

Military Hazardous Waste Sickens Land and People

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By H. Patricia Hynes (/author/itemlist/user/44781), Truthout (<http://truth-out.org>) | News Analysis

Worldwide, the military is the most secretive, shielded and privileged of polluters because the hallowed mantra, *national security*, trumps the public's right to know. Thus, most of the extant data on pollution from US-military-related sites is available solely because of citizen pressure on the Department of Defense (DoD), the Environmental Protection Agency (EPA) and Congress to inventory, assess, and divulge the extent of the

military's environmentally hazardous activities.

Citizen awareness and demands for disclosure of military site pollution grew during the 1980's, in the heyday of the new hazardous waste laws, which set standards for storing, transporting, and disposal of solid and hazardous waste as defined in the statutes - namely, the Resource Conservation and Recovery Act (RCRA 1976) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which initiated the Superfund program in 1980.

By the late 1980's, public data revealed that the Pentagon was generating a ton of toxic waste per minute, more toxic waste than the five largest US chemical companies combined, making it the largest polluter in the United States. (This figure did not include the Department of Energy's nuclear weapons plants and the Pentagon's civilian contractors.) The Army Corps of Engineers labeled the 100-acre basin at Rocky Mountain Arsenal near Denver, Colorado, which stored waste from the production of nerve gas and pesticides from World War II through the Vietnam War era, "the earth's most toxic square mile." Military testing requires national and international "sacrifice zones," among them, Jefferson Proving Grounds in Madison, Indiana, which are 100 square miles of the most contaminated contiguous land in the United States, cordoned off and abandoned because the land was too dangerous to clean up.[1]

Today nearly 900 of EPA's (http://deainfo.nci.nih.gov/advisory/pcp/annualReports/pcp08-09rpt/PCP_Report_08-09_508.pdf) approximately 1,300 Superfund sites - the suite of waste sites classified as those most hazardous to human and ecological health - are abandoned military bases or facilities or military industrial



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(<http://www.flickr.com/photos/truthout/>); Adapted: Francesco Pappalardo (<http://www.flickr.com/photos/cicciofarmaco/5189783657/>), Antonio Edward (<http://www.flickr.com/photos/labandex/854763050/>))

manufacturing and testing sites that produced weapons, military vehicles, and other military-related products and services. The sites include chemical warfare and research facilities; plane, ship and tank manufacture and repair facilities; training and maneuver bases; and abandoned disposal pits. Common contaminants include metal cleaning solvents, pesticides, machining oils, metals, metalworking fluids and chemical ingredients used in explosives. Dumped into pits, leaking from corroding containers, buried in unlined landfills, and left on test ranges, military toxics have leached into groundwater and polluted drinking water.

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According to the 2008-2009 President's Cancer Panel report (http://deainfo.nci.nih.gov/advisory/pcp/annualReports/pcp08-09rpt/PCP_Report_08-09_508.pdf), up to 500,000 people may have consumed solvent-contaminated drinking water in and around the Marine Corps base Camp Lejeune in North Carolina from the late 1950's through the mid-1980's. The solvents, trichloroethylene and perchloroethylene, were traced to an off-base dry cleaning company. Another solvent contaminant, the carcinogen benzene, had been used to clean military equipment. Once used, the spent benzene was routinely dumped or buried on-site near the base drinking water wells. For decades, government authorities adamantly dismissed ongoing reports of cancers, miscarriages, and birth defects among the military and their families as unrelated to Camp Lejeune's water supply. Only recently has the government agreed to set up a registry, web site and call center for residents. In 2005, a study was launched to document childhood leukemia and other serious health conditions in children born at Camp Lejeune and exposed in utero to the contaminated drinking water.

Perchlorate, an ingredient of solid rocket fuel and a byproduct of rocket and missile testing and explosives, is now omnipresent in the environment. This toxic chemical accumulates in the thyroid gland, where it can inhibit iodine transfer and result in iodine deficiency. Adequate iodine is essential for neurological development in fetuses, infants and children and for promotion of the thyroid hormone. A broad scientific consensus maintains that very low levels of perchlorate in food and water supply threaten the health of infants.

More than 12,000 military sites (<http://www.organicconsumers.org/perchlorate.htm>) on which live explosive training takes place release perchlorate into groundwater, where it is exceedingly mobile and persists for decades.

Perchlorate has spread from military bases and defense and aerospace contractor plants into drinking water systems, and has also accumulated in leafy food crops and fruit irrigated with contaminated water. A recent study of powdered baby formula (http://deainfo.nci.nih.gov/advisory/pcp/annualReports/pcp08-09rpt/PCP_Report_08-09_508.pdf) found that all types of both soy- and milk-based

formula are contaminated with perchlorate, and that it has also been detected in breast milk and human urine throughout the United States. Over half the foods (http://switchboard.nrdc.org/blogs/mwu/score_one_for_public_health_ep.html) tested by the Food and Drug (FDA) administration contained perchlorate.

The DoD, defense contractors and the White House fought tooth and claw the EPA's early studies of perchlorate toxicity and pollution in order to block the agency from regulating perchlorate in drinking water. The cabal successfully wrested the perchlorate assessment from the EPA and turned the study over to the National Academy of Sciences (NAS), which they expected to be more malleable to their agenda of downgrading the chemical's toxicity. In 2004, the Natural Resources Defense Council (NRDC) successfully sued the White House, DoD and EPA to obtain a paper trail that documented aggressive efforts by the White House and the Pentagon to influence the NAS study (<http://www.nrdc.org/media/pressreleases/050110.asp>) and findings. According to the NRDC, "This behind-the-scenes campaign included extensive involvement by White House and Pentagon officials to limit the scope of the NAS' inquiry and select the [study] panelists, as well as collaboration among the White House, Pentagon, and DOD contractors to influence the panel." Ultimately, the NAS 2005 final report concluded that perchlorate was significantly more toxic to human health - ten times more so - than the DoD had claimed.

After greater than 20 years of duress from the Pentagon and a decade of NRDC counterpressure, the EPA announced in February 2011 its decision to regulate perchlorate (<http://water.epa.gov/drink/contaminants/unregulated/perchlorate.cfm>) under the Safe Drinking Water Act.

Vieques: 60 Years of Ecosystem Destruction

"Clearing out without cleaning up," (<http://truthout.org/clearing-out-without-cleaning-us-and-vieques-island/1305993085>) is how one member of the Council on Hemispheric Affairs described the exodus of the US Navy in 2003 from Vieques, a small island off Puerto Rico's east coast which was used as a bombing and gunnery practice range and amphibious training site for 55 years. Second-class citizenship and second-class environmental conditions sum up the entire Puerto Rican experience since the US invasion and takeover in July 1898, as ordered by President McKinley in a fit of manifest destiny. Court rulings since 1898 have established Puerto Rico as a territory of the United States and its residents as US citizens in name only. They cannot vote in US national elections and have non-voting representation in Congress only. Lacking political voice and clout, Vieques was an easy claim for US naval power projection in the Atlantic. During World War II, Vieques was selected - with an ensuing land grab of two-thirds of the island that dispossessed landless peasants - to provide dock, fuel and repair facilities for 60 percent of the Atlantic fleet. The island was seen as strategic for keeping Germany

out of the Panama Canal Zone.

Once the war ended, the interminable arms buildup of the cold war stoked new strategic interest in Vieques. The Navy converted the eastern part into a practice bombing site and amphibious Marine training site, and the western end into a storage and disposal site for toxic military materials. Remaining residents lived in the central part of the island, where prevailing easterly winds carried air pollutants from the bombing sites to their neighborhoods. Virtually every weapon deployed by the US military between 1940 and 2003 was used on Vieques, including napalm, Agent Orange, the gamut of explosives, and, reportedly, depleted uranium (DU) bullets. Bombing took place an average of 180 days per year, with a recorded 23,000 bombs dropped in 1998. On the western end of the island, nearly two million pounds of toxic waste from military activities, including spent solvents, lubricants and other oils, have been documented; acids and heavy metals were disposed of in wetlands and mangrove swamps. Excess and defective munitions were detonated and burned on a 200-acre site on the west end. This western third of the island also housed soldiers, and turned into a no-woman's land (<http://www.earthisland.org/journal/index.php/eij/article/vieques/>) of bars and brothels rife with violence against women, street brawls, and fights between white and black soldiers.

Local opposition to the usurpation of Vieques for dangerous and polluting military maneuvers festered for decades. However, it was the 1999 death of a Viequense civilian security guard for the Navy, David Sanes Rodriguez, by two off-target naval bombs that set off a firestorm of public protest. Civil disobedience peace camps were established in the bombing zone; locals sidled their small fishing boats next to naval vessels and ventured into their paths; physicians entered the firing range citing the Hippocratic Oath, and politicians and incumbents at all levels and from all parties, as well as religious heads, joined the peaceful protests to end the naval weapons testing program. These nonviolent actions and the recurrent jailing of peaceful protestors garnered high profile in the media, with ensuing national and international support and participation in the protests. Public pressure to end the military usurpation mounted unrelentingly.

In 2003, the Navy withdrew from the island, turning over much of the land it had decimated and contaminated to the US Department of Interior for designation as the Vieques Wildlife Refuge (<http://truthout.org/clearing-out-without-cleaning-us-and-vieques-island/1305993085>). This bizarre baptism of severely contaminated land riddled with craters and unexploded ordnance as a wildlife sanctuary was an alchemy that would assure the Navy could sail away, absolved of cleanup responsibilities. *Wildlife doesn't compel costly environmental cleanups.* Under public pressure, the EPA placed Vieques and its surrounding waters on the National Priorities List of Superfund sites - an administrative, yet feckless acknowledgement of the gravity of the military contamination. One expert summed up the federal sleight of pen in designating Vieques a wilderness refuge and a Superfund site:

The base land's designation as a wildlife refuge was a decision based more on politics than environmental concerns...The wilderness designation to the live-impact range bombed for [nearly] 60 years has less to do with maintaining the quality of the ecosystem than with evading responsibility for environmental remediation. Land inhabited by pelicans and sea turtles, simply put, is not a national priority for cleanup.

Profile of Contamination

A half-century of naval weapons testing on Vieques resulted in serious destruction of mangroves, lagoons, beaches and coco groves. One Puerto Rican researcher (<http://www.hartford-hwp.com/archives/43/023.html>) described the bombing site as a, "region with more craters per kilometer than the moon," with a litany of egregious violations of federal policies on land use, coastal zone protection, noise, water quality and archeological sites. The sight of unexploded ordnance, bomb fragments and shells, and soil and vegetation reduced to dust led another environmental consultant to compare the rubble to a "World War I battlefield."

Studies have found the fingerprint of explosive contaminants (<http://www.bing.com/search?q=US+Naval+contamination+on+Vieques,+Puerto+Rico&form=APMCS1>) used by the Navy in groundwater and local drinking water wells on Vieques. Doug Rokke, the former director of the Pentagon's Depleted Uranium Project, condemned the use of DU in artillery and bombing practice on Vieques as violating Navy rules which specify that DU be used only in warfare and on specially designated sites. In testimony, Rokke stated that, "It is imperative that complete environmental remediation of all affected terrain and medical care for all affected residents of Vieques be provided."

Health Conditions on Vieques

In a 1985-1989 study, the Puerto Rican Department of Public Health determined that Vieques had a cancer rate 27 percent higher than the rest of the island, and that the risk of children dying from cancer was twice that of the rest of Puerto Rico. A later study, conducted from 1995 to 1998, found that residents under age 50 had a 56 percent greater risk of dying from cancer than Puerto Ricans of the same age living on the main island. A 1990's comparative study found infant mortality decreasing more slowly on Vieques than in Puerto Rico as a whole. In the same period, the rate of premature sexual development, or telarchia, in girls younger than 8 was significantly higher in Vieques than in the rest of Puerto Rico, which already had a high rate. The most probable sources, the study's authors concluded, are military explosive components that mimic human hormones. Other Puerto Rican scientific studies found the carcinogens arsenic, lead and cadmium in the Vieques food chain, surface home dust and residents' hair samples at high levels. Animals studied had 50 times more lead and ten times more cadmium than comparable animals on

mainland Puerto Rico. The heavy metal contamination of edible crops was substantially higher than maximum acceptable levels set by the European Union Council. Still other researchers have found evidence of a higher incidence of vibroacoustic disease (thickening of heart tissue caused by low frequency noise) in Vieques residents than in residents of other parts of Puerto Rico.

Lifestyle studies have found no significant difference between Vieques residents and Puerto Rican residents in key health-related issues, including smoking and obesity. Nor is industry a likely source of the health disparities between Vieques and the rest of Puerto Rico, since very little is located on the island (given Navy expropriation of two-thirds of its land). Faced with these findings, the Navy continues to deny any links between military weapons testing and health problems in Vieques.

In 2007, three-quarters of the island's population, 7,000 Viequenses, sued the US government in a class action lawsuit for compensation for health and environmental damages caused by US military maneuvers. A US District Court judge in Puerto Rico dismissed the case (<http://www.earthisland.org/journal/index.php/eij/article/vieques/>) in 2010 after the Obama administration claimed "sovereign immunity," that is, federal government exemption (<http://www.answers.com/topic/sovereign-immunity>) from civil suit or criminal prosecution, for any military-related damages to the island and residents. A 2007 primary campaign pledge made by Obama to the governor of Puerto Rico, "to actively work ... to achieve an environmentally acceptable clean-up ... and appropriate remedies to health conditions caused by military activities conducted by the US Navy on Vieques" - is broken. On June 9, 2011, lawyers appeared before the First Circuit Federal Appeals Court in Boston on behalf of the Vieques plaintiffs to begin the appeal process for the denial of class action. Recently, Rep. Steve Rothman (D-New Jersey) sponsored a bill in Congress, HR 1645, for the development of a full-service hospital in Vieques, and a center for the study of military contamination and financial compensation to Vieques residents affected by military contaminants. The residents of Vieques are engaged in a David versus Goliath court battle with the DoD, and Rothman's Vieques Recovery and Development Act of 2011 faces the same epic struggle in Congress.

1. Michael Renner. "Assessing the military's war on the environment," in Brown, Lester *et al.* *State of the World 1991*. New York: W.W. Norton. 1991.

Seth Shulman. *The Threat at Home: Confronting the Toxic Legacy of the U.S. Military*. Boston:Beacon. 1992.

H. PATRICIA HYNES (/AUTHOR/ITEMLIST/USER/44781)

H. Patricia Hynes is a retired professor of environmental health from the Boston University School of Public Health. She directs the Traprock Center for Peace and Justice (<http://traprock.org/>) and is a member of Nuclear Free Future.

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