

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
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OFFICE OF THE  
REGIONAL ADMINISTRATOR

September 9, 2014

Ms. Emily Jeffers  
Center for Biological Diversity  
Staff Attorney, Oceans Program  
351 California Street, Suite 600  
San Francisco, California 94104

**Subject: Release of the Preliminary Assessment and Technical Support Document  
Tern Island, French Frigate Shoals, Northwestern Hawaiian Islands**

Dear Ms. Jeffers:

Today, the U.S. Environmental Protection Agency Region 9 (EPA) is releasing the Preliminary Assessment (PA) and associated Technical Support Document (TSD), which assess Tern Island, located in the French Frigate Shoals (FFS) in the Northwestern Hawaiian Islands (NWHI), in response to the Center for Biological Diversity's (CBD's) December 11, 2012 petition to EPA under Section 105(d) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA conducted the PA in partnership with the U.S. Fish and Wildlife Service (the Service), which currently manages Tern Island as part of the Hawaiian Island National Wildlife Refuge. A complete copy of the PA and TSD are enclosed with this letter.

CBD's petition initially requested that EPA conduct an assessment of the entire NWHI, an area encompassing nearly 140,000 square miles of Pacific Ocean, with the goal of assessing the impacts of plastic pollution on the marine environment and sensitive species. Consistent with the understanding EPA and FWS reached with CBD prior to initiating the assessment, the PA focuses on the study area of Tern Island, evaluating the impacts of threatened or actual releases of hazardous substances from onsite buried military wastes from Tern Island into sensitive marine and terrestrial environments. The PA also reviews the role that microplastic marine debris (generally particles five millimeters and less) may play as a mechanism to concentrate and transport hazardous substances to marine species via the food chain. The PA confirmed that releases of hazardous substances such as PCBs, lead, hydrocarbons, dioxins/furans, and heavy metals, from onsite buried military wastes have occurred into sensitive marine and terrestrial environments, and that further action is needed at this site.

Given Tern Island's rich history, the universe of related documents was too voluminous to summarize in the limited PA format. Therefore, the TSD was developed to distill a wider array of the existing literature and data relevant to the environmental conditions, challenges, constraints, and vulnerabilities associated with Tern Island. The TSD is included as an Appendix to the PA.

Tern Island is the largest of twelve small sand islands contained within the low-lying FFS coral atoll, located approximately 490 nautical miles northwest of Honolulu, Hawaii. FFS is the largest atoll in the NWHI and is part of the Papahānaumokuākea Marine National Monument (the Monument), which provides protection to a vast area of the Pacific Ocean that is dotted with small islands, islets, and atolls and supports a complex array of marine and terrestrial ecosystems. The Monument was established in 2006 and is jointly managed by the Service, the National Oceanic and Atmospheric Administration (NOAA), and the Hawaii Department of Land and Natural Resources (HDLNR) as Monument Co-Trustees. In 2010, the Monument was inscribed as a cultural and natural United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage site, making it the only mixed UNESCO World Heritage site in the United States.

Tern Island and the FFS have been legally designated as critical habitat for the Hawaiian monk seal, the United States' most endangered marine mammal. FFS provides pupping habitat for 16% of the monk seals, making it the largest breeding site of the species. The mortality rate of the Hawaiian monk seals in FFS has been steadily increasing since 1989. FFS also provides nesting habitat for 95% of the population of the threatened Hawaiian green sea turtles. Additionally, Tern Island is the breeding site of 18 species of seabirds, earning it the distinction as the island with the highest avian species richness in the NWHI.

From 1942 through 1979, Tern Island was used by the Navy and the Coast Guard, first as a Naval Airfield and aircraft refueling stop and then as a Long Range Aid to Navigation (LORAN) Station. During these military periods, materials including scrap metal, cable, wire, batteries, and electronic equipment such as capacitors and transformers were landfilled on the island. These materials have been shown to contain hazardous substances such as polychlorinated biphenyls (PCBs) and lead.

The NWHI are located within a marine debris convergence zone and deposition area, with ocean currents and prevailing winds aggregating derelict fishing gear and other forms of marine debris, including plastics, in this area. The PA found that data collected from Tern Island show a clear progression of bioconcentration and biomagnification of PCBs in the local marine life. Initial studies conducted by EPA in areas outside the NWHI indicate that microplastic marine debris can accumulate and transport contaminants in the marine environment into the food chain. Summaries of these and other plastic-related studies are referenced in the PA and the TSD. Microplastics, coupled with other known and suspected PCB sources on Tern Island, present a possible and as yet uninvestigated exposure pathway of contaminants into the marine food web. EPA would like to further investigate this route of exposure as a possible explanation for the increased levels of PCBs in Hawaiian monk seals that live on and around the island.

Based on the evaluation presented in the final PA and associated TSD, EPA and the Service agree that further evaluation is warranted at Tern Island. Please feel free to contact Anna-Marie Cook, the EPA Region 9 Marine Debris Program Coordinator, at 415-972-3029, or Sharon Murray, Site Assessment Project Manager, at 415-947-4250, if you have further questions about this site.

Sincerely,



Jared Blumenfeld

Enclosures: PA Report, FWS — Hawaiian Islands National Wildlife Refuge — Tern Island  
Technical Support Document

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