

DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

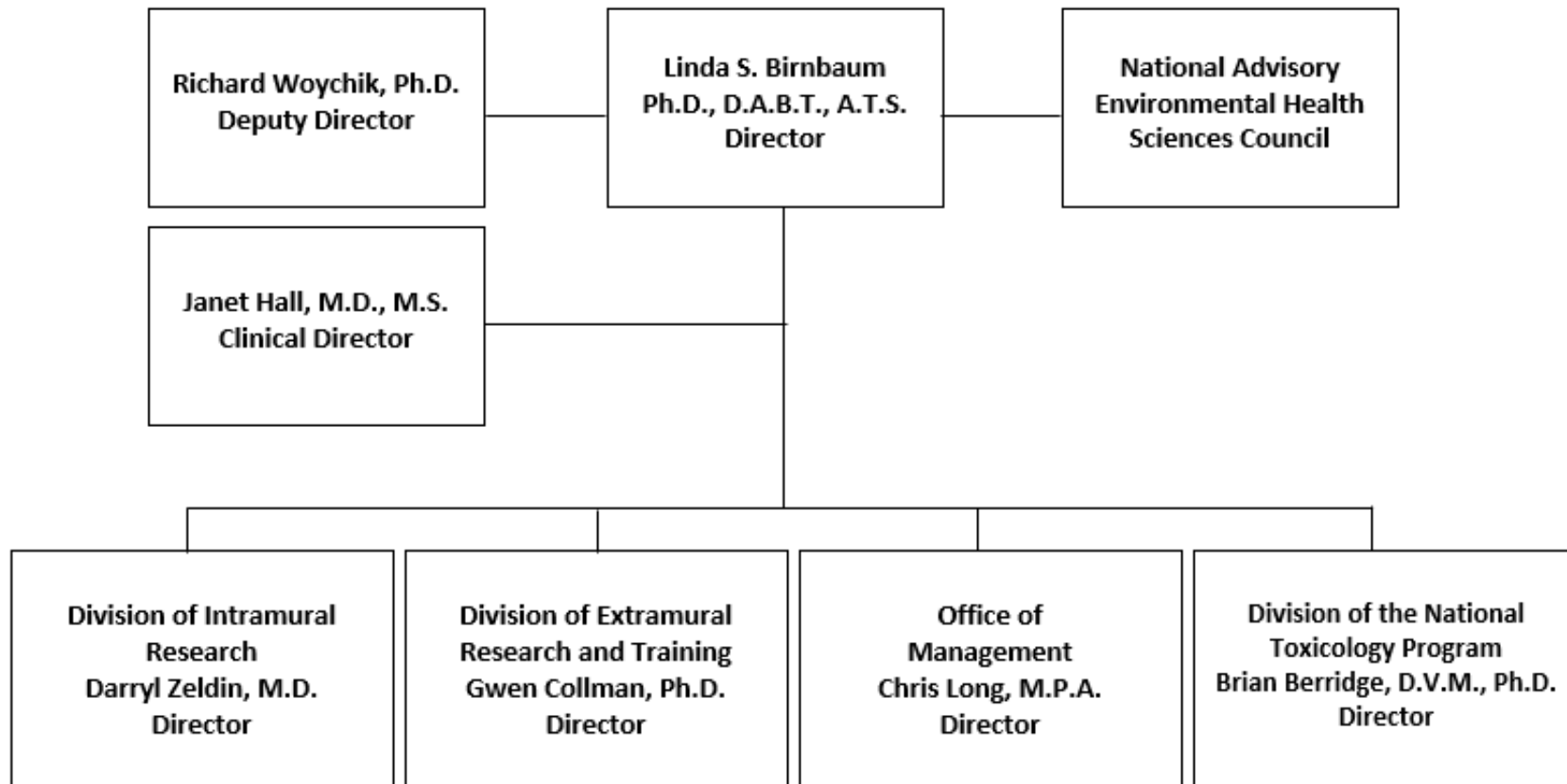
National Institute of Environmental Health Sciences (NIEHS)

Department of Interior and Related Agencies Appropriations

Superfund-Related Activities

<u>FY 2019 Budget</u>	<u>Page No.</u>
Organization Chart	2
Appropriation Language	3
Amounts Available for Obligation.....	4
Budget Graphs.....	5
Authorizing Legislation	6
Appropriations History	7
Justification of Budget Request	8
Summary NIH Tables	15

NATIONAL INSTITUTES OF HEALTH
National Institute of Environmental Health Sciences
Organization Structure



NATIONAL INSTITUTES OF HEALTH

National Institute of Environmental Health Sciences
Department of Interior, Environment, and Related Agencies Appropriations
Superfund Related Activities

For necessary expenses for the National Institute of Environmental Health Sciences in carrying out activities set forth in section 311(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9660(a)) and section 126(g) of the Superfund Amendments and Reauthorization Act of 1986, \$53,967,000.

**NATIONAL INSTITUTES OF HEALTH
Superfund**

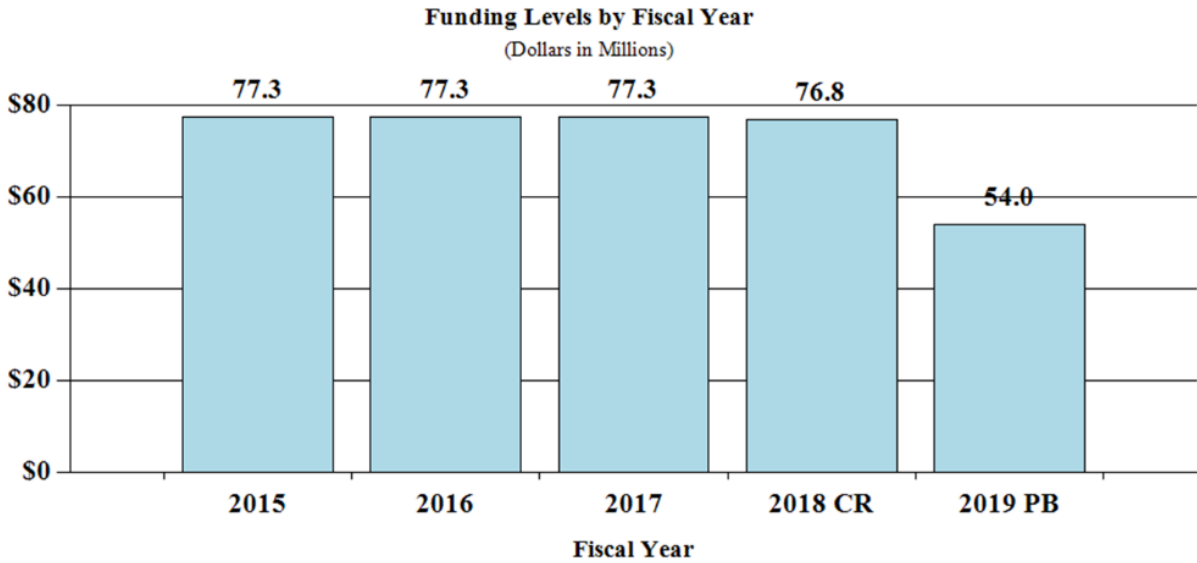
Amounts Available for Obligation¹
(Dollars in Thousands)

Source of Funding	FY 2017 Final	FY 2018 Annualized CR	FY 2019 President's Budget
Appropriation	\$77,349	\$77,349	\$53,967
Mandatory Appropriation: (non-add)			
<i>Type 1 Diabetes</i>	(0)	(0)	(0)
<i>Other Mandatory financing</i>	(0)	(0)	(0)
Rescission	0	-525	0
Sequestration	0	0	0
Subtotal, adjusted appropriation	\$77,349	\$76,824	\$53,967
OAR HIV/AIDS Transfers	0	0	0
Subtotal, adjusted budget authority	\$77,349	\$76,824	\$53,967
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	\$77,349	\$76,824	\$53,967
Unobligated balance lapsing	-12	0	0
Total obligations	\$77,337	\$76,824	\$53,967

¹ Excludes the following amounts for reimbursable activities carried out by this account:
FY 2017 - \$10,000 FY 2018 - \$10,000 FY 2019 - \$10,000

Fiscal Year 2019 Budget Graphs

History of Budget Authority:



**NATIONAL INSTITUTES OF HEALTH
Superfund**

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2018 Amount Authorized	FY 2018 Annualized CR	2019 Amount Authorized	FY 2019 President's Budget
Environmental Protection Agency's Hazardous Substance Superfund	CERCLA Section 311(a)	42§9660 Section 9660(a)	Indefinite	\$76,823,723	Indefinite	\$53,967,000
	SARA Section 126(a)	42§9660 Section 9660(a)	Indefinite		Indefinite	
Total, Budget Authority				\$76,823,723		\$53,967,000

**NATIONAL INSTITUTES OF HEALTH
Superfund**

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2009	\$77,546,000	\$78,074,000	\$77,546,000	\$78,074,000
Rescission				\$0
2010	\$79,212,000	\$79,212,000	\$79,212,000	\$79,212,000
Rescission				\$0
2011	\$81,763,000			\$79,212,000
Rescission				\$158,000
2012	\$81,085,000			\$79,054,000
Rescission				\$126,000
2013	\$78,928,000		\$78,928,000	\$78,927,514
Rescission				\$157,855
Sequestration				(\$3,961,618)
2014	\$79,411,000			\$77,349,000
Rescission				\$0
2015	\$77,349,000			\$77,349,000
Rescission				\$0
2016	\$77,349,000	\$77,349,000	\$77,349,000	\$77,349,000
Rescission				\$0
2017 ¹	\$77,349,000	\$77,349,000	\$77,349,000	\$77,349,000
Rescission				\$0
2018	\$59,607,000	\$75,370,000		\$77,349,000
Rescission				\$525,277
2019	\$53,967,000			

¹ Budget Estimate to Congress includes mandatory financing.

Justification of Budget Request

Superfund

Authorizing Legislation: Section 311(a) of the Comprehensive Environmental, Response, Compensation, and Liability Act of 1980, as amended, and Section 126(g) of the Superfund Amendments and Reauthorization Act of 1986.

Budget Authority (BA):

FY 2017 Actual	FY 2018 Annualized CR	FY 2019 President's Budget	FY 2019+ /- FY 2018
\$77,349,000	\$76,823,723	\$53,967,000	-\$22,856,723

FTEs associated with Superfund Research activities are included with the regular NIEHS appropriation tables. Payroll costs for those FTE are accounted for in Superfund Research tables.

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements and Other.

Director's Overview

The National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH), Superfund-Related Activities seeks scientific solutions and training advancements to health and environmental problems associated with hazardous waste and disaster response. This program consists of two interdependent components: the Superfund Research Program (SRP) and the Worker Training Program (WTP).

In keeping with the NIEHS mission, the SRP funds teams of diverse professionals to research, develop, test, and implement unique, solution-oriented approaches that positively impact public health and address complex environmental health problems. Since 1987, the NIEHS WTP has provided health and safety training to hazardous waste cleanup workers and emergency responders to protect communities from hazardous exposures and disasters. Below are several highlights that demonstrate the breadth of research and training used by the NIEHS Superfund-Related Activities, SRP and WTP, to address critical environmental health issues facing our nation.

SRP and WTP programs support completing cleanup actions at Superfund sites by providing effective and practical training to workers and developing innovative and cost-effective remediation technologies. Through early SRP support, researchers at the University of Washington laid the foundation for the use of plants, such as poplar trees, for remediation. Their work later went on to generate an economic savings of approximately \$10 million at the Undersea Naval Warfare Center in Keyport, Washington, where the technology was implemented. The other constituent of the NIEHS Superfund-Related Activities, WTP, prepares workers to handle hazardous waste in a safe manner on Superfund sites while effectively

instructing them in successful remediation strategies. From August 2016 through July 2017, WTP funding led to over 1,300 Comprehensive Environmental Response, Compensation, and Liability Act courses being delivered across the nation.

NIEHS Superfund-Related Activities also support research and training for emergency response and disasters. As the nation grapples with rampant wildfires, WTP grantee Alabama Fire College provides courses for public safety personnel on topics such as First Responder Operations, Hazardous Materials Awareness, and Mass Casualty Incident Triage. Additionally, its Responder Safety Awareness course discusses wildfires as one aspect of safety preparedness. At the University of Arizona, SRP-funded researchers developed sensing technologies for mining impacts on air quality. Their tools are so precise that they allow insight into the toxic components of fire-borne particles. This provides firsthand data of potentially harmful exposures endured by firefighters and impacted communities.

In response to another national disaster, Hurricane Harvey, SRP grantees at Texas A&M University quickly collected sediment, river, and water samples in some of the hardest hit areas of Houston to understand changes in contamination due to flooding. WTP grantees in Houston, Texas, were also able to quickly respond to Hurricane Harvey (using regular WTP funds) because of training capacity and experience built over decades. Trainers from multiple WTP grantees delivered curricula in both English and Spanish, covering topics such as disaster train-the-trainer, mold awareness, and resilience. Both the WTP and SRP programs provide technical assistance to devastated communities and assist with safe recovery of their neighborhoods and environment.

Overall Budget Policy: The FY 2019 President's Budget request for NIEHS Superfund is \$53.967 million, a decrease of \$22.857 million compared to the FY 2018 Annualized CR level.

Program Descriptions and Accomplishments

NIH/NIEHS Superfund Research Program (SRP)

The Superfund Research Program (SRP) is a university-based, multidisciplinary, translational research program that supports multi-project grants, undergraduate and postdoctoral training programs, individual research grants, and Small Business Innovation Research. The SRP is a world-class program that seeks solutions to the complex health and environmental issues associated with the nation's hazardous waste sites with the ultimate goal of improving public health.

Each year SRP supports research and training that positively impacts communities and people across the U.S. This work has led to the development of a variety of outcomes that reduce disease risk and promote health, such as novel technologies for the detection of toxic chemicals; a better understanding of environmental chemical toxicity; and innovative remediation technologies to clean up Superfund and other hazardous waste sites. These efforts help all Americans.

Working with both rural and urban communities, SRP researchers have made new discoveries about an old contaminant, polychlorinated biphenyls (PCBs). Researchers at the University of

Iowa investigated communities in Iowa and Indiana and discovered PCBs are not just a problem in urban areas or Superfund sites. They found high levels of PCBs in children from seemingly unpolluted rural areas, with evidence indicating these exposures may come from construction materials common in older school buildings. This is troubling, given the many adverse health outcomes associated with PCBs. Recent research at the University of Kentucky (UK) SRP indicates that these chemicals may increase the risk of developing type 2 diabetes. Research at this center also demonstrates a relationship between dietary nutrients and reduced disease vulnerability from PCB exposure in U.S. adults. Given these findings, UK SRP grantees are piloting an outreach campaign with rural residents in Appalachia, monitoring the cardiometabolic benefits of healthy eating and exercise habits, to stave off the impacts that contamination may have in developing obesity or diabetes.

SRP also has a focused effort in Native American communities. Water contamination and the resulting closures of fishing areas have created many problems for Native American communities because the areas are an important source of food and because fishing relates to their cultural identity and history. Brown University SRP Center is working with the Narragansett Tribe (Rhode Island) to investigate the sources of PCBs and metals in fish from their tribal waters. This interaction will help facilitate informed decision-making regarding fish consumption. As this multi-year study continues, researchers are gathering information that they need to secure cleaner water and healthier fish for the Narragansett Tribe, findings that can also be adapted for other Native American communities. In another example, the University of Arizona has developed educational modules for Tribal Colleges on how to minimize risk of metal exposures from mining activities in Navajo lands. SRP grantees foster communication and interaction with Native American communities so that they can address environmental health concerns.

Understanding health impacts of chemicals in the environment leads to prevention. For example, researchers at Columbia University uncovered an association between exposure to arsenic in private well water and decreased intellectual function in children in Maine. These researchers are also reaching out to these families through easily accessible YouTube videos to help them learn about arsenic well testing and treatment. Dartmouth University is also working on practical solutions for families to avoid impacts of arsenic, like testing water pitchers that are effective in taking arsenic out of water.

SRP works closely with federal and state partners to accelerate the adoption of new science to streamline site management and risk assessment processes. For example, the discovery of polyfluorinated alkyl substances (PFAS) in US drinking water created an opportunity for SRP grantees to provide training on how to detect these compounds and what levels are considered safe. In a partnership with the U.S. EPA, SRP researchers shared tips on how to measure these compounds through free online training modules that have reached about 15,000 people in nearly all 50 states. In addition, researchers from Northeastern and Brown University held meetings and in-person training classes with local, state, and federal health workers, targeting the northeastern states, where some communities are being exposed to several types of PFAS. This kind of outreach takes the science from the university lab, and delivers it to people tasked with protecting families from harmful exposures.

Program Portrait: New Cleanup Solutions for Broad Applications

A fundamental goal of the national Superfund program is to remediate our nation's hazardous waste sites. The SRP strives to achieve that goal through a variety of notable research and cost-effective strategies.

Sediment remediation at Superfund Sites is projected to cost the U.S. billions of dollars. This calls for new, cheaper technologies. An SRP-supported grantee at the University of Maryland developed a remediation technology that uses a carbon-based material, called SediMite. It can be applied to sediments to soak up contamination, preventing PCBs from reaching the food chain. This development positioned SRP for a scale-up application at the Middle River Project (Maryland), where it is estimated \$22 million was saved by using this technology compared to a dredging option. It is also being applied at four other sites (Lower Canal Creek at Aberdeen Proving Ground, MD; Bailey Creek, Ft. Eustis, VA; Berry's Creek, NJ; and Mirror Lake, DE). SediMite could be used at many Superfund sites for a cost savings compared to traditional remediation.

SRP-funded scientists are also inventing technologies to prevent harmful exposures. University of California, Berkeley researchers provide a hopeful solution to remove perfluorooctanoic acid (PFOA) from the environment. They altered activated carbon with sulfate radicals, which significantly increased the amount of PFOAs removed from water. PFOA is difficult to treat by most conventional methods, but this new method can be applied to industrial wastewater and paves the way for development of more effective means in small-scale treatment. This is welcome news to communities grappling with the discovery of this potentially toxic material in their water systems. A research team at the University of Kentucky SRP Center developed a new filtration device that uses a special structure of nanoparticles to remove chlorinated contaminants. While it is just in the testing phase, this technology has the potential for large-scale remediation applications with economic savings. It will be piloted at several sites in Kentucky.

The worldwide use of chlorinated solvents for various purposes such as chemical manufacturing has made chlorinated solvents, such as trichloroethylene (TCE), a widespread groundwater contaminant. Now there is hope for better and faster detoxification of chlorinated contaminants in water sources thanks to SRP scientists. University of Tennessee grantees have discovered new forms of cofactors that increase the pace of bacteria that naturally degrade TCE contaminants. Recently, SRP-funded small business grantee Edenspace Systems Corporation in Virginia conducted the first successful large-scale remediation experiment on a Superfund site, using poplar trees fortified with a microbial endophyte to remove TCE from contaminated groundwater. This advance opens the door for using other natural biological processes to clean sites, like the work by BioCement Technologies, a small business grantee, using bacterial enzymes to treat soils contaminated with heavy metals.

The NIEHS SRP focuses on environmental and public health issues that matter to the United States, and its efforts in cleanup solutions continues to make a lasting difference for rural, urban, and disadvantaged communities. When contaminated sites are cleaned, they are no longer a liability to communities and can become an asset through redevelopment and revitalization. Importantly, by removing contamination, the SRP ensures that all Americans have access to clean water, clean air, and the opportunity to work and live in healthy communities.

NIH/NIEHS Worker Training Program (WTP)

WTP provides the nation with a workforce trained in the safe handling of hazardous materials and waste. This includes thousands of workers employed at Superfund sites. This vital training is conducted in all regions of the country and for all relevant target populations through a network of non-profit organizations. These organizations are committed to protecting workers and their communities by creating and delivering high quality, peer-reviewed safety and health curricula. WTP has built a national workforce ready to handle hazardous materials and environmental concerns and to respond during disasters.

From August 2016 through July 2017, WTP provided approximately 1.25 million contact hours across 90 types of courses to about 125,000 workers. The total number of courses provided was approximately 8,500. Since the inception of WTP, over 3.2 million workers have been trained with a focus on protecting their health, as well as maintaining and increasing worksite and community safety.

A key part of WTP is the Environmental Career Worker Training Program (ECWTP), which strives to empower underrepresented, underemployed, or unemployed individuals with training in areas such as environmental restoration, construction, hazardous materials, waste handling, and emergency response. The training increases their employment opportunities and promotes engagement in environmental improvement efforts, often in their own communities. Overall, ECWTP has trained over 11,000 individuals with at least a 70 percent job placement rate. A successful example of ECWTP training is the New Jersey/New York Hazardous Materials Worker Training Center through Rutgers University that works with the New York District Council of Carpenters. From August 2016 through July 2017, they have placed 44 people in employment out of 61 people enrolled, for a placement rate of 72 percent.

WTP also assists military personnel who are transitioning from military service, and their dependents. Barton Community College, a member of the WTP's Community College Consortium for Health and Safety Training, provides an eleven-day Hazardous Material worker training program at three U.S. Army posts in Kansas, Oklahoma, and Colorado. The training consists of an Occupational Safety and Health Administration hazardous materials course, a 10-hour general industry safety course, and Hazardous Waste Operations and Emergency Response (HAZWOPER) training. In 2017, they delivered four courses to 58 participants at Fort Sill, Oklahoma and four courses to 53 participants at Fort Riley, Kansas.

WTP grantees conduct training in rural communities, often filling gaps in training needs and requirements for rural businesses, municipalities, and first responders. Alabama Fire College (AFC) provided critical training to rural Georgia and Alabama firefighters this past year. Similarly, WTP-funded Opportunity, Advancement, Innovation in Workforce Development, Inc. (OAI), in a new partnership with the University of Illinois Fire Service Institute (IFSI) and the Illinois Corn Growers Association, co-sponsored a 40-hour Grain Bin Rescue Operations training for rural emergency responders in Mt. Carroll, Illinois. Prior to this sponsorship, very few fire departments and emergency services in rural Illinois received this training due to the expense and limited training resources. Twenty-four first responders from four rural fire and ambulance departments participated in the training that was conducted by IFSI over two weekends in February 2017. OAI is planning another four courses on Grain Bin Rescue Operations in Illinois this coming year, along with other courses for first responders and law enforcement in Kentucky, Minnesota, Illinois, and Indiana.

WTP continues its training for Native American tribes across the country, increasing tribal members' employment opportunities and the tribes' capacity for hazardous materials response and environmental remediation. The AFC Workplace Safety Training (WST) program assists Native American emergency responders and hazardous waste workers across the country, including tribal members employed by law enforcement, emergency medical, fire service, natural resource, and public works agencies. From August 2016 through July 2017, the AFC WST

trained members of 23 tribes, including Mississippi Band of Choctaw, Jemez Pueblo (New Mexico), Yakama Nation (Washington), Pawnee Nation (Oklahoma), Chippewa Cree (Montana), and the Confederated Tribes of the Umatilla Indian Reservation (Oregon). Supplemental WTP funding provided opportunities to bring additional 40-hour health and safety training courses to Native American tribes, such as the Fort Peck Assiniboine and Sioux Tribes in Montana, that face potential and actual contamination of tribal lands that must be assessed and possibly remediated.

Emergency preparedness and response is another critical component of WTP. WTP grantees are training small and large communities across the country to prepare for natural or man-made disasters that could affect their area. For example,

- The International Chemical Workers Union Council Center for Worker Health and Safety Education conducted a Disaster Train-the-Trainer course in 2017 in Jackson, Mississippi, to help prepare for weather-related disasters along the Gulf and Atlantic coasts. The training was hosted by the Jackson Police Department (JPD) in collaboration with the Coalition of Black Trade Unionists (CBTU). Trainees included JPD employees from the Fire Arms Division and the Police Training Academy, local CBTU worker-trainers, and WTP grantees from Dillard University.
- Crude oil from the Bakken Oil Fields is transported across the Midwest and WTP grantees are implementing training to prepare workers and communities for any events that could occur as a result. Grantee OAI, Inc. is training workers to respond to emergency rail incidents in Minnesota, Kentucky, and Illinois.
- With concern for refinery safety and implementation of California's new Process Safety Management (PSM) standard for petroleum refineries, the University of California Los Angeles Labor Occupational Safety and Health Program has been working with local partners to improve health and safety for refinery workers and residents living adjacent to refineries, ports, and chemical facilities in Southern California. Current efforts include adapting existing modules about basic PSM concepts for use by the PSM and Safety Representatives and assessing needs for future training and materials that will build local union capacity to implement new safety processes.

Program Portrait: Native American Training under the Western Region Universities Consortium: Collaboration with the Bureau of Indian Affairs in the Southwest and Tribal Organizations in Alaska

WTP trains workers in safe practices in remediating hazardous waste sites and in responding to emergencies involving hazardous substances so that our water, air, and soil are better protected and risk from environmentally-related disease is reduced. From August 2016 through July 2017, for example, 625 of approximately 3,300 total workers trained by the Western Regional Universities Consortium (WRUC), were Native Americans. Much of the WTP Native American training has been completed by consortia members Arizona State University (ASU) and University of Washington (UW).

ASU, under WRUC, offers a number of Native American open-enrollment courses in coordination with the Navajo Region's Division of Environmental & Safety Management (DESM) within the Bureau of Indian Affairs (BIA), Department of the Interior. In 2017, ASU trained 467 workers in 20 courses with BIA. For BIA training activities in New Mexico and Arizona, ASU is the only provider of HAZWOPER (40-Hour and 8-Hour refresher), DOT Hazardous Materials Transportation, Solid Waste Control under the Resource Conservation and Recovery Act (RCRA), and Confined Space site-specific training. Other courses provided include Pollution Prevention and Hazard Communication.

Classes by ASU include attendees from multiple Southwest tribes. The majority are Navajo since the three main training sites are located in the heart of the Navajo Nation (Tuba City AZ, Chinle AZ, and Gallup NM). A number of Hopi tribal members are included in each class. In addition, a small number of trainees come from the White Mountain Apache tribe in Eastern Arizona.

UW, under WRUC, has had continued success in reaching Alaska Native communities. UW provided training to remote Alaskan villagers on topics such as general construction safety, confined space entry and rescue, and several levels of hazardous waste operations. UW worked with Bristol Bay Native Corporation, an Alaska Native Regional Corporation, to bring relevant hazardous materials handling and operations courses to remote western Alaskan villages. UW also worked with the Tribal Solid Waste Advisory Network to offer hazardous waste operations training (HWOT) to its Native American members. UW conducted HWOT with the Tulalip Tribe Tribal Employment Rights Ordinance Vocational program, the only tribal pre-apprenticeship training program in the nation. Lastly, UW partnered with Zender Environmental to provide training in their Rural Alaska Construction Education Job Training program, which recruited 18 students from rural Alaska and brought them to Anchorage for two one-month long training sessions to prepare them for work back in their native villages.

Tribal nations in the Southwest, Northwest, and Alaska operate solid and hazardous waste programs, utility systems, and law enforcement agencies much like other communities, but rural and remote locations, underdeveloped infrastructure, and historically high rates of poverty have combined to leave many tribal entities behind their non-native counterparts in environmental and worker protection. Many of these issues are particularly acute in Alaska where transportation and infrastructure costs make practices like backhauling of waste cost-prohibitive.

**NATIONAL INSTITUTES OF HEALTH
BUDGET REQUEST BY IC (SUMMARY TABLE)**

(Dollars in Thousands)	FY 2017 Final	FY 2018 Annualized CR	FY 2019 President's Budget
NCI.....	\$5,659,955	\$5,650,693	\$5,626,312
NHLBI.....	\$3,209,929	\$3,184,813	\$3,112,032
NIDCR.....	\$424,797	\$422,860	\$413,196
NIDDK ¹	\$2,009,504	\$2,007,892	\$1,965,434
NINDS.....	\$1,778,688	\$1,771,541	\$1,838,556
NIAID.....	\$4,905,718	\$4,873,317	\$4,761,948
NIGMS ²	\$2,646,152	\$2,632,836	\$2,572,669
NICHD.....	\$1,376,608	\$1,370,921	\$1,339,592
NEI.....	\$731,212	\$727,643	\$711,015
NIEHS ³	\$790,018	\$786,234	\$747,166
NIA.....	\$2,048,814	\$2,034,698	\$1,988,200
NIAMS.....	\$556,606	\$554,063	\$545,494
NIDCD.....	\$435,904	\$433,908	\$423,992
NIMH.....	\$1,604,658	\$1,591,052	\$1,612,192
NIDA.....	\$1,070,846	\$1,083,445	\$1,137,403
NIAAA.....	\$482,451	\$480,080	\$469,109
NINR.....	\$149,937	\$149,252	\$145,842
NHGRI.....	\$528,346	\$524,977	\$512,979
NIBIB.....	\$356,981	\$354,655	\$346,550
NIMHD.....	\$287,670	\$287,106	\$280,545
NCCIH.....	\$134,389	\$133,774	\$130,717
NCATS.....	\$704,330	\$701,109	\$685,087
FIC.....	\$71,852	\$71,723	\$70,084
NLM.....	\$406,604	\$404,743	\$395,493
B&F.....	\$128,567	\$127,988	\$200,000
OD.....	\$1,728,603	\$1,706,132	\$2,004,306
NIRSQ.....	---	---	\$255,960
NIOSH.....	---	---	\$200,000
NIDILRR.....	---	---	\$95,127
PCORTF (NIRSQ).....	---	---	\$124,349
EEOICPA (NIOSH).....	---	---	\$55,358
TOTAL, NIH Program Level	\$34,229,139	\$34,067,456	\$34,766,707
Special type 1 Diabetes Research	-\$139,650	-\$150,000	---
PCORTF	---	---	-\$124,349
EEOICPA	---	---	-\$55,358
PHS Program Evaluation	-\$824,443	-\$818,844	-\$741,000
Interior Approp. (Superfund Research)	-\$77,349	-\$76,824	-\$53,967
Total, NIH Labor/HHS Budget Authority	\$33,187,697	\$33,021,788	\$33,792,033

¹ Includes Special type 1 Diabetes Research mandatory funding in FY 2017 (\$139.65 million) and FY 2018 (\$150 million) and discretionary funding in FY 2019 (\$150 million).

² Includes Program Evaluation financing of \$824 million in FY 2017, \$818 million in FY 2018, and \$741 million in FY 2019.

³ Includes Interior Appropriation allocation for Superfund Research activities.

NATIONAL INSTITUTES OF HEALTH BUDGET MECHANISM TABLE

(Dollars in Thousands) ¹	FY 2017 Final ^{1,4}		FY 2018 Annualized CR ^{1,4}		FY 2019 President's Budget ^{4,10}		FY 2019 +/- FY 2018	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Research Projects:								
Noncompeting	24,638	\$12,661,301	25,468	\$13,495,362	25,030	\$13,291,723	-438	-\$203,639
Administrative Supplements ²	(1,508)	225,445	(1,174)	157,514	(952)	112,473	(-222)	-45,041
Competing	10,123	\$5,283,732	8,656	\$4,486,448	9,084	\$4,571,486	428	\$85,038
Subtotal, RPGs	34,761	\$18,170,479	34,124	\$18,139,325	34,114	\$17,975,682	-10	-\$163,643
SBIR/STTR	1,807	923,162	1,796	926,988	1,835	918,846	39	-8,142
Research Project Grants	36,568	\$19,093,641	35,920	\$19,066,313	35,949	\$18,894,528	29	-\$171,785
Research Centers:								
Specialized/Comprehensive	1,004	\$1,766,720	979	\$1,706,013	1,082	\$1,709,109	103	\$3,096
Clinical Research	67	402,112	71	418,602	85	405,881	14	-12,721
Biotechnology	105	187,352	101	175,897	123	180,243	22	4,346
Comparative Medicine	48	121,663	47	118,807	51	127,634	4	8,827
Research Centers in Minority Institutions	24	58,462	24	64,388	22	59,851	-2	-4,537
Research Centers	1,248	\$2,536,309	1,222	\$2,483,707	1,363	\$2,482,718	141	-\$989
Other Research:								
Research Careers	3,712	\$672,622	3,792	\$688,038	4,226	\$752,342	434	\$64,304
Cancer Education	83	23,629	85	24,147	94	26,492	9	2,345
Cooperative Clinical Research	329	403,274	265	377,633	291	400,779	26	23,146
Biomedical Research Support	109	69,962	109	68,778	63	39,703	-46	-29,075
Minority Biomedical Research Support	281	104,119	281	103,454	357	110,179	76	6,725
Other	1,863	907,363	1,954	979,720	2,088	863,101	134	-116,619
Other Research	6,377	\$2,180,970	6,486	\$2,241,770	7,119	\$2,192,596	633	-\$49,174
Total Research Grants	44,193	\$23,810,919	43,628	\$23,791,790	44,431	\$23,569,842	803	-\$221,948
Ruth L. Kirchstein Training Awards:								
Individual Awards	3,599	\$157,826	3,554	\$159,393	3,488	\$157,910	-66	-\$1,483
Institutional Awards	12,419	669,571	12,471	680,412	12,282	652,676	-189	-27,736
Total Research Training	16,018	\$827,397	16,025	\$839,805	15,770	\$810,586	-255	-\$29,219
Research & Develop. Contracts <i>(SBIR/STTR) (non-add)²</i>	2,028 (88)	\$3,070,430 (57,569)	2,018 (78)	\$2,896,751 (60,086)	2,003 (98)	\$2,931,915 (61,241)	-15 (20)	\$35,164 (1,155)
Intramural Research		\$3,782,692		\$3,787,681		\$3,795,544		\$7,863
Res. Management & Support <i>Res. Management & Support (SBIR Admin) (non-add)^{2,11}</i>		1,747,769 (5,695)		1,765,098 (0)		1,757,337 (0)		-7,761 (0)
<i>Office of the Director - Appropriation^{2,5}</i>		(1,728,603)		(1,706,132)		(2,004,306)		(298,174)
<i>Office of the Director - Other</i>		754,016		751,723		1,152,682		400,959
<i>ORIP (non-add)^{2,5}</i>		(279,131)		(275,580)		(252,843)		(-22,737)
<i>Common Fund (non-add)^{2,5}</i>		(695,456)		(678,829)		(598,781)		(-80,048)
Buildings and Facilities ⁶ <i>Appropriation</i>		158,567 (128,567)		157,784 (127,988)		220,000 (200,000)		62,216 (72,012)
National Institute for Occupational Safety and Health ⁹		---		---		200,000		200,000
National Institute on Disability, Independent Living, and Rehabilitation Research ⁹		---		---		95,127		95,127
Special type 1 Diabetes ⁷		-139,650		-150,000		-741,000		150,000
Program Evaluation Financing ⁸		-824,443		-818,844		---		77,844
Subtotal, Labor/HHS Budget Authority		\$33,187,697		\$33,021,788		\$33,792,033		\$770,245
Interior Appropriation for Superfund Research		77,349		76,824		53,967		-22,857
Total, NIH Discretionary BA		\$33,265,046		\$33,098,611		\$33,846,000		\$747,389
Special type 1 Diabetes		139,650		150,000		0		-150,000
Patient-Centered Outcomes Research Trust Fund (PCORTE)		---		---		124,349		124,349
Energy Employees Occupational Illness Compensation Program Act (EEOICPA)		---		---		55,358		55,358
Total, NIH Budget Authority		\$33,404,696		\$33,248,611		\$34,025,707		\$777,096
Program Evaluation Financing		824,443		818,844		741,000		-77,844
Total, Program Level		\$34,229,139		\$34,067,456		\$34,766,707		\$699,251

¹ All Subtotal and Total numbers may not add due to rounding.

² All numbers in italics and brackets are non-add.

³ Excludes Ebola-related supplemental appropriations.

⁴ Includes 21st Century Cures Act funding.

⁵ Number of grants and dollars for the Common Fund and ORIP components of OD are distributed by mechanism and are noted here as a non-add; The Office of the Director - Appropriations also is noted as a non-add because the remaining funds are accounted for under OD - Other.

⁶ Includes the Building & Facilities appropriation as well as funds identified for facilities repairs and improvements at the NCI Federally Funded Research and Development Center in Frederick, Maryland.

⁷ In FY 2017 and FY 2018 the number of grants and dollars for mandatory Special type 1 Diabetes Research account are distributed by mechanism above; therefore, type 1 Diabetes amounts are deducted to provide subtotals that align to the Labor/HHS Budget Authority levels. In FY 2019, resources for Special type 1 Diabetes are incorporated in discretionary appropriations.

⁸ Number of grants and dollars for Program Evaluation Financing are distributed by mechanism above; therefore, the amount is deducted to provide subtotals that align to the Labor/HHS Budget Authority levels.

⁹ National Institute for Occupational Safety and Health (NIOSH) and National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) included in FY 2019 only and are not distributed by mechanism.

¹⁰ Includes funding for the National Institute for Research on Safety and Quality (formerly the Agency for Healthcare Research and Quality), NIOSH, and NIDILRR.

¹¹ SBIR administrative funds pilot program expired on September 30, 2017.

NATIONAL INSTITUTES OF HEALTH
Detail of Full-Time Equivalent Employment (FTE)

Institutes and Centers	FY 2017 Actual	FY 2018 Estimate	FY 2019 Estimate
NCI*	3,029	3,047	3,036
NHLBI	955	962	962
NIDCR	235	235	235
NIDDK	655	663	663
NINDS	525	532	532
NIAID	1,959	1,963	1,963
NIGMS	182	184	184
NICHD	553	557	557
NEI	272	273	273
NIEHS	658	662	662
NIA	430	434	434
NIAMS*	227	227	238
NIDCD	138	140	140
NIMH	560	563	563
NIDA	380	382	382
NIAAA	236	238	238
NINR	95	96	96
NHGRI	346	349	349
NIBIB	103	102	102
NCATS	166	167	167
NCCIH	71	73	73
NIMHD	68	68	68
FIC	61	61	61
NLM	733	741	741
OD	785	781	781
NIRSQ**	---	---	247
NIOSH	---	---	1,072
NIDILRR	---	---	32
OD - CS	829	841	841
CC	1,851	1,844	1,844
CSR	417	417	417
CIT	252	257	257
ORS	533	539	539
ORF	714	707	707
Central Services ¹	4,596	4,605	4,605
Total	18,018	18,105	19,456
<i>PHS Trust Fund (non-add)</i> ²	4	4	4
<i>CRADA (non-add)</i> ³	5	5	5
Grand Total	18,018	18,105	19,456

* Reflects move of Dermatology Section from NCI to NIAMS in FY 2019.

** Includes two Reimbursable FTEs.

¹ Reflects FTE associated with Central Services positions whose payroll costs are covered from NIH Management Fund and NIH Service and Supply Fund resources.

² PHS Trust Fund positions are incorporated within the IC's Direct-funded civilian FTE category and are treated as non-add values.

³ CRADA positions are distributed across multiple ICs and are treated as non-add values.