

Sea-Dumped Chemical Weapons in Hawaii

By Ryo Sato

1. Executive Summary

Beginning in 1932 and through 1945, the U.S. Army dumped thousands of tons of chemical weapons off Hawaii's coasts. Until the *Virginian Daily Press* drew attention to these chemical weapons dumpsites in 2005, the general population of Hawaii lived unaware of their existence. Although the University of Hawaii has been investigating chemical weapons dumpsites and has found a number of sea-dumped chemical weapons around the heavily populated island of Oahu, the U.S. Army has no plans to remove the munitions (April 2009).¹ This report summarizes the problems, background and risks of sea-dumped chemical weapons primarily around the island of Oahu.

2. Introduction

The state of Hawaii, the newest state in the U.S., officially became a state of the nation on August 21, 1959. The island of Oahu in Hawaii has its capital named Honolulu and countless beautiful beaches and landscapes. Although the island of Oahu has been developed as a well-known tourist spot, people on the island face dangers from sea-dumped chemical weapons disposed by the U.S. military before Hawaii became one of the U.S. states.

Sea-dumped chemical munitions have potential risks to the environment and local communities next to the ocean. In the U.S., several chemical injuries were reported from the discovery of chemical munitions. For instance, a Hawaiian fisherman was injured after bringing up a mortar round filled with mustard gas in 1976. In the summer of 2004, three bomb disposal experts were injured dismantling mustard gas-filled artillery shells which were dredged up by a clam boat off New Jersey. Recently, clamshell dredgers caught mustard gas containers in their nets off New York in June 2010. The crewmen reported blistering, shortness of breath, feeling lightheaded, and nose and eye irritation. Since sea-dumped chemical munitions still have strong toxicity and many of them are resting near the island of Oahu, there is a high possibility that Hawaiian people will be the next victims.

3. Problems

The U.S. Army dumped over 8,000 tons of chemical weapons off Hawaiian coasts between 1932 and the end of the war, mainly in 1944 and 1945.² The Army estimates that 2,000 tons were dumped in an area 10 miles west of the Waianae Coast of Hawaii.



Source: *Star Bulletin* February 25, 2009

According to the *News Daily Press*, these dumpsites raise several concerns:

- Chemical agents can pose a hazard for generations but the Army has examined only a few of its 26 dump zones and none in the last 30 years.
- The Army cannot say exactly where all of the weapons were dumped. Army records are incomplete, missing, or have been destroyed.
- More dumpsites probably exist. The Army has not reviewed WW I-era records, when ocean dumping of chemical weapons was common.³

The status quo in this circumstance is unacceptable. Local residents were shocked to discover that at least 600 tons of mustard gas was dumped only five miles offshore from Pearl Harbor.⁴ Many perceive this as an urgent issue and have requested research into the possible environmental safety and public health impacts of these weapons. However, the scientific community faces a lack of information regarding the potential health and environmental effects of these weapons. It is therefore essential to gather additional information about what possible threats these old weapons might pose not only to the local communities but also to the environment.

4. Background

Between 1932 and 1944, chemical weapons, such as blister agents, lewisite, mustard gas, and blood agents, including hydrogen cyanide and cyanogen chloride, were discarded in the waters off Oahu. The largest dump is reported to be in an area 10 miles west of the Waianae Coast. This sea-dumped chemical weapons issue had been largely forgotten until the *Virginian Daily Press* drew attention to the dumpsites around Oahu Island in 2005.⁵

According to a Congressional Research Service Report (CRS), in 1944 the U.S. Army dumped chemical weapons and agents, disposing of 4,200 tons of unspecified toxics and hydrogen cyanide, off Pearl Harbor, and approximately 16,000 M47 A2 100-pound mustard bombs approximately five miles off Oahu. Both of the dumping sites are believed to be near Pearl Harbor.⁶

Furthermore, the U.S. Army disposed of hydrogen cyanide and mustard bombs, mustard agent and lewisite at Waianae, Oahu, Hawaii from October 17 to November 2, 1945.⁷ This largest dump was reported to be in an area 10 miles west of the Waianae Coast:



Source: *Honolulu Advertiser*, November 3, 2005

Date	Location	Chemical Weapon or Agent
October 17- November 2, 1945	Pacific Ocean, off Hawaii, originating from Waianae, Hawaii	20 M79 1000-pound hydrogen cyanide bombs, 1,100 M79 1000-pound cyanogen chloride bombs, 125 M78 500-pound cyanogen chloride bombs, 14,956 M70 114-pound mustard bombs, 30,917 4.2-inch mortar mustard shells, 1,038 one-ton containers of mustard agent, 190 one-ton containers of lewisite

Source: CRS Report for Congress. January 3, 2007. CRS-3, 4.

Gary Ostrander, University of Hawaii-Manoa vice chancellor for research and graduate education, said existing records may not be accurate and more munitions than realized may have been dumped.⁸

In 2007, President Bush signed a fiscal year 2008 defense appropriations bill that included \$5.5 million more for the study of chemical weapons dumped off Oahu, in order to determine whether the munitions should be removed or left in place. Part of that funding is expected to go to the University of Hawaii for continuing research on the munitions.⁹

In February 2009, researchers from the University of Hawaii conducted a study on behalf of the Army to assess munitions at the Pearl Harbor sites. Using deep-diving submersibles and a remotely operated vehicle, the university team located weapons and evaluated their condition and potential threat. The scientists used sonar data to map the locations of dumped materials. They also analyzed fish and shrimp samples for their chemical agent content.⁷

5. Risk

Sea-dumped chemical weapons pose a risk to marine life, the ocean environment, and also to human health. According to James Maragos, a contracting officer with the Army Corps of Engineers and a coral reef biologist with the U.S. Fish and Wildlife Service, "the chemical stuff was pulled up off Honolulu Harbor. They were metal containers 2 to 3 feet long. They brought up seven of them. The men were working barefoot on deck, and two or three of them got badly blistered feet (from the leaking chemicals)."¹⁰ Fishermen are exposed to the chemicals when they pull up these CWs by accident.

Mustard gas causes serious skin disorder and can be fatal. When mustard goes into seawater, it forms a concentrated, encrusted gel that lasts for at least five years, rolling around on the ocean floor, killing or contaminating sea life.¹¹ At least 16,000 mustard-filled 100-pound bombs were dumped off Hawaii, only five miles from shore, by the U.S. Army in 1944.¹² Most of these weapons still remain in the Hawaiian oceans.

6. Summary

The U.S. Army has disclosed some information on the location of sea-dumped chemical weapons and started working with several organizations, specifically the University of Hawaii, to research the possible environmental safety and public health impacts of the weapons. However, it is clear from the above that the scientific community faces a serious lack of information, and participation from all stakeholders is required to remedy the problem. The health and environmental effects of these weapons are still very much unclear, and in light of the potential risk chemical weapons pose both to the environment and local communities, further action is urgently needed.

Endnotes

¹ “Army: No plan to move sea-dumped munitions.” *The Associated Press*. Apr 6, 2009.
http://www.armytimes.com/news/2009/04/ap_hawaii_dumped_weapons_040609/

²Markus K. Binder. “Sea-Dumped Chemical Weapons: An Old Problem Resurfaces.” *WMD INSIGHTS*. March 2008.
http://74.125.93.132/search?q=cache:xtoKvvGcqVQJ:www.wmdinsights.com/I23/I23_G1_Sea-DumpedChemicalWeapons.htm+hawaii+sea+dumped&cd=4&hl=en&ct=clnk&gl=us&lr=lang_ja|lang_en

³John Bull. “Vast Chemical Dumping Found at Sea” *Los Angeles Times. Newport News Daily Press*. October 30, 2005.
<http://articles.latimes.com/2005/oct/30/nation/na-chemweapons30>

⁴Markus K. Binder. “Sea-Dumped Chemical Weapons: An Old Problem Resurfaces.” *WMD INSIGHTS*. March 2008.
http://74.125.93.132/search?q=cache:xtoKvvGcqVQJ:www.wmdinsights.com/I23/I23_G1_Sea-DumpedChemicalWeapons.htm+hawaii+sea+dumped&cd=4&hl=en&ct=clnk&gl=us&lr=lang_ja|lang_en

⁵Markus K. Binder. “Sea-Dumped Chemical Weapons: An Old Problem Resurfaces.” *WMD INSIGHTS*. March 2008.
http://74.125.93.132/search?q=cache:xtoKvvGcqVQJ:www.wmdinsights.com/I23/I23_G1_Sea-DumpedChemicalWeapons.htm+hawaii+sea+dumped&cd=4&hl=en&ct=clnk&gl=us&lr=lang_ja|lang_en

⁶ David M. Bearden. “U.S. Disposal of Chemical Weapons in the Ocean: Background and Issues for Congress.” *CRS Report for Congress*. January 3, 2007. CRS-3.
<http://fas.org/sgp/crs/natsec/RL33432.pdf>

⁷ David M. Bearden. “U.S. Disposal of Chemical Weapons in the Ocean: Background and Issues for Congress.” *CRS Report for Congress*. January 3, 2007. CRS-3,4.
<http://fas.org/sgp/crs/natsec/RL33432.pdf>

⁸William Cole. “University of Hawaii to survey ocean dump site.” *Honoluluadvertiser.com*. November 15, 2007.
<http://the.honoluluadvertiser.com/article/2007/Nov/15/ln/hawaii711150345.html>

⁹William Cole. "University of Hawaii to survey ocean dump site." *Honoluluadvertiser.com*. November 15, 2007.

<http://the.honoluluadvertiser.com/article/2007/Nov/15/ln/hawaii711150345.html>

¹⁰Jan Ten Bruggencate. "Dumped toxic weapons still lurk in sea off O'ahu." *Honoluluadvertiser.com*.

November 3, 2005.

<http://the.honoluluadvertiser.com/article/2005/Nov/03/ln/FP511030313.html>

¹¹John Bull. "The Deadliness Below: Weapons of mass destruction thrown into the sea years ago present danger now - and the Army doesn't know where they all are." October 30, 2005.

<http://www.dailypress.com/news/dp-02761sy0oct30,0,2400540,print.story>

¹²John Bull. "The Deadliness Below: Weapons of mass destruction thrown into the sea years ago present danger now - and the Army doesn't know where they all are." October 30, 2005.

<http://www.dailypress.com/news/dp-02761sy0oct30,0,2400540,print.story>