



ATSDR

AGENCY FOR TOXIC SUBSTANCES
AND DISEASE REGISTRY

ATSDR's Preliminary Public Health Findings on Fish Sampling Orote Landfill Site, Guam

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ATSDR

The Agency for Toxic Substances and Disease Registry (ATSDR) is a federal public health agency, a part of the U.S. Department of Health and Human Services. Created by 1980 Superfund legislation, ATSDR evaluates human exposure to hazardous substances at waste sites—or at other places where hazardous substances may have been released into the environment.

ATSDR is an advisory agency. It does not make or enforce regulations. ATSDR works in cooperation with local and other public health agencies. ATSDR assesses the potential for exposure at a site and may recommend actions to protect public health.

OROTE Landfill Site

The Orote Landfill is approximately 9.4 acres of U.S. Navy property on the southern portion of the Orote Peninsula (Figure 1). From around 1944 to 1969, the Orote Landfill was used for disposal of residential, industrial, and construction waste.

The face of the cliff that surrounds the landfill was reportedly the most active disposal area. Flammable material was burned, and the ashes were buried on the cliff above the nearby cove. Nonflammable materials were either buried behind the cliff or bulldozed over the cliff onto the beach. Erosion of the landfill cliff has also been observed as a source of the debris on the beach. Prior to the construction of the seawall which started in March 1999, the unprotected cliff and landfill material at the Orote Landfill were eroding into the Philippine sea. By February 2001, the Navy

ATSDR's Health Message

Conclusions: After reviewing the Navy's preliminary sampling data of fish caught near the Orote Landfill, ATSDR concludes that

- Levels of polychlorinated biphenyls (PCBs) and other chemicals (i.e., lead and pesticides) detected in fish caught near the Orote Landfill exceed screening values. ATSDR therefore recommends that people not eat seafood caught in the vicinity of the landfill until more testing is done.
- Only two fish species have been sampled (sergeant major and hexagon grouper). These preliminary data are too limited for ATSDR to be able to evaluate whether people could have harmful health effects from eating fish caught in this area.
- ATSDR reviewed scientific literature of studies of people exposed to the same chemicals detected in the fish caught near the Orote Landfill area. The majority of the studies found **no harmful health effects** in the people exposed to similar chemical levels as those detected in the fish. Therefore, we would not likely find harmful health effects related to exposure in people who ate the fish before the advisory. However, as a precaution, ATSDR agrees with the decision to advise people to stop eating all seafood caught near the Orote Landfill until more fish sampling is conducted.
- Data are needed about which seafood people are eating and where they are caught. This information is needed before recommendations can be made as to where seafood can be caught and which seafood—or portions of seafood—can be eaten.

Recommendations: ATSDR recommends the following:

- As a precautionary measure, people should continue to abide by the temporary seafood advisory until further sampling is done and the results are analyzed.
- ATSDR agrees with the Navy that (1) seafood sampling, including species-specific fish sampling, should be conducted and (2) a community seafood consumption survey should be conducted. The consumption survey would provide information on which species of seafood are being eaten, where the fish come from, the amount of fish eaten, what part of the fish is eaten, and how the fish is cooked. ATSDR will provide advice on the sampling and on the survey design.

ATSDR is coordinating efforts with the Guam Public Health, the Guam Environmental Protection Agency, the Navy, and others. ATSDR staff members are planning to visit Guam early in 2002.

completed the seawall and a cover on the surface of the landfill.

Review of Fish Sampling

In June 2001, as part of a post-remediation baseline and ecological risk assessment, the Navy conducted fish tissue sampling from three areas near the seawall of the Orote Landfill. The areas sampled were at the north and south ends of the seawall and from the area known as Barracuda Rock. Approximately five samples of each fish (sergeant major and hexagon grouper) were collected from each of the sampling locations. The chemicals sampled were polychlorinated biphenyls (PCBs), chlorinated pesticides (i.e., DDT, chlordane, dieldrin), polycyclic aromatic hydrocarbons (PAHs), chlorinated dioxins/furans, and metals (i.e., lead). Preliminary fish sampling conducted showed elevated levels of PCBs, pesticides, and some metals, thus prompting the advisory.

In October 2001, a temporary seafood advisory was put into effect from Orote Point to Nimitz Beach. The advisory is for seafood caught in the waters between the shore and the inshore reef edge, an area of approximately 2½ by 8 miles. In November and December, additional fish were collected by the Navy, with oversight from Guam EPA and the U.S.

EPA. These fish were from the waters offshore of the Orote Landfill (from Gabgab Beach to Facpi Point). These data should be available early 2002. In conjunction with Guam Public Health, the Navy will survey families and individuals in the community to determine the types and amount of seafood eaten.

Frequently asked questions

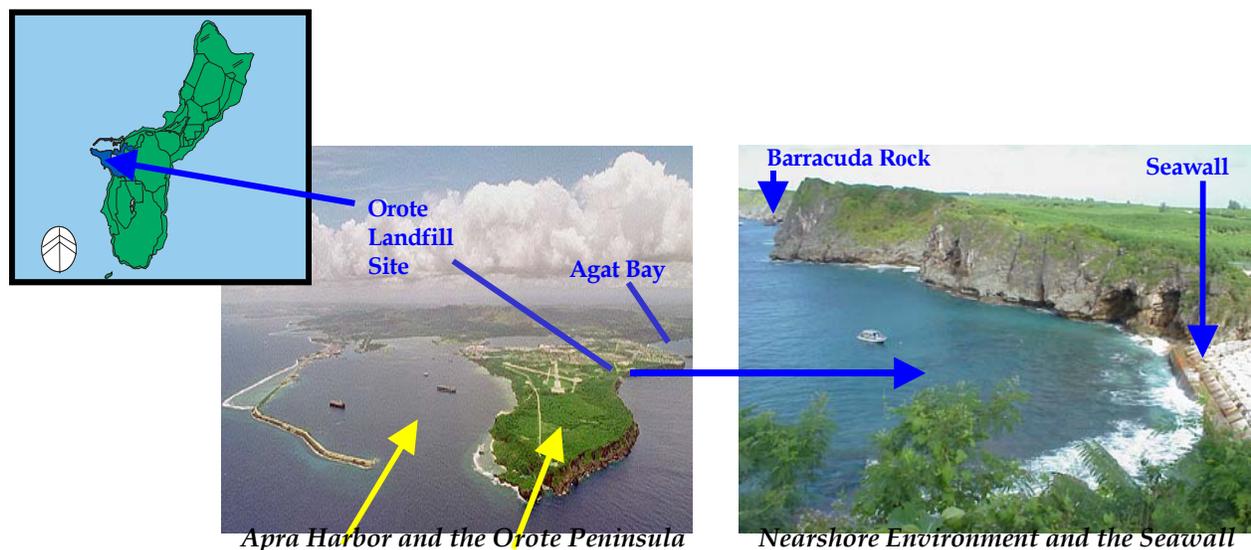
We were advised not to eat seafood caught near the Orote Landfill area. Are we likely to get sick from the fish we ate before the advisory?

ATSDR reviewed scientific literature of studies of people exposed to the same chemicals detected in the fish caught near the Orote Landfill area. The majority of the studies found **no harmful health effects** in the people exposed to similar chemical levels as those detected in the fish. Therefore, we would not likely find harmful health effects related to exposure in people who ate the fish before the advisory.

When will the advisory be removed?

Fish is a healthy, nutritious food and an important part of the diet of the people of Guam. ATSDR is working with Guam Public Health, Guam EPA, and the Navy to find out what seafood is eaten by the people on Guam, where the seafood comes from, and how it is prepared.

Figure 1



This information, along with additional fish sampling results, will assist the groups working on this important public health issue to make future decisions about removing the temporary advisory.

After the investigation is completed, it may be possible to remove the advisory for some seafood or make recommendations on where seafood can be caught and which seafood—or portions of seafood—can be eaten and how to prepare them. For example eating younger and smaller fish (which generally contain lower levels of PCBs); removing the skin and fatty tissue in the belly and along the sides; and baking or broiling the fish reduces the possibility of exposure to PCBs and other chemicals. The drippings from the fish should not be eaten or used in cooking. Families can also reduce their exposure by only eating the meaty portions of lobster and crab.

Is there a medical test that would show whether I have been exposed to PCBs?

Yes, blood tests are the safest and easiest method for detecting PCB exposure. Most people have some detectable level of PCBs in their blood. The blood test for PCBs will only indicate whether you were exposed to a greater extent than the general population. The medical meaning of detectable blood PCB levels is unclear. Measuring the level of a chemical is different from establishing its effects. These tests do not help physicians provide better treatment.

What should I do if I have additional questions?

For additional information, you may contact a representative of ATSDR or Guam Public Health. Contact information is provided below.

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Your questions and comments are important to ATSDR and can be directed to either our Atlanta office, toll free by calling 1-888-42-ATSDR (1-888-422-8737) or our regional office in San Francisco, Gwen Eng, toll free at 1-800-231-3075. Please refer to the “Orote Landfill Site” when calling about this site.

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