationships with contractors, such as Black and Veatch, has enabled the transition from training to employment for a significant number of minorities. In addition, partnerships with Construction and Building Trades unions have made it possible to increase the number of minority participants into apprenticeship programs. The Center's commitment to the community and its endless dedication to place graduates into meaningful employment has established it as one of the nation's most successful training centers.

<sup>1</sup> “Changing Lives at a Black & Veatch Project.” Foundation: The Magazine for Black and Veatch Professionals. Q1. 2010.

<sup>2</sup> “Cypress Mandela Training Center.” Cypress Mandela Training Center, Inc. Website: <http://www.cypressmandela.org/>



### Superfund Job Training Initiative

The Superfund Job Training Initiative (SuperJTI), a job readiness program of the EPA Office of Superfund Remediation and Technology Innovation (OSRTI), provides training and employment opportunities for residents of communities near Superfund sites. The program was created in 1995 following the NEJAC Waste and Facility Siting Subcommittee's concern that the communities most adversely affected by the contaminated sites were not economically benefiting from the cleanups of these sites. Through interagency agreements, NIEHS supported the training for the Program until 2006 through NIEHS WETP awardees. The current SuperJTI program is modeled after the NIEHS worker training program. Since 2006, funds for the program are offered through EPA's Technical Assistance Services for Communities (TASC) program, which provides independent educational and technical support to communities affected by Superfund sites (Environmental Protection Agency, 2010). Since 1996, the program has recruited low-income minority residents from communities affected by Superfund sites, provided them with life skills and environmental technical training, and helped them find jobs in the environmental remediation industry. (Ruth Ruttenburg & Associates, Inc., 2001). A list of the training sites can be found in Text Box 4.

#### Text Box 4. List of Superfund Job Training Initiative Sites

- |   |   |
|---|---|
| • Abex Corp, Portsmouth, VA                                 | • RSR Smelter, Dallas, TX <sup>+</sup>                            |
| • Agriculture Street Landfill, New Orleans, LA              | • Savannah River Site, Aiken, SC                                  |
| • Douglas Roads, Mishawaka, MO                              | • Taracorp, Granite City, MO <sup>+</sup>                         |
| • Dutch Boy, Chicago, IL <sup>+</sup>                       | • Tar Creek Site, Ottawa, OK <sup>*</sup>                         |
| • Kerr-McGee, Chicago, IL <sup>+</sup>                      | • Tennessee Products, Chattanooga, TN                             |
| • Many Diversified Interest, Inc., Houston, TX <sup>+</sup> | • Washington Navy Yard, Washington, D.C. <sup>+</sup>             |
| • North Denver, Denver, CO <sup>+</sup>                     | • Young Community Developer, Inc., San Francisco, CA <sup>+</sup> |

Source: EPA Superfund Job Training Initiative

\* Recently started initiative

<sup>+</sup> Sites where NIEHS WETP were involved

Like any successful worker training program, SuperJTI's accomplishments can be attributed to four components: building partnerships, effective recruitment, excellent training, and facilitating employment. Through classroom instruction and hands-on work experience, trainees are taught the basic technical skills to work at Superfund sites, construction projects, or hazardous waste processing companies. While each program is tailored to meet the needs and priorities of each community, the program provides trainees with general employment skills, as well as specific job skills needed to meet all job site employment requirements. Courses have included fundamentals training, such as industry related math and reading skills, computer skills, professional development, and life skills, such as money management and inter-personal skills, and technical environmental training.

### Other Federal Agencies' Worker Training Programs

Prior to the American Reinvestment and Recovery Act (ARRA) of 2009, very few Federal Agencies, besides NIEHS and EPA, funded hazardous waste worker training programs, or similar worker training programs targeted towards minority and low-income residents of environmental justice communities. While not a hazardous waste worker training program, YouthBuild, a construction worker training program, was informally developed in 1988 and incorporated in 1990 by Dorothy

Stoneman and Leroy Looper. Legislation authorizing the federal YouthBuild program was passed in 1992 and \$40 million was appropriated in 1993. The Program began receiving federal funds in 1994 from the Department of Housing and Development (HUD). In 2006, the program was transferred to the Department of Labor (DOL). The YouthBuild program grants funds to community-based organizations to provide education, construction or other vocational training and life-skills training to low-income at-risk youth between the ages of 16-24. Trainees of this program are actively engaged and involved in community service through rebuilding affordable housing and advocating for their communities. Like minority hazardous waste worker training programs, YouthBuild “enables trainees to serve their communities by building affordable housing and assists them in transforming their own lives and roles in society” (YouthBuild, 2008).

DOL’s Workforce Investment Act of 1998 has also been a tremendous asset to federally funded hazardous waste worker training programs in providing the funding for life skills training. For example, the EPA Brownfields Job Training Program does not allow for life skills training under the EPA grant, only environmental training. However, these grantees leverage partnerships with the Workforce Investment Boards (established under the Workforce Investment Act) to deliver life skills training to their trainees. In addition, the DOL’s Office of Job Corps also provides general worker training to residents of environmental justice communities. Job Corps is the nation’s largest residential education and vocational training program for economically disadvantaged youth aged 16 through 24.

### *Current EJ Job Training Initiative: Green Jobs*

One of the top priorities of the Obama Administration has been the creation of jobs, especially green jobs. This priority was reiterated by EPA Administrator Lisa Jackson who said in a speech during the 2009 Brownfields Conference, that brownfields cleanups do not only create jobs, they create green jobs that protect the public health and create healthy and sustainable communities. In order to stimulate the job market, the Administration and Congress enacted the 2009 American Reinvestment and Recovery Act (ARRA), commonly known as the Recovery Act. The purpose of this Act is to “create new jobs and save existing ones; spur economic activity and invest in long-term growth; and foster unprecedented levels of accountability and transparency in government spending” (U.S. Congress, 2010). Many environmental remediation, energy efficiency, alternative energy, and job training programs are included in the Recovery Act.

Many of the jobs created as a result of the Recovery Act are referred to as “green jobs.” Although there is no widely accepted standard definition of “green jobs,” the United Nations Environment Program defines it as:

“positions in agriculture, manufacturing, construction, installation, and maintenance, as well as scientific and technical, administrative, and service-related activities, that contribute substantially to preserving or restoring environmental quality... green jobs also need to be good jobs that meet longstanding demands and goals of the labor movement, i.e., adequate wages, safe working conditions, and worker rights, including the right to organize labor unions (United Nations Environment Programme, 2008).”



Hazardous waste worker training programs prepare residents of low-income and minority communities, such as ones near brownfields, to be prepared and eligible for these green jobs. While the NIEHS WETP and EPA job training programs traditionally conduct “green job” training by definition, many grantees and awardees have begun incorporating courses or course components that address the contemporary form of green jobs, such as weatherization and alternative energy installation.

“The Minority Worker Training Program and the Brownfields Job Training Program were the first “green jobs” training programs.

– Mathy Stanislaus  
Assistant Administrator, Office of Solid  
Waste and Emergency Response, EPA

In addition, as a result of the Recovery Act funds, other federal agencies issued worker training program grants that target the general population, in particular those outlined in the provisions of the Recovery Act, such as workers who were impacted by the recession, and disadvantaged, low income, and minority populations. For instance, the DOE’s Weatherization Training and Technical Assistance Plan, under the Weatherization Assistance Program (WAP), seeks to improve the workforce that will help low income families reduce energy bills by making their homes energy efficient. The WAP has employed thousands of individuals who work for low-income weatherization programs and companies (Department of Energy, 2009).

Other ARRA funded worker training program grants are more specific regarding the intended populations. It is necessary to note that while these grants target the general low-income, disadvantaged (e.g., high school dropouts and people with criminal records), unemployed, and underemployed populations, not all individuals of this cohort are residents of communities that suffer from disproportionate impacts of environmental and public health problems. One such grant program is DOL’s Pathways out of Poverty grant program, which funds programs that prepare and train individuals who are living below or near the poverty level for careers in emerging industries, such as energy efficiency and renewable energy industries. The grant funds training and supportive services programs that will help target populations find ways out of poverty and into economic self-sufficiency (Department of Labor, 2010). DOL is also funding the Energy Training Partnership grants, which help prepare workers affected by the recession and others, including veterans, women and minorities, for jobs in the energy efficiency and renewable energy sectors.

## ***LIUNA's Minority Outreach Program***

LIUNA Training and Education Fund (LIUNA Training) is the training arm of the Laborers' International Union of North America (LIUNA). It develops construction craft curriculum and training programs for workers and trade instructors, provides instructor training, and offers training center support services. LIUNA Training assists more than 70 affiliated training sites throughout the U.S. and Canada which in turn, train approximately 140,000 LIUNA members each year.

LIUNA Training has been a grantee of the National Institute of Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP) for 22 years, utilizing a network of state-of-the-art facilities that offer skills and safety training in environmental remediation and construction through its Hazardous Waste Worker Training Program (HWWTP). LIUNA Training utilizes the best practices of adult education, including practical, participatory, activity-based methodologies throughout the learning process. A unique program funded through the HWWTP is the Fund's Minority Outreach Program (MOP).

LIUNA Training's Minority Outreach Program was "redeveloped" in 2005 with the goal to improve and expand upon LIUNA Training's successful Minority Worker Training Program implemented in 1995. The MOP has proved to be a unique and successful addition to the hazardous waste worker training program. This year the LIUNA Training MOP is celebrating its 5th anniversary. Over the past five years, the program has delivered a wide range of opportunities in all areas of environmental justice and workforce development. Alongside its many partners including government, academia and community based organizations, LIUNA Training's MOP successfully offered new learning opportunities to promote the integration of minorities and disadvantaged populations into the environmental remediation industry.

By developing exciting new training approaches and materials, improving the profile and competences of the trainers and staff in the field, creating sustainable workforce development networks and experimenting with new formats of language training, LIUNA Training's MOP provided hundreds of minority workers with his or her first encounter with the concept of environmental justice and a positive experience of what a career in environmental remediation can mean in their everyday lives.

The first five years of LIUNA Training's MOP played an important role in this area. We hope that the success stories which follow will provide you with an understanding of what has been achieved by some of our most innovative programs.

### **New England Laborers' Training Academy**

As one of the 1987 original NIEHS training providers, the New England Laborers' Training Academy (NELTA) located in Pomfret, Connecticut has had great accomplishments under the Minority Outreach Program. A cornerstone of NELTA's success is its development of partnerships with community-based organizations. One example is NELTA's strong relationship with the Hartford Jobs Funnel (HJF), a community-based coalition funded and guided by thirteen private and government organizations. The HJF and NELTA, along with the New England Laborers Apprenticeship Program, provide community residents with a wide variety of MOP services, including recruitment, screening, training, pre-employment preparation, job placement, and post-graduation guidance.

In total 76 individuals completed NELTA's MOP program and 82% of them were placed into jobs. The participants, many of whom had previously encountered barriers to employment, gained the necessary skills and experience to initiate a career in a growing industry. For some, like William Braswell, participation in NELTA's MOP also helped him to increase his confidence and reengage with society and the learning process.

William graduated from the New England Laborers' Training Academy Minority Outreach Program in April of 2009, and was initiated into Local 230 of the Laborers' International Union of North America in Hartford upon graduation. Once homeless and on the street, William is now a proud LIUNA member, earning a living wage with health insurance and pension benefits. He regularly attends additional training classes as part of his apprenticeship program, and is a familiar face on the NELTA campus. Stories similar to that of William Braswell can be found across many of LIUNA Training's MOP sites.

### **Laborers Training and Retraining Trust Fund of Southern California**

As a career opportunity for minority workers, the Laborers Training and Retraining Trust Fund of Southern California MOP has focused on integrating participants into their apprenticeship program. By using this approach, job placements are organized with a focus on improving the graduates' skills and employability. The result is a 93% job placement rate for the program, the highest of all LIUNA sub-grantees.

Another contributing factor to the exceptional success of the Southern California program is its Vocational English for Speakers of Other Languages component. Development of language skills enables individuals to express themselves and to participate actively in their communities. It also empowers particular groups such as migrants and ethnic minorities to combat poverty and social and environmental injustice. The lack of these basic competences can increase social divisions giving the multilingual access to better living and working opportunities while excluding the non-English speakers. By adding language training to its program, the Southern California MOP has positively impacted the lives of hundreds of immigrant workers and contributed to combating poverty, social exclusion and environmental injustice.

### **Francis L. Greenfield Laborers Training and Apprenticeship Institute**

The Francis L. Greenfield Laborers Training and Apprenticeship Institute serves a diverse population of community residents in the Washington, D.C. and Northern Virginia region. Integrating minority individuals from these communities, primarily Hispanic and African Americans, into the local workforce is the focus of the Greenfield Institute's MOP.

The Greenfield Institute, in collaboration with its community partners and signatory employers developed a successful framework to identify, recruit, train and place local area minority residents on major economic development projects in their communities. One example is the Nationals Park baseball stadium project in Washington, D.C. where many of the Greenfield Institute MOP graduates had the chance to work as LIUNA apprentices earning a living wage.

While the Francis L. Greenfield Laborers Training and Apprenticeship Institute MOP boasts a 90% placement rate; program partners consider the true success of the program to be the creation of hope for new opportunity, safer communities and economic independence for its graduates.

## Major Data Analysis

### Federal Grants Appropriated

Since its inception in 1995 to 2005, NIEHS WETP's MWTP has awarded approximately \$31.5 million to programs that train low-income and minority residents to enter the environmental field. More than \$16.4 million was awarded during the same period in NIEHS's BMWTP (See Table 1). These trainees were located in communities confronting environmental justice issues.

**Table 1. Amount of US\$ Awarded to Non-Profit Organizations for Minority Worker Training Program (MWTP), Brownfields Minority Worker Training Program (BMWTP), and Hazardous Waste Worker Training Program (HWWTP)**

Fiscal Year	MWTP	BMWTP	HWWTP*
1995	3,000,000	N/A	20,000,000
1996	2,000,000	N/A	18,500,000
1997	1,200,000	N/A	19,194,866
1998	3,000,000	3,000,000	19,044,000
1999	2,990,000	3,010,000	18,277,558
2000	3,000,000	3,000,000	19,040,000
2001	3,000,000	3,000,000	19,010,715
2002	3,210,914	3,000,000	19,457,485
2003	3,300,000	2,200,000	21,063,198
2004	3,300,000	2,200,000	21,544,623
2005	3,500,000	2,000,000	22,978,260
2006	3,500,000	2,800,000	22,290,792
2007	3,500,000	2,000,000	22,548,032
2008	3,497,995	N/A	22,034,334
2009	3,705,398	N/A	22,207,631
<b>Total</b>	<b>45,704,307</b>	<b>26,210,000</b>	<b>307,191,494</b>

Source: NIEHS MWTP and HWWTP Awardee Progress Reports

\*The HWWTP was initiated in 1987, but for the purpose of this report, data starting from 1995 is provided.

### Trainee Statistics and Demographics

Through 2009, awardees of the NIEHS WETP's MWTP and BWTP trained more than 7,800 workers across the country and placed 5,400 of these workers in jobs (69% job placement). See Tables 2 and 3. Graduates from these worker training programs were placed in union and non-union jobs in various positions, including basic laborers, environmental technicians, tank cleaners, asbestos workers, and energy conservation and efficiency technicians. They earned wages averaging from \$12-\$18 per hour and up to more than \$30 per hour for union jobs.

**Table 2. NIEHS Minority Worker Training Program  
Fourteen-Year Summary of Training  
For Budget Period 09/01/1996-08/31/2009**

<b>Fiscal Year</b>	<b>Students Trained</b>	<b>Placed in Jobs</b>	<b>Percentage of Students Placed in Jobs</b>
1996	368	246	67%
1997	310	193	62%
1998	240	154	64%
1999	360	233	65%
2000	364	244	67%
2001	342	204	60%
2002	334	222	66%
2003	310	190	61%
2004	261	219	84%
2005	277	205	74%
2006	333	236	71%
2007	385	241	63%
2008	317	222	70%
2009	362	285	79%
<b>Total</b>	<b>4563</b>	<b>3094</b>	<b>68%</b>

*Source: NIEHS WETP Awardee Progress Reports*

**Table 3. NIEHS/EPA Brownfields Minority Worker Training Program  
Ten-Year Summary of Training**

<b>Fiscal Year</b>	<b>Students Trained</b>	<b>Placed in Jobs</b>	<b>Percentage of Students Placed in Jobs</b>
1998-2005	2448	1656	68%
2005-2007	598	495	83%
2007-2008	226	155	69%
<b>Total</b>	<b>3272</b>	<b>2306</b>	<b>70%</b>

*Source: NIEHS WETP Awardee Progress Reports*



Although varying from program to program and geographic locations, most of the trainees participating in the NIEHS WETP's MWTP are African American males. African Americans represent 86% of the population who have participated and graduated from the MWTP since 1995. Hispanics represent 11% of the participants; and Asians, Pacific Islanders, American Indians, and others represent 3% of the total participants (See Table 4).

**Table 4. NIEHS WETP Minority Worker Training Program  
Trainee Demographics by Race and Ethnicity (FY 1995-2008)\***

<b>Fiscal Year</b>	<b>American Indian</b>	<b>Asian</b>	<b>African Americans</b>	<b>Hispanic</b>	<b>Pacific Islander</b>	<b>Other</b>
1995	5	5	326	31	1	0
1996	0	2	269	39	0	0
1997	0	3	200	34	3	0
1998	0	2	322	36	0	0
1999	3	4	334	23	0	0
2000	2	6	297	31	6	0
2001	2	14	281	36	1	0
2002	1	9	279	20	1	0
2003	0	5	205	51	0	0
2004	0	1	230	41	5	0
2005	0	6	294	24	1	8
2006	0	2	345	33	0	5
2007	0	2	279	29	1	6
2008	6	4	277	74	3	15
<b>Total</b>	<b>19</b>	<b>65</b>	<b>3938</b>	<b>502</b>	<b>22</b>	<b>34</b>

*Source: NIEHS WETP Awardee Progress Reports*

The demographics for the NIEHS/EPA BMWTP were very similar to the MWTP. The majority of the participants of the program were African Americans, who made up approximately 68% of the total participants. Hispanics followed with about 20%, American Indian with 4%, and Asians and Pacific Islanders with 3% each, and other races with 2% of the total population. (See Table 5)

**Table 5. NIEHS WETP/EPA Brownfields Minority Worker Training Program  
Trainee Demographics by Race (1999-2008)\***

<b>Year</b>	<b>American Indian</b>	<b>Asian</b>	<b>African Americans</b>	<b>Hispanic</b>	<b>Pacific Islander</b>	<b>Other</b>
1999	21	26	247	102	10	0
2000	24	12	284	101	19	0
2001	25	4	231	54	15	0
2002	20	16	211	84	10	0
2003	13	6	261	55	9	0
2004	2	6	196	65	11	0
2005	13	3	224	60	8	0
2006	4	9	232	41	1	16
2007	7	5	241	75	8	52
2008	5	6	130	65	2	18
<b>Total</b>	<b>134</b>	<b>93</b>	<b>2257</b>	<b>702</b>	<b>93</b>	<b>86</b>

*Source: NIEHS WETP Awardee Progress Reports*

The number of female trainees in NIEHS worker training programs remains steady throughout the existence of the program, averaging about 17% of the total trainees for both MWTP and the BMWTP. Table 6 provides the number of female and male trainees by year from 1999 to 2009.

<b>Table 6. NIEHS WETP Worker Training Programs Trainee Demographics by Gender (FY 1995-2008)</b>				
<b>Fiscal Year</b>	<b>Minority Worker Training Program</b>		<b>Brownfields Minority Worker Training Program*</b>	
	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>
1995	114	254	---	---
1996	68	242	---	---
1997	47	193	---	---
1998	64	296	58	348
1999	56	308	96	344
2000	43	299	62	267
2001	45	289	64	277
2002	45	265	53	291
2003	44	217	43	237
2004	36	241	37	271
2005	61	272	61	242
2006	55	330	68	320
2007	39	278	22	204
2008	34	345	--	--
<b>Total</b>	<b>751</b>	<b>3829</b>	<b>564</b>	<b>2801</b>
Source: NIEHS WETP Awardee Progress Reports				
*The Brownfield Minority Worker Training Program began in 1998 and ended in 2008				

Overall, approximately 53% of the trainees of the MWTP held high school diplomas, 23% had GEDs, and 24% had no high school diploma or GED. See Table 7 for the breakdown by year.

<b>Table 7. NIEHS WETP Minority Worker Training Program Trainee Demographics by Level of Education (1999-2009)*</b>			
<b>Year</b>	<b>High School Diploma</b>	<b>GED</b>	<b>No GED</b>
1999	182	76	102
2000	163	73	128
2001	174	68	100
2002	169	70	95
2003	169	71	70
2004	126	55	80
2005	133	48	96
2006	194	90	49
2007	227	90	68
2008	187	84	46
2009	225	106	48
<b>Total</b>	<b>1949</b>	<b>831</b>	<b>882</b>
Source: NIEHS WETP Awardee Progress Reports			
*Level of education statistics were not collected prior to 1999.			

The level of education of the trainees entering the BMWTP was very similar to the MWTP. Approximately 60% of the trainees had high school diplomas, 20% had GEDs, and 20% had no GED (Table 8).

<b>Table 8. NIEHS WETP/EPA Brownfields Minority Worker Training Program Trainee Demographics by Level of Education (1999-2008)*</b>			
<b>Year</b>	<b>High School Diploma</b>	<b>GED</b>	<b>No GED</b>
1999	244	60	102
2000	232	89	119
2001	176	72	81
2002	210	58	73
2003	194	79	71
2004	167	61	52
2005	195	71	42
2006	210	54	39
2007	286	46	56
2008	135	71	20
<b>Total</b>	<b>2049</b>	<b>661</b>	<b>655</b>
Source: NIEHS WETP Awardee Progress Reports			

The majority of trainees entering the NIEHS worker training programs were people who were unemployed prior to entering the program. From 1999 to 2009 (2008 for BMWTP), nearly 84% of the MWTP trainees and 74% of the BMWTP trainees were unemployed and the rest were underemployed. (See Table 9.)

<b>Table 9. NIEHS WETP Worker Training Programs Trainee Demographics by Prior Employment (1999-2009)*</b>				
	<b>Minority Worker Training Program</b>		<b>Brownfields Minority Worker Training Program</b>	
<b>Year</b>	<b>Unemployed</b>	<b>Under Employed</b>	<b>Unemployed</b>	<b>Under Employed</b>
1999	320	40	313	93
2000	282	82	317	123
2001	289	53	263	66
2002	284	50	262	79
2003	243	67	285	59
2004	211	50	212	68
2005	230	47	253	55
2006	284	49	225	78
2007	336	49	204	184
2008	278	39	167	59
2009	326	53	---	---
<b>Total</b>	<b>3083</b>	<b>579</b>	<b>2501</b>	<b>864</b>
<i>Source: NIEHS WETP Awardee Progress Reports</i> <i>*The Brownfield Minority Worker Training Program began in 1998 and ended in 2008</i>				



Since 1998, the EPA Brownfields Job Training Program has awarded more than \$27 million via 144 worker training grants to organizations across the country to provide environmental remediation skills training to residents of brownfields-impacted communities (See Table 10). To date, more than 5,300 trainees completed the EPA-funded training, and more than 3,400 of these graduates obtained employment in the environmental field, earning an average starting wage of \$14.65 per hour (Environmental Protection Agency, 2010).

**Table 10. Amount of US\$ Awarded to Non-Profit Organizations for EPA Brownfields Job Training Grants from 1998-2010.**

<b>Year</b>	<b>Grant Amount (US\$)</b>	<b>Number of Communities Awarded</b>
1998	\$ 2 million	11
1999	\$1.9 million	10
2000	\$2.8 million	16
2001	\$1.8 million	9
2002	\$750,000 (supplemental)	12
2003	\$2 million	10
2004	\$2.47 million	16
2005	\$2 million	12
2006	\$2 million	12
2007	\$2.34 million	12
2008	\$2.5 million	13
2009	\$2.6 million	13
2010	\$2.4 million	12
<b>Total</b>	<b>\$27.56 million</b>	

*Source: EPA Brownfields Job Training Program*

The EPA Superfund JTI trained approximately 300 trainees nationwide since 1995. Approximately 80 percent of the graduates of this program were placed into jobs and maintained employment for at least one year (Environmental Protection Agency, 2010).

## Major Research Findings: Why Worker Training Programs Are Critical for Achievement of Environmental Justice

### Origins of Worker Training Programs in Environmental Justice

Most hazardous waste worker training programs directed toward low income and minority trainees originated over environmental justice concerns. These programs were established as a result of recommendations from environmental justice stakeholders on the need to include local communities disproportionately impacted by environmental hazards in the cleanup of these sites. For example, the NIEHS Minority Worker Training Program was created as a result of the 1994 Presidential Executive Order on Environmental Justice and Congressman Stokes' legislation on the creation of the minority worker training program. The basis of the minority worker training program was also established at the "Environmental Job Training for Inner City Youth" Conference in Cuyahoga, OH in 1995. The EPA Brownfields Job Training Program was recommended in December 1996 by the NEJAC. The EPA Superfund Job Training Initiative was also recommended by NEJAC. Even prior to these federal initiatives, the eighth Principle of the Principles of Environmental Justice, adopted in 1991 at the People of Color Environmental Justice Summit, stated that "environmental justice affirms the right of all workers to a safe and healthy work environment without being forced to choose between an unsafe livelihood and unemployment. It also affirms the right of those who work at home to be free from environmental hazards (People of Color Environmental Leadership Summit, 1991)." In addition, it is important to note that the NIEHS WETP's MWTP served and continues to serve as a national model for other federally funded job training programs, including EPA's Superfund JTI.

“The worker training program is the backbone of EJ—the people we train are at the frontline, so we need to make sure that their EJ issues are raised.

—Alex Lopez  
Senior Manager, LA Conservation Corps

### Critical Role of Partnerships

Partnerships with the community, government agencies, academia, non-profit organizations, contractors, and unions are extremely important for the success of any worker training program. Each partner plays a critical role in the operation of an effective program, from beginning to end. Federal HWWT and MWT program officials and awardees have tremendous personal commitment to trainees and the environmental justice cause. For instance, non-profit organizations and academic institutions, with the support of the federal government, created the foundation of worker training programs. Academic institutions located near or in the impacted communities—especially those with a focus on historically black colleges, universities and public schools—have been an asset in providing math, science or other related education, including GED support to trainees (Weinstock & Elisburg, April 1998). Some awardees also included environmental justice modules in their training. Community-based organizations were and continue to be instrumental in the recruitment of low-income and minority residents from impacted communities, and providing social support and life skills training. Leveraging partnerships with employers and unions resulted in job and apprenticeship placement of numerous graduates of the program. Through the training programs, NIEHS WETP established partnerships with community-based organizations, such as the Detroiters Working for Environmental Justice and the New York City for Environmental Justice Alliance. Training programs and partnerships have been formed in over 30 communities across the U.S. These partnerships make for a comprehensive worker training program that allows for the accomplishment of a primary goal of minority worker training programs: to improve the lives of residents of low-income and minority communities impacted by environmental hazards by providing the necessary skills and knowledge to successfully enter a career in environmental remediation and construction.

### ***Individual Success Story:***

A 25 year-old Afro- Latino student in New York who lives with his family in a New York City Housing Authority development, received training under the MWTP. Prior to participating in MWTP, he had been attending Hunter College and left school to work on a part-time basis in retail. Through his participation in MWT, Ahmed received training in painting through Sherwin-Williams as part of its Home-Work program. As a result of this training, the trainee was able to take advantage work opportunities offered to New York City Housing Authority residents. Just 2 weeks after MWT program completion, he secured a painting position with Beesla Painting Co.

*(Story provided by OAI, inc.)*

### **Training Program Recruitment**

When the hazardous waste worker training program began, some program managers found that residents of low-income and minority communities impacted by pollutants and toxins were skeptical of the training program and environmental remediation work. Program officials had to first ensure that these worker training programs were meant to protect the safety and health of these workers and their families; and second, to explain to the communities the benefits of the hazardous waste worker training programs. Several worker training programs work with local community resources, such as faith- or community-based organizations, to promote the program, and encourage interested individuals to attend orientation sessions. Most programs hire community-based organizations to recruit, pre-screen, and evaluate potential candidates before admitting them to the training program, such as NIEHS WETP awardee New Jersey/New York Hazardous Materials Worker Training Center. OAI, inc., another NIEHS WETP awardee, has an elaborate recruitment and tryout process that includes physical tests and group activities to ensure that candidates are mature and committed to completing the program. Due to the popular success of worker training programs, the primary mode of recruitment into training programs has been through word of mouth. Most, if not all, programs conduct try-outs and/or other types of screening mechanisms (e.g., drug tests) built into the recruitment process to ensure that they get qualified individuals who will successfully complete the program. This is also important to build the credibility of the program for potential employers and contractors.

### **Importance of Life Skills Training and Support Network**

Life skills or pre-employment training is extremely important to the success of the program. Sandra Grover of Four Winds Native American Magnet School in Minneapolis, MN, indicated at the “Environmental Job Training for Inner City Youth” workshop that “if the energy required to survive the rigors of everyday living is too great, young people won’t be able to concentrate on their present

employment (National Clearinghouse for Worker Safety and Health Training and George Meany Center for Labor Studies, 1995).” Life skills training is defined by the World Health Organization (WHO) as “abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life (UNESCO).” This training, usually given prior to technical training, is

“Although life skills have been around for years, it is the most critical and acceptable component of training programs.

—Don Elisburg  
Consultant, NIEHS National Clearinghouse  
for Worker Safety and Health Training

meant to prepare and expose trainees to the work environment and culture, and to provide additional support network and information. Life skills training also provides discipline training to trainees. Some life skills training components include math and literacy courses, work culture, resume writing, stress management, financial responsibility, future planning, confidence building exercises, employment success, and work relationship dynamics. Text box 5 displays life skills training topics. It has proven to enhance the personal lives of the trainees by developing reflective skills, such as problem-solving and critical thinking, personal skills, such as self-awareness, and interpersonal skills. In essence, it teaches trainees how to effectively deal with the demands and challenges of everyday life and how to become a part of a sustainable workforce (Weinstock & Elisburg, April 1998).

Text Box 5: Life Skills Curriculum Topics for life skill training can include:	
<ul style="list-style-type: none"><li>• Culture and Ethnicity</li><li>• Personal Rights/Assertiveness</li><li>• Positive Self-Esteem</li><li>• Powerful vs. Powerless People</li><li>• Seeing the Good in Me</li><li>• Taking Responsibility</li><li>• Voter Registration/Draft</li><li>• Values</li><li>• Stress Management</li></ul>	<ul style="list-style-type: none"><li>• Time Management</li><li>• Job Search Principles</li><li>• Understanding Job Search Skills</li><li>• Financial: Needs, Wants, Desires</li><li>• Planning and Establishment</li><li>• Long Term Financial Goals</li><li>• Self Identification</li><li>• Effective Communication</li><li>• Goal Setting</li></ul>
Source: Dillard University Deep South Center for Environmental Justice. Life Skills Trainee’s Guide 2002.	

These worker training programs provide great assistance for the different populations enrolled in the programs. For instance, in order to meet the special needs of non-English speaking trainees, many programs have bilingual instructors and offer English as a second language components. Furthermore, social support is an equally important component of the worker training programs. MWTP provides a great support network as they continuously follow-up with their trainees, even after graduation. In fact, graduates often recommend potential future candidates for the program. In addition, programs have stringent requirements for instructors as they are often regarded as models and mentors by the trainees. Many programs pair trainees with other mentors, such as social workers, who serve as moral guides and provide support for the trainees.

Measures of Worker Training Program Success

Performance measures are extremely important to assess the effectiveness and accomplishments of the worker training programs, including the progress the programs make in impacting environmental justice. There are several ways in which success of the HWWT and MWT programs are measured.<sup>2</sup> One measure already discussed is the number of graduates of the training programs. Another important measure is the number of trainees who were able to

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The Hazardous Waste Worker Training Program (HWWTP) and Minority Worker Training Program (MWTP) benefit environmental justice by giving resources to those communities who need it the most.

–Tippi Reed  
President, OAI, inc.

2 These performance measures were obtained during the interviews with stakeholders.

obtain and sustain jobs after they graduate. Related to this measure is the change in the hiring practice by contractors and unions and whether or not contractors are hiring more local residents who have participated in the program rather than hire outside workers. Another quantitative measure is the number of reduced injury and fatal incidents in the worksite as a result of the safety and health training. This indicates if trainees are applying what they learned in class to the workplace.

While qualitative measures are harder to assess, it is nevertheless, an extremely important method to evaluate the success of the program. Numerous individual success stories on how the program has transformed peoples' lives have been documented. In addition, stories on how the program has helped and empowered the communities the trainees live in help to demonstrate the impact these training programs have had on low-income and minority communities. It is also important to observe how these programs created informed environmentalists who actively participate in their communities.

## Opportunity for Meaningful Involvement and Fair Treatment

True environmental justice can only be achieved when all populations in the United States are meaningfully involved and participate in environmental decision making that impacts their communities. Federally funded hazardous waste worker training programs provide for the fair treatment of low income and minority residents of environmental justice communities. Trainees in hazardous waste worker training programs are taught about the safety and health aspects of the different hazards found at the site, including waste sample and remediation training. The graduates become great assets to their own communities. This new knowledge gained allows residents to fully understand the issues and environmental justice concerns in order to meaningfully participate in improving their communities. In addition, those trained possess the necessary credibility to represent the community that they live in.

“ The worker training program offers the opportunity for low-income minority communities that are impacted by pollution to get involved and stay engaged.

—Dr. Robert Bullard  
Director, Environmental Justice  
Resource Center, Clark Atlanta  
University:

## Transformation of Trainees' Lives

Worker training programs completely change the lives of the participants of the program, many of whom were underemployed, unemployed, or ex-offenders that live in low-income and minority communities. Although participants of the program may view the program as just a means to get a job in the beginning, by the end of the program, their lives are transformed as they gain not only technical knowledge of the work, but also self-confidence. Through discipline and support, the program allows graduates to lead stable lives, including becoming a home owner, starting a family, and maintaining consistent employment. Some graduates also start contracting businesses or return to the program to become instructors and mentors.



### ***Individual Success Story:***

A trainee in Chicago, IL was released from federal prison in May of 2008. He was incarcerated for numerous drug offenses, but decided at the time of his release that he was ready for a life change. He came to OAI, inc. and tested for the MWT Program in August 2008. After going through the intensive selection process, he was selected to participate in the MWT program. The trainee was an exemplary trainee who later extended his training to include weatherization and insulation through one of OAI, inc.'s partner employers, W&M Insulation. W&M hired him as a weatherization laborer, where he proved himself to be a reliable, driven employee. Within a few months of joining W&M, the trainee started his own company and is currently working as a subcontractor for W&M Insulation performing weatherization and abatement at an excellent level. His company has received accolades from his clients for the quality of his work and customer service. He currently earns an average of \$20.00 per hour.

*(Story provided by OAI, inc.)*

Worker training programs aim to build the capacity of trainees, who have, in turn, been successful in building the capacity of their communities and community-based organizations. Graduates of the program develop the knowledge and confidence to be actively involved in their communities. Due to the commitment of Federal program administrators and awardees, the MWTP shows and teaches trainees what environmental justice is about, either through an environmental justice module or community projects discussed during the training. They understand that what they are training to do will have positive impacts on their communities as they do “good work.” Due to their background and their newly gained knowledge and confidence, graduates earn the respect and credibility of community members and employers. Many graduates even become environmental justice advocates in their own communities.

### **Potential for Lifelong Careers**

As previously mentioned, one of the reasons for the creation of minority worker training programs was that residents of communities near hazardous waste sites or at risk of exposure to contaminated properties were not economically benefitting from the assessment and remediation of such sites. Residents of these communities were not generally hired because they lacked the necessary training required to perform the cleanup work. Trainees in hazardous waste worker training programs are trained in a variety of skills and knowledge required for different career opportunities in environmental restoration and construction, including, but not limited to, basic safety and health, hazardous waste operations, emergency response, lead and asbestos abatement, and technician/sampling level training. Hence, worker training programs, in particular, minority worker training programs that specifically target these communities, provide the residents with the skills and knowledge necessary to take part in environmental cleanup jobs. Graduates improve their standard of living after going through the program as the program prepares trainees for long-term career opportunities, not just a single job. A study conducted by Greenberg et al., showed that for both men and women, the earning potential increases due to training appear to persist several years after training was complete (2003). Some trainees also seek to

“Life skills training is the foundation of employment to sustain employment. Worker training programs offer communities the light at the end of the tunnel by providing them with the energy and confidence they need.

—Noemi Emeric-Ford  
Environmental Justice Coordinator, EPA  
Region 9



pursue higher education after graduation, something they would have been unlikely to do without the initial training program.

Existing worker training programs garner the credibility of employers and unions because these programs “produce” quality hazardous waste and construction workers. In addition, several MWTPs are pre-apprenticeship programs for construction and environmental remediation worker training (See Text Box 6 for more information about apprenticeships). Although studies have found that rates of completion of apprenticeship programs are lower for ethnic and racial minorities than for whites (Bilginsoy, 2003), the MWTP is extremely successful in providing the necessary technical and life skills training in a manner that prepares graduates to successfully complete an apprenticeship program. The knowledge and discipline gained in the training program enables graduates to join a union and progress through their craft to journeyman status. It should be noted that union workers often earn higher wage growth than those not in a union (Booth, Francesconi, & Zoega, 2003). However, it was found in this research that the increase of minorities in apprenticeships depends on the geographic location of the training program. In those states where unions have a strong presence and are actively involved in worker training programs, there has been an increase of minorities entering apprenticeships, such as New York and New England.

**Text Box 6: About Apprenticeships**

Apprenticeship is a combination of on-the-job training and related instruction in which workers learn the practical and theoretical aspects of skilled occupation. Classes are often taught by experienced and skilled workers in the trade and on-the-job training is overseen by employers. Apprentices are paid while developing their skills and pay increases as apprentices gain experience and learn new skills. Apprentices earn competitive wages, a paycheck from day one and incremental raises as skill levels increase. In fiscal year 2008, the average hourly wage for a journeyman who completed an apprenticeship was \$23.94, which translates to \$49,795 annually.

*Source: DOL*

In response to the recent demand for “green jobs,” some programs incorporate green jobs components into their curriculum. Techniques used to prepare low income and minority residents for the green jobs market varied from program to program. The majority of the worker training programs adjust training curricula to include course components on weatherization, retrofit, and alternative energy. Others indicate that they have integrated green job elements into their basic HWWT or MWT program courses. Such training is meant to prepare trainees for the future growing green jobs market, while still focusing on the basics of safety and health.

**Public Health and Environmental Improvements**

The health and safety skills taught by field expert instructors impact public health and the environment not only for the work arena, but also within the home and communities. This information trickles down in the community as graduates bring back home what they have learned during the training to their families and communities and incorporate the safety and health practices into their daily lives. They also use this understanding to improve the health of their family members, relatives, and neighbors by teaching them about the potential health risks that exist in their communities or surrounding areas.

## ***Hazardous Waste Worker Training Success Story Partnership that Gives Back: Safe Way Back Home Project, New Orleans, LA***

Shortly after Hurricane Katrina overwhelmed the Gulf States in 2005, the U.S. Environmental Protection Agency (EPA) took sediment samples from two sites on Aberdeen Road in New Orleans East neighborhood, which were then analyzed by the Natural Resources Defense Council (NRDC). Analysis of the samples showed high concentrations of heavy metals (arsenic, zinc, barium, and cadmium), diesel range organics, and polycyclic aromatic hydrocarbons. The levels exceeded the normal levels of residential soil under the Louisiana Risk Evaluation Corrective Action Program (RECAP). The results, when compared to EPA's data of other New Orleans neighborhoods, appeared to be typical of post-Katrina New Orleans and had the potential of being a long-term health risk.

In November 2005, community-based organizations, labor unions, academia, and environmental organizations collaborated to create a community cleanup project entitled "A Safe Way Back Home." This was a groundbreaking effort which involved Dillard University Deep South Center for Environmental Justice (DSCEJ) and the United Steelworkers (USW). The project was aimed to assist residents of a New Orleans East neighborhood to partner with agencies to facilitate cleanup and restoration of their flooded community. Dr. Beverly Wright, executive director of DSCEJ, said "this demonstration project serves as a catalyst for a series of activities that will attempt to reclaim the New Orleans East community following the devastation caused by Hurricane Katrina (New Orleans East.com)."

The Safe Way Back Home project was a multi-dimensional project which involved safety training, volunteer assistance, topsoil removal, and the unity of multiple diverse community populations. Prior to demolition of the contaminated sites, health and safety training and equipment were provided to volunteers. The training was supported by grants from the National Institute of Environmental Health Sciences (NIEHS), DCEJ, and the USW. Hundreds of volunteers from churches, universities, government programs, and non-profit organizations participated in the project. Volunteers worked to remove several inches of grass and top soil from the yards on Aberdeen Road which were then disposed of by the Federal Emergency Management Agency (FEMA). The sidewalks and streets were pressure washed to remove all sediment, and the lots were re-landscaped with fresh sod and graded river sand.

One of the project's greatest achievements was the building of a sustainable community. Many of the survivors of the New Orleans East neighborhoods were low-income and minority African Americans subjected to potentially severe health impacts. One of the future goals of the Safe Way Back Home program is to identify other displaced community members and provide technical assistance and education. Other cities, such as: Memphis, Atlanta, Dallas, and Baton Rouge, are planned to serve as the initial target base for the Safe Way Back Home future locations community outreach initiatives. As a result of the great success attained by the project, "A Safe Way Back Home" was awarded the 2008 EPA Environmental Justice Achievement Award.

## Involvement in Major National Disasters

NIEHS WETP officials and awardees of the NIEHS WETP are deeply committed to environmental justice and safety and health. NIEHS WETP awardees are attuned to the safety and health of hard-to-reach worker populations, such as the immigrant cleanup workers and day laborers hired during Hurricane Katrina. The University of California Labor Occupational Safety and Health Program (UCLA LOSH) and the National Day Laborers Organizing Network (NDLON) collaborated in an investigative report that found that the safety and health needs of immigrant day laborers were not met, including the lack of safety equipments and training (Delp, Podolsky, & Aguilar, 2009). OAI, inc., another NIEHS WETP awardee, was also involved in the training of cleanup workers in Houston and Port Arthur, TX, in the aftermath of Hurricane Rita in 2005.

Furthermore, NIEHS WETP and its awardees are sensitive to environmental justice concerns in the aftermath of disasters and attempt to involve as many local residents in the cleanup of their communities. For example, following the devastating aftermath of Hurricane Katrina, residents, while unaware of the public health risks involved in the cleanup of their homes and communities, were eager to return to their homes. Dillard University's Deep South Center for Environmental Justice and the United Steel Workers (both NIEHS WETP awardees), joined forces to launch "A Safe Way Back Home" initiative to train local neighborhood residents to dispose of waste and replace soil on properties in New Orleans. Trained volunteers from universities, church groups, government programs, community programs and initiatives, and participant neighborhoods removed contaminated soil, grass and other tainted items from yards, streets, and sidewalks. Sidewalks, curbs and streets were also pressure washed until the contaminated sediments were removed. As a result of this effort, residents of cleaned up communities were committed to return and rebuild New Orleans (Deep South Center for Environmental Justice).

Similar to Hurricane Katrina, other MWTP graduates have been involved in the cleanup of other recent major disasters. For example, graduates of the New Jersey/New York Hazardous Materials Worker Training Center were employed for cleanup at the Ground Zero sites following the September 2001 terrorist attacks of the World Trade Center. Some graduates were hired as supervisors for environmental remediation at of the site (New Jersey/New York Hazardous Materials Worker Training Center, 2002). Graduates of the BMWT Program were also involved in the cleanup of the Columbia Space Shuttle tragedy in 2003. Finally, another example of trainee involvement in major disasters is the 2010 Deepwater Horizon Oil Spill in the Gulf of New Mexico, where 75 graduates of Clark Atlanta University's and Dillard University's MWTP are helping to clean up the oil and make a difference in the community.

## Major Research Recommendations

This section provides major research recommendations aimed to improve further hazardous waste worker training and minority worker training programs to better address the needs of low-income and minority residents in ensuring environmental justice in the future. The recommendations are not presented in order of importance.

### *Federal Hazard Waste Worker Training Programs*

- 1) To better support the federal worker training programs and address environmental justice needs in more communities, more funding is needed. The NIEHS MWTP was initially funded at \$3 million annually in 1995 and \$3.5 million annually in 2010. The program need is much greater than the funds allow at present.
- 2) In order to better support the connection between the hazardous waste worker training program and environmental justice, NIEHS should strengthen awardee application criteria by placing more weight on awardee applications who are residents of communities that have documented environmental justice concerns (e.g., contaminated properties, waste transfer stations, or manufacturing facilities).
- 3) Worker training programs should have a screening mechanism built into their recruitment process as a method of ensuring student quality. Individuals who want to be a part of the program should have the commitment necessary to succeed in the program.
- 4) More effort should be made by NIEHS and its awardees to recruit greater percentages of other minority populations, such as Native Americans, Pacific Islanders, and women into the program.
- 5) Federal government agencies should consider adding quantitative and qualitative performance measures in their evaluation process for the worker train programs in order to better assess the program's progress in achieving its environmental justice goals (e.g., NIEHS has certain performance measures in its current Request for Applications.).

### *Partnerships*

- 6) Training programs should leverage partnerships with local communities, government agencies, employers, academia, private contractors, and labor unions. Federal agencies should do more in promoting partnerships by providing technical guidance and incentives to facilitate such partnerships.
- 7) More effort should be devoted to involving additional Historically Black Colleges and Universities and other minority academic institutions in worker training programs.
- 8) As Federal agencies and training providers direct more focus to green jobs training, priority should be given to recruitment of residents in communities facing environmental justice concerns.
- 9) Federal program administrators should clarify the level of flexibility available within a training program in order to accommodate the changing economic situation and job market. For instance, NIEHS WETP is accommodating the re-budgeting and changing needs of awardees due

to unforeseen circumstances, such as diversifying the training to include “green construction” training so that trainees can remain competitive in the job market.

- 10) Federal, state, and local government should strongly encourage employers contracted to conduct environmental cleanup to hire local residents who have gone through hazardous waste worker training programs. In addition, local governments should encourage and provide incentives for small businesses and local entrepreneurs to re-locate in proximity to low-income and minority communities as small businesses are more likely to hire a local workforce. For example, NIEHS WETP awardee, CPWR, has been successful in establishing project-labor agreements with local companies to ensure job placement of graduates in local jobs.

## Training

- 11) Life skills training or pre-employment training should be a fundamental component of worker training programs that target low-income and minority residents in order to effectively address environmental justice concerns. The technical training alone is not sufficient. Adequate funding should be allocated for this training.
- 12) Environmental justice should be taught as a component of the worker training program, either as a module on its own or integrated into the training.
- 13) Mentoring is an important part of the training program as it provides a social support network for the trainees.
- 14) More support should be considered for language training, due to the increasing immigrant population.

“Worker training is environmental justice.”  
—Gary Kaplan  
Executive Director, JFY Networks

## Conclusion

Federal hazardous waste worker training programs emerged at the same time as the environmental justice movement. In fact, environmental justice advocates recommended the creation of most of these programs. As these training programs evolve to reach out to trainees from disadvantaged communities, they empower residents from these communities to transform their lives, benefit their communities, and protect public health and the environment. These programs serve as national models of environmental justice by providing for the fair treatment and meaningful involvement of low income and minority program participants in the environmental decision-making process. The life skills and other support provided by these programs will last the participants’ lifetime. The training program provides for job creation, protection of workers on the job, and support for healthy sustainable communities. The graduates of these programs support fellow citizens in a number of ways, including responding to national disasters such as the 2001 World Trade Center terrorist attack, the aftermath of Hurricane Katrina in 2005, and the 2010 Gulf Coast Oil Spill. It is critical that hazardous waste worker training programs continue and are expanded upon in the future.



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## Appendix A: Study Methodology

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In order to best document the positive relationship between federally funded hazardous waste worker training programs and environmental justice, three study approaches were used: gathering and assessing available statistics on federally funded hazardous waste worker training programs and the trainees from environmental justice communities attending these courses; a literature review of existing training program reports from program offices and grant recipients and other relevant research documents and reports; and structured interviews conducted with key training program stakeholders, current NIEHS WETP officials and grantees, and current EPA officials and grantees.

### Statistical Analysis

For this research, an assessment was conducted of the general demographic makeup of the NIEHS WETP awardee population, the EPA Brownfields job training grantee population, and other similar Federal Job Training Programs. This analysis examines the ethnic, racial, and economic makeup of the trainees from the NIEHS, EPA and other federally funded hazardous waste worker job training programs.

The NIEHS WETP statistical data were generated by the WETP Curricula Information and Data Management System (WETCIS/DMS). As part of the evaluation of training provided by its consortium members, each NIEHS WETP awardee enters training statistics by course, on the number of individuals taking the courses, the number of contact hours of training provided, and the ethnic makeup of the trainees (for MWTP and BMWTP only). Also, additional statistics were gathered from MWTP and BMWTP progress reports from NIEHS and from individual program area awardees. Statistical data from the EPA Brownfields job training program and the Superfund Job Training Initiative were provided by the interviewees as well as gathered from the literature review and program office websites. The findings from this data analysis can be found in the “Major Data Analysis” section of this report.

### Literature Review

In order to best document the impact hazardous waste worker training programs have had on the residents of environmental justice communities, a thorough literature review was conducted. The literature included NIEHS WETP Annual reports, NIEHS awardee progress reports on the Minority Worker Training Program and Brownfields Minority Worker Training Program, the role of NEJAC in the creation of the EPA Brownfield Job Training Program, EPA Brownfields Job Training Program reports, reports on projects conducted via the Superfund Job Training Initiative, training program office fact sheets, research reports, and other relevant documents. After carefully reviewing the documents and reports, major impacts, best practices, and lessons learned were identified and analyzed. These key findings can be found in the “Major Research Findings” section of this report.

### Interviews

To gather better insight and understanding on the federal government job training programs and the successes they have achieved in obtaining environmental justice, interviews with NIEHS WETP officials and grantees, EPA Brownfields job training program and Superfund Job Training Initiative officials and grantees, and other key stakeholders were conducted. A list of potential interviewees was presented to and agreed upon by NIEHS WETP. The interviewees were contacted and people who were willing and available were scheduled to be interviewed. Interviewees were provided with a list of questions to serve as a guide for the interviews. The list of questions is displayed in Text Box A.1. A list of the individuals

who agreed to share their experiences, perspectives and suggestions on job training programs, as it relates to environmental justice is displayed in Text Box A.2. All interviews were conducted in person, by phone or through written response from March to June 2010. Summaries of the interviews were prepared accordingly. The key findings of the interviews can be found in the “Major Research Findings” section of this report.

### **Text Box A.1. Interview Questions**

**The following were questions that were used as a guide for the interview.**

1. What has been your involvement with Hazardous Waste Worker Training (HWWT) programs, or Minority Worker Training Programs (MWTP) over the past five years?
2. How do you believe Environmental Justice relates to HWWT programs or MWTP? Why are HWWT programs or MWTP critical to addressing EJ?
3. Do you have information on some relevant HWWT program or MWTP EJ success stories? Could you provide this information to us?
4. How has the demographic make-up of the HWWT or MWTP trainee population changed over time?
5. In what ways has the HWWT program or MWTP addressed the concerns/needs of low income and minority residents? How has this program been effective in addressing EJ concerns in communities?
6. What approaches have you used to recruit low income and minority residents to your HWWT program or MWTP?
7. What training techniques and/or course components have been particularly successful in meeting the needs of low income and minority residents?
8. How have you made adjustments to your HWWT program or MWTP to meet the special needs of non-English speaking trainees?
9. In what ways would you measure the success of HWWT programs or MWTP in addressing EJ needs in the past? What are appropriate performance measures by which HWWT or MWTP programs should be evaluated in the future?
10. What special techniques have you used to integrate EJ concerns into the training program?
11. What benefits, beyond EJ accomplishments, are provided by HWWT programs or MWTP?
12. What is your greatest HWWT program or MWTP success story? What makes it special?
13. How can the HWWT program or MWTP better address the needs of low income and minority residents in the future?
14. What changes would you recommend to other Federal government HWWT programs or MWTP to better meet the needs of underserved and underrepresented populations?
15. How has the training provided via HWWT programs or MWTP helped to prepare low income and minority residents for the growing green jobs market? Are there success stories that you can cite that have already occurred? What will be the impacts of the training of these populations for the green jobs market in the future?
16. How has MWTP increased the number of minorities entering construction trade/apprenticeships leading to careers?
17. During your career, have you had community organizing experience? Worked for or run a community-based non-profit organization? Participated in a grassroots organization campaign to address local community problem?
18. Do you have other success stories or lessons learned, including pitfalls, that could inform HWWT or MWT programs?

### Text Box A.2. List of Individuals Interviewed

Sharon Beard Industrial Hygienist NIEHS-WETP RTP, NC	Myra Blakely Training Coordinator EPA Office of Solid Waste and Emergency Response Washington, DC
Carolyn Bledsoe Program Manager King County Jobs Initiative Seattle, WA	Joe Bruss EPA OBLR Washington, DC
Dr. Robert Bullard Clark-Atlanta University EJ Resource Center Atlanta, GA	Michelle DePass Assistant Administrator EPA Office of International and Tribal Affairs Washington, DC
Donald Elisburg NIEHS National Clearinghouse Washington, DC	Noemi Emeric-Ford Brownfields Coordinator US EPA Region 9 Los Angeles, CA
Joseph (Chip) Hughes Director NIEHS-WETP RTP, NC	Gary Kaplan Executive Director JFY Networks Boston, MA
Donald Killinger Director District Council of Carpenters' Building Works New York, NY	John LeConche Executive Director LIUNA Pomfret, CT
Dr. Myra Lewis Dillard University, Deep South Center for EJ New Orleans, LA	Alex Lopez Senior Manager Brownfields Job Training Program LA Conservation Corps
Michael Lythcott Senior Associate E <sup>2</sup> , Inc Marlboro, NJ	LaVerne Mayfield Director of Community Outreach CBTU/ICWU Cincinnati, OH
Donna McDaniel Assistant Director Minority Advancement Department LIUNA Washington, DC	Elaine Proctor Student Graduate CPWR New Orleans, LA
Liam O'Fallon NIEHS-PEPH RTP, NC	Ted Outwater NIEHS-WETP RTP, NC
Tippi Reed President OAI, inc. Chicago, IL	Bernadette Oliveira-Rivera Administrator LIUNA Pomfret, CT

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Mathy Stanislaus Assistant Administrator EPA Office of Solid Waste and Emergency Response Washington, DC	Kizetta Vaughn The Center for Construction Training and Research Silver Spring, MD
Suzanne Wells EPA Program Manager for Superfund Job Training Initiative Washington, DC	



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