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ERW Contamination in the Pacific Islands

The legacy of explosive remnants of war (ERW) has affected the daily lives of Pacific Islanders for more than 70 years. ERW contamination in the Pacific stems from conflict between the Allied forces and Japanese forces during World War II. Survey, clearance and information-management programs are helping to manage the continued risks to the impacted populations.

by Justin Smith [GICHD]



ERW clearance in the Marshall Islands.
Photo courtesy of Golden West Humanitarian Foundation.

From the beginning of World War II (WWII) until the war's end in 1945, Japan established military bases and logistics hubs throughout Asia and the Pacific. The Island Hopping campaign used by Allied Forces to counter Japanese actions and attack mainland Japan resulted in fierce battles. Several islands were impacted by major battles or abandoned military ordnance depots, among them: The Federated States of Micronesia, Guam, Kiribati, the Marshall Islands, Nauru, the Northern Mariana Islands, Palau, Papua New Guinea, the Solomon Islands, Tuvalu and Vanuatu.

Pacific Island nations were predominately bystanders in the war; after clashes took place, islands were often abandoned by the fighting forces as they moved onto the next stage in the campaign. With the end of the war, Japanese forces were

repatriated and large numbers of U.S. forces were demobilized to return home. Although a few key military bases were maintained in the region (Guam, Japan, Korea, Philippines), remnants of war, both explosive and otherwise, were left scattered throughout the Pacific Islands. Sunken ships, wrecked aircraft, derelict tanks and gun emplacements, along with large quantities of explosive remnants of war (ERW), were simply left behind. Communities continue to live among these increasingly unstable and dangerous relics, such as those containing picric acid-based explosives, and other ERW that have begun breaking apart and polluting the soil and coastal bays.

In the years immediately following WWII, reconstruction efforts focused primarily on economic recovery in Europe and throughout Asia. For example, the U.S. Marshall Plan

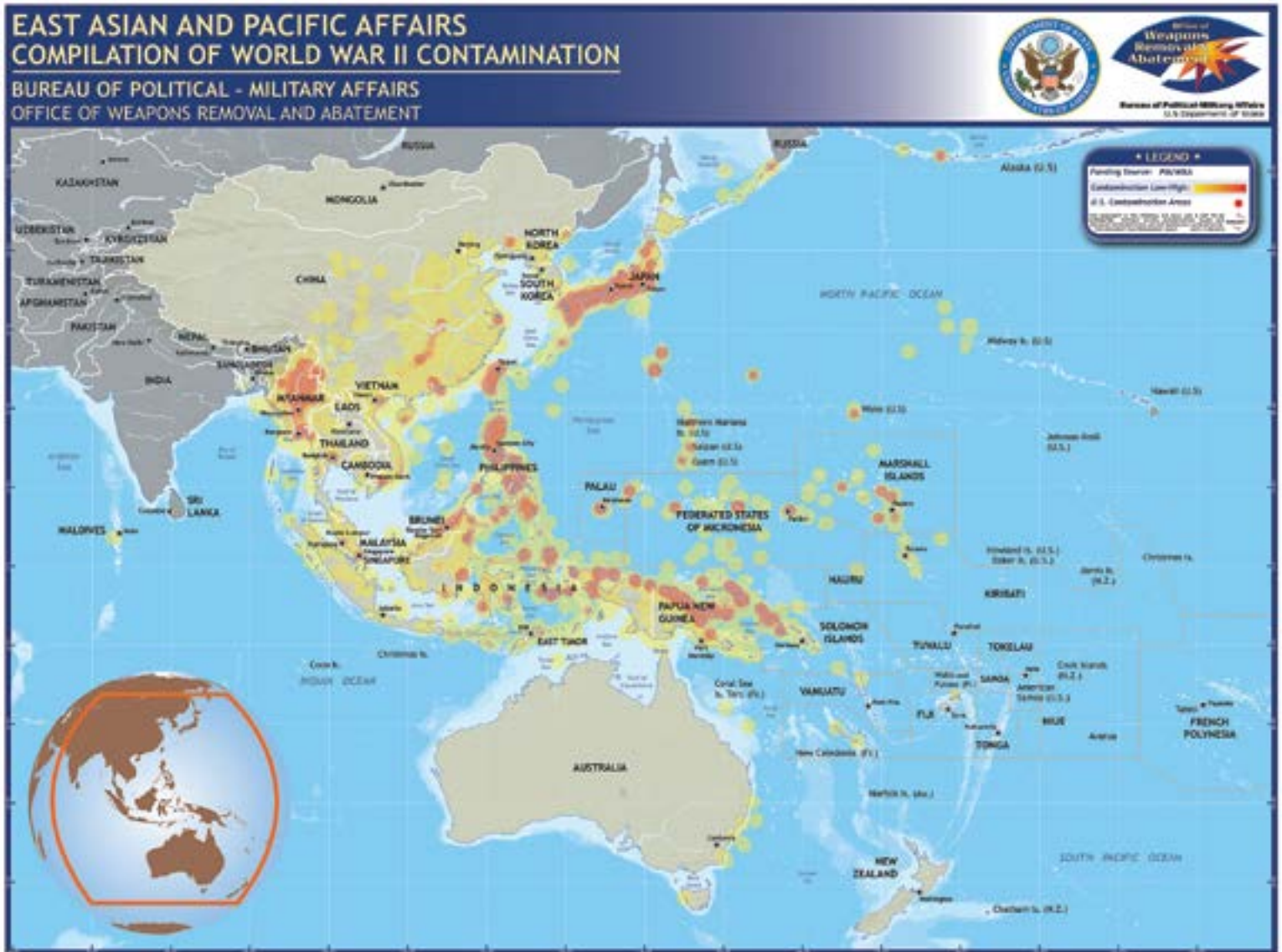


Figure 1. A map depicting contamination in East Asia and the Pacific.
 Map courtesy of the Office of Weapons Removal and Abatement in the U.S. Department of State's Bureau of Political-Military Affairs.

indirectly enabled ERW clearance through infrastructure development in Europe, and investment in industrialization throughout Asia enabled similar clearance to take place. Japan's recovery began immediately after WWII with assistance from occupying U.S. forces until 1952. Likewise, nations known as the **Asian Tigers**, such as Hong Kong, Singapore, South Korea and Taiwan, began industrialization in the 1960s. Pacific Island nations, however, were largely left to suffer from ERW contamination. Sporadic ad hoc military engagements and clearance by nongovernmental organizations (NGO) has occurred over the years. However, to date, sustained and coordinated efforts have not cleared ERW contamination from the Pacific. The Pacific Islands need a planned and coordinated survey and clearance approach supported by the international

community. Such an effort would not only manage risk, but also help the islands' future development and recovery.

Survey and Clearance Activities in the Pacific

Recent ERW survey and clearance activities in the Pacific have included the military, commercial organizations and NGOs, with Australia routinely coordinating a multinational military operation in the Pacific entitled **Render Safe**. In 2013, Australia, Canada, New Zealand and the United States participated in the operation to remove ERW from the Solomon Islands.¹ In 2014, the operation is clearing parts of Papua New Guinea and Bougainville. In addition, Milsearch Proprietary Limited, an Australian commercial company, conducted survey and clearance activities in Kiribati, Papua



Japanese depth charges from the Palau Helmet Wreck.
Photo courtesy of the author.

New Guinea and the Solomon Islands. NGOs, including the Japanese Mine Action Service, Cleared Ground Demining and Golden West Humanitarian Foundation (Golden West), have been active in the Marshall Islands, Palau and the Solomon Islands.

International and regional coordination efforts have only just started to take place in the Pacific. In 2011, the Pacific Island Forum Secretariat (PIFS) released a study of ERW in the Pacific, discussing contamination in four Pacific Island nations: Kiribati, Palau, Papua New Guinea and the Solomon Islands. The study found a number of commonalities among these island nations contributing to limitations on unexploded ordnance (UXO) clearance attempts. Domestic agencies were restricted in their ability to complete successful clearance due to geographical challenges, insufficient resources, capacity limitations and lack of data management in the region.²

In 2012, PIFS completed a Pacific Region Unexploded Ordnance Strategy, providing a base plan for regional survey

and clearance efforts, with the Geneva International Centre for Humanitarian Demining (GICHD) advising on information management and standards development. Although progress is being made, the Pacific is a long way from developing a comprehensive and coordinated approach to clearance of ERW.

ERW Challenges in the Pacific

With more than 20,000 islands covering an area of over 155 million sq km (60 sq mi), ERW clearance in the Pacific can appear daunting.³ Yet, as with any clearance effort, understanding the problem's true extent is important. The Information Management and Mine Action Programs, Inc. (iMMAP) is conducting a study to identify the extent of ERW contamination in the Pacific Islands.^{4,5} The study's results, due in early 2015, are expected to narrow the focus from thousands of islands to a few dozen islands which are significantly affected by ERW. Once traditional mine-action methodologies such as non-technical and technical surveys have been carried out, the problem will be further reduced.

Even as the scope of the problem narrows, other challenges remain. The accessibility of many Pacific Islands is problematic. Airfields and logistics support in the Pacific are widely dispersed, meaning that getting equipment and supplies to a Pacific port can take months, with additional time and effort required to transport it to those islands contaminated with ERW. Golden West developed an innovative Island Hopper approach of working in the Marshall Islands, whereby it deployed a small team to the islands of Taroa and Mili using light, mobile and low-cost clearance systems.⁶ A military-style landing craft dropped off the team and equipment, and retrieved them two weeks later. During this time, the team safely disposed of more than 16,000 pounds (7,258 kg) of ordnance. Utilizing innovative approaches such as the Island Hopper method of clearance is essential for organizations working in the Pacific.

In addition, underwater ERW poses another prominent problem in the Pacific. Few countries have the capability to mitigate underwater ERW; Pacific Island nations are no different. Underwater ERW jeopardizes local communities by impeding development and contaminating the environment. In Palau, for example, a WWII Japanese ship sank in the waters of Koror harbor; this shipwreck is known as the **Helmet Wreck**. The wreck, a popular tourist attraction, contains approximately 164 Japanese depth charges leaking picric acid into surrounding waters. Although scientific testing has not occurred at this site, visual indications of environmental impact are obvious. Picric acid severely endangers health and safety. The explosive is extremely sensitive, and exposure of the chemical to skin or eyes will cause a serious reaction.⁷ ERW littering harbors, potential anchorages and navigation channels in other areas impedes

port-development projects and efforts to support economic development.

A Way Forward

Effective clearance in the Pacific starts with an efficient regional information management to document and map ERW contamination and clearance efforts. Furthermore, regional coordination of NGOs, military and commercial activities would assist national authorities in managing operations. An accurate picture of the extent of ERW contamination and an understanding of past clearance would focus the scope of effort and assist in prioritizing clearance. These preliminary steps of data management, coordination, and research will go a long way to improving ERW survey and clearance activities in the Pacific.

Clearing the Pacific of all ERW is an unrealistic expectation. Experiences in Western Europe and Japan have demonstrated that it is appropriate to adopt a risk-management approach to mitigate the ERW which is not an immediate public health or safety concern. A current GICHD study, the Management of Residual ERW (MORE) project should prove useful by analyzing best practices for management of residual ERW.⁶ This study is scheduled for completion in June 2015. The MORE findings will be relevant to Pacific Island nations' developing policy and instituting practices to minimize disruptions from ERW within their communities. Assisting the Pacific in moving beyond their WWII history will enable safer communities and limit socioeconomic impact. Regional coordination, information management and analysis of best practices will be an important step in the right direction. ©

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Justin Smith joined GICHD in February 2014 as advisor for Underwater Explosive Ordnance Disposal (EOD) Operations. Prior to joining GICHD, he spent 23 years in the U.S. Navy conducting EOD operations throughout Asia-Pacific, the Middle East and Europe. He holds a master's in security studies (with a regional focus on Asia-Pacific) from the Naval Postgraduate School in Monterey, California (U.S.).

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