



Guam Marine Debris Emergency Response Guide: Comprehensive Guidance Document

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Guam Marine Debris Emergency Response Guide

Comprehensive Guidance Document

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List of Acronyms

ACP	Area contingency plan
APHIS	Animal and Plant Health Inspection Service
BGHS/OCD	Guam Homeland Security/Office of Civil Defense
BSP	Guam Bureau of Statistics and Plans
CEMP	Guam Comprehensive Emergency Management Plan
DoD	U.S. Department of Defense
DPW	Guam Department of Public Works
EFH	Essential fish habitat
EPA	U.S. Environmental Protection Agency
ERMA	Environmental Response Management Application
ESA	Endangered Species Act
ESF	Emergency support function
EWP	Emergency Watershed Protection (of NRCS)
FEMA	Federal Emergency Management Agency
FOSC	Federal on-scene coordinator
FUDS	Formerly used defense sites
GAR	Governor's authorized representative
GEPA	Guam Environmental Protection Agency
GIS	Geographic information system
ICP	Incident command post
JFO	Joint field office
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service (also known as NOAA Fisheries)
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRC	National Response Center
NRCS	Natural Resources Conservation Service
RP	Responsible party
RSF	Recovery Support Function
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
UXO	Unexploded Ordnance

Definitions

Area contingency plan (ACP) – The *Northern Mariana Islands Area Contingency Plan (ACP)* functions as the Commonwealth of the Mariana Islands and the Territory of Guam’s plan for coordination, response, and planning to conduct responses to discharges of oil and releases of hazardous substances. The ACP is prepared by the Mariana Islands Area Contingency Plan Committee for the use of all agencies engaged in responding in a defined geographic area (U.S. Coast Guard [USCG], 2021).

Biosecurity – The strategies to assess and manage the risk of infectious diseases, quarantine pests, invasive alien species, living modified organisms, and biological weapons (Myerson and Reaser, 2002). See also [invasive species](#).

Captains of the Port – U.S. Coast Guard Captains of the Port and their representatives enforce within their respective areas port safety and security and marine environmental protection regulations, including, without limitation, regulations for the protection and security of vessels, harbors, and waterfront facilities; anchorages; security zones; safety zones; regulated navigation areas; deepwater ports; water pollution; and ports and waterways safety (33 C.F.R. § 1.01-30)

Coastal zone – U.S. Coast Guard area of responsibility for response under the [National Contingency Plan](#), with geographic boundaries defined in the *Northern Mariana Islands Area Contingency Plan (ACP)*; USCG, 2021). The entire island of Guam is considered to be within the coastal zone.

Construction and demolition debris – Damaged components of buildings and structures, such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting and floor coverings, window coverings, pipe, concrete, fully cured asphalt, equipment, furnishings, and fixtures (Federal Emergency Management Agency [FEMA], 2021)

Disaster debris – Any items and materials broken, destroyed, or displaced by a natural or man-made federally or locally declared disaster. Examples of disaster debris include, but are not limited to, trees, construction and demolition material, and personal property (10 Guam Code § 51301(h)).

Electronic waste (e-waste) – Electronics that contain hazardous materials, such as cathode ray tubes. Examples of e-waste include, but are not limited to, computer monitors and televisions. Typically, these products contain minerals and chemicals that require specific disposal methods (FEMA, 2021).

Eligible applicant – The following entities are eligible to apply for assistance under the State public assistance grant: (a) state, territorial, and local governments. (b) Private non-profit organizations or institutions which own or operate a private nonprofit facility as defined in § 206.221(e). (c) Indian tribes or authorized tribal organizations and Alaska Native villages or organizations, but not Alaska Native Corporations, the ownership of which is vested in private individuals (44 C.F.R. § 206.222). Eligible applicants are entities who are eligible to apply for Public Assistance reimbursement funding from the Federal Emergency Management Agency under the Stafford Act.

Eligible debris – The following conditions must be met for debris to be eligible for financial assistance: (1) debris is a direct result of the emergency or major disaster event; (2) debris is located within the designated area of a major disaster or emergency declaration; and (3) removal is

in the public interest based on whether the work eliminates the immediate threat to lives, public health, and safety; eliminates immediate threats of significant damage to improved public or private property; or ensures economic recovery of the affected community to the benefit of the community at large (FEMA, 2020)

Emergency (as defined under the following statutes)–

- **Endangered Species Act** – A situation involving an act of God, disasters, casualties, national defense or security emergencies, etc., and includes response activities that must be taken to prevent imminent loss of human life or property (50 C.F.R. § 402.05)
- **Robert T. Stafford Disaster Relief and Emergency Assistance Act** – Any occasion or instance for which, in the determination of the president, federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States (42 U.S.C. § 5122(1))
- **Navigation and Navigable Waters** – For emergency permitting, a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures (33 C.F.R. § 325.2(e)(4))

Emergency support function (ESF) – The grouping of governmental and certain private sector capabilities into an organizational structure to provide capabilities and services most likely needed to manage domestic incidents (FEMA, 2017). ESFs most commonly applied during response to a marine debris incident are ESF 3, Public Works and Engineering, and ESF 10, Oil and Hazardous Materials Response.

Environmental sensitivity index map – Maps produced by the National Oceanic and Atmospheric Administration that provide a concise summary of coastal resources that are at risk if an oil spill occurs nearby. Examples of at-risk resources include biological resources (such as birds and shellfish beds), sensitive shorelines (such as marshes and tidal flats), and human-use resources (such as public beaches and parks); (National Oceanic and Atmospheric Administration [NOAA], 2023b)

Exclusive Economic Zone – The boundaries of Guam run two hundred nautical miles seaward from the low-water line provided, however where there are islands or reefs along or adjacent to the shores of Guam, the boundary line runs two hundred nautical miles seaward from the outermost of such islands or reefs; provided, further, that in the case of all harbors and bays, the boundary line runs two hundred nautical miles seaward from a line drawn in front of each harbor along the outermost works and installations thereof and two hundred nautical miles seaward from a line drawn from headland to headland across the mouth of each bay (1 Guam Code § 402(a)).

Federally maintained waterways and channels – A waterway that has been authorized by Congress, and which U.S. Army Corps of Engineers operates and maintains for general (including commercial and recreational) navigation

Geographic response plan/strategy – Geographic maps which are part of the area contingency plans for oil spills to water and serve as the primary tool used during an initial phase of a response. They are created after identifying the most ecologically sensitive areas, local area knowledge on

locations most likely to encounter an oil spill, and economic impact to the community if a location were to be oiled. Working groups determine priorities, and geographic response plans include response strategies (USCG, 2021).

Hazard to navigation – An obstruction, usually sunken, that presents sufficient danger to navigation so as to require expeditious, affirmative action such as marking, removal, or re-definition of a designated waterway to provide for navigational safety (33 C.F.R. § 64.06)

Hazardous substance – (A) any substance designated pursuant to section 311(b)(2)(A) of the Federal Water Pollution Control Act, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title (42 U.S.C. § 9601(14)), (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress), (D) any toxic pollutant listed under section 307(a) of the Federal Water Pollution Control Act, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act, and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas; 42 U.S.C. § 9601(14)).

Hazardous waste – Regulated under the Resource Conservation and Recovery Act and contains properties that make it potentially harmful to human health or the environment. A hazardous waste is a waste that appears on one of the four hazardous waste lists in 40 C.F.R. § 261 or exhibits at least one of the following four characteristics: ignitability, corrosivity, reactivity, or toxicity (FEMA, 2021).

Household hazardous waste/material – Hazardous products and materials that are used and disposed of by residential consumers and include, but are not limited to, some paints, stains, varnishes, solvents, pesticides, and other products or materials containing volatile chemicals that catch fire, react, or explode under certain circumstances, or that are corrosive or toxic (FEMA, 2021)

Improved property – Any structure, facility, or equipment that was built, constructed, or manufactured. Examples include buildings, levees, roads, and vehicles. Land used for agricultural purposes is not improved property (44 C.F.R. § 206.221(d)).

Incident command post (ICP) – The field location where the primary functions of incident command are performed. The ICP may be co-located with the Incident Base or other incident facilities (FEMA, 2017).

Inland zone (Area contingency plan [ACP] inland zone) – U.S. Environmental Protection Agency area of responsibility for response under the National Contingency Plan, with geographic boundaries defined in the *Northern Mariana Islands Area Contingency Plan* (USCG, 2021)

Invasive species – An alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health (Exec. Order No. 13112, 1999)

Joint field office (JFO)/Joint recovery office (JRO) – The JFO is a temporary federal multi-agency coordination center established locally to facilitate field-level response activities. The JFO provides a central location for the coordination of local, state, tribal, and federal governments and private sector and nongovernmental organizations involved in incident support (FEMA, 2017). Once lifelines have been stabilized, the focus of disaster operations shifts and expands to achieve recovery outcomes and a JFO will transition to a JRO, if deemed necessary. The purpose of a JRO is to centralize communication, collaboration, and coordination to achieve recovery outcomes for large, complex disasters in a post-JFO environment.

Litter – Discarded, used or leftover solid materials, including but not limited to, garbage, trash, rubbish, refuse, paper, containers, bulky metallic waste, packing or construction materials, or carcasses of dead animals (10 Guam Code § 51202(c))

Littering – Willful or negligent throwing, dropping, placing, depositing, or sweeping, allowing, or causing such acts, of any litter on land or water, in other than appropriate storage containers or areas designated for such purpose (10 Guam Code § 51202(d)).

Litter Law – It shall be unlawful for any person to willfully or negligently deposit, throw, leave, or abandon any litter upon any public highway, street, alley or road, upon public parks or recreation areas, or upon any other public property, except as designated for such use, or upon property owned by another person without written permission of the owner and a permit issued by the Guam Environmental Protection Agency, or into any bay, channel, harbor, river, creek, stream, reservoir, coastal waters, or other waters of Guam (10 Guam Code § 51205)

Major disaster – Any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the president causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby (42 U.S.C. § 5122(2))

Marine debris – Any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or Great Lakes (33 U.S.C. § 1956(3)). For purposes of this document, the term marine debris may also refer to vegetative material that enters a waterway following a natural or anthropogenic incident and poses a threat to the natural or built environment. This also includes shoreline and wetland debris and debris in some inland, non-tidal waterways.

Marine preserve – A delineated area in which certain activities or uses are permanently restricted or prohibited (5 Guam Code § 63101(m))

National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

- Federal regulation commonly known as the National Contingency Plan that is the Federal Government’s blueprint for responding to both oil spills and hazardous substance releases (U.S. Environmental Protection Agency [EPA], 2023)

- The national contingency plan prepared and published under Section 311(d) of the federal Water Pollution Control Act [33 U.S.C. § 1321(d)], as amended by the Oil Pollution Act of 1990 (33 U.S.C. § 2701)

Natural waterway – A waterway that is not improved or maintained (FEMA, 2020)

Navigable waters –

- Those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity (33 C.F.R. § 2.36; 33 C.F.R. § 329.4). Navigable waterways include both those waterways which are federally maintained and those waterways which are not federally maintained.
- All portions of the sea within the territorial jurisdiction of the government of Guam (9 Guam Code § 61.65(b)(2))

Obstruction – Anything that restricts, endangers, or interferes with navigation (33 C.F.R. § 64.06)

Oil – Oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil (33 U.S.C. § 1321(a)(1))

Pollutant or contaminant – Includes, but not limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction), or physical deformations, in such organisms or their offspring; except that the term “pollutant or contaminant” shall not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of paragraph (14) and shall not include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas; 42 U.S.C. § 9601(33))

Recoverable debris – Generally any documented vessel, vehicle, recreational vehicle, or shipping container traceable to an owner (U.S. Army Corps of Engineers [USACE], 2010)

Recovery support function (RSF) – Organizing structures for key functional areas of assistance outlined in the National Disaster Recovery Framework that group capabilities of various government and private sector partner organizations to promote effective recovery from disasters before and after disasters strike (FEMA, 2017). The Infrastructure Systems RSF and Natural and Cultural Resources RSF are those most likely to be applied during recovery from a marine debris incident.

Seashore Reserve – That land and water area of Guam extending seaward to the ten fathom contour, including all islands within the Government’s jurisdiction except Cabras Island and those villages wherein residents have been constructed along the shoreline prior to the effective date of the Seashore Act, and extending inland to the nearer of the following points: (1) from the mean high

water line for a distance on a horizontal plane of ten meters (2) from the mean high water line to the inland edge of the nearest public right-of-way (21 Guam Code § 63103(C))

Severe marine debris event – An atypically large amount of marine debris caused by a natural disaster, including a tsunami, flood, landslide, or hurricane, or other source (33 U.S.C. § 1956(6))

Stafford Act – The Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, provides the authorities and funding for federal support to state, local, tribal, and territorial entities in responding to presidential major disaster and emergency declarations (U.S. Department of Homeland Security, 2019)

Underwater historic property – any shipwreck, vessel, cargo, tackle, or underwater archaeological specimen, including any found at refuse sites or submerged sites of former habitation, that has remained unclaimed for more than ten years on the bottom of any waters (21 Guam Code § 76302)

Vegetative debris – Tree limbs, branches, stumps, or trees that are still in place, but damaged to the extent they pose an immediate threat (FEMA, 2020)

Vessel – including every description of watercraft or other contrivance used, or capable of being used, as means of transportation in water (5 Guam Code § 63101(v))

Waters of Guam – that area of shore and waters seaward of the mean high-water line (mark) to the outermost limit of Guam’s [exclusive economic zone](#) as provided by 1 Guam Code § 402(a) (5 Guam Code § 63101(w))

White goods – Discarded household appliances such as refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, and water heaters. May contain ozone-depleting refrigerants, mercury, or compressor oils that must be removed before disposal and recycling (FEMA, 2021).

1 Introduction

1.1 Purpose

The purpose of this document is to improve preparedness for response and recovery following incidents that generate marine debris in the territory of Guam. This document outlines existing response structures at the territorial and federal levels to facilitate a coordinated, well-managed, and immediate response to marine debris incidents impacting shorelines and waterways.

Individual organization roles and responsibilities are presented in text form and in a consolidated one-page [flowchart](#), which functions as a decision tree for marine debris response. Additionally, organization jurisdictions are presented in a dynamic map available [online](#) (National Oceanic and Atmospheric Administration [NOAA], n.d.-c).

Determining responsibility for marine debris response and removal can be complicated and may involve multiple organizations and overlapping jurisdictions. The organizations involved may change depending on the magnitude of the incident, the type of debris, and the debris location. Because all incidents are different, some aspects of marine debris response are subjective and not solely dependent on prevailing roles and authorities. This is especially true following a major, catastrophic, or unprecedented incident. This document seeks to capture the most likely response structure and actions with the understanding that flexibility is an inherent component of an effective response. The *Guam Marine Debris Emergency Response Guide: Comprehensive Guidance Document (Guide)* serves as a complete reference for marine debris response in Guam.

1.2 Scope of Guide

The *Guide* addresses both natural and anthropogenic marine debris incidents affecting Guam. In 33 U.S.C. § 1956(3), marine debris is defined as any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or Great Lakes. Although vegetative debris is not included in the legal definition for marine debris, stakeholders have identified it as a common debris stream of concern following natural disasters. Therefore, in this document, the term marine debris is used more generally and also includes vegetative material and debris that could be exposed to or release oil, hazardous substances, pollutants, or contaminants that enters a waterway following an acute incident and poses a threat to the natural or built environment. This also includes shoreline and wetland debris and debris in some inland, non-tidal waterways. The intent of this *Guide* is to address marine debris resulting from episodic incidents, such as disaster debris, rather than chronic marine debris issues. However, while not the primary focus, resources included in this document may also support response to chronic issues such as illegal dumping and debris carried by ocean currents or runoff.

1.3 Guide Development and Maintenance

Response to marine debris after disasters is complex, and the development of this product benefited greatly from the collaboration, experience, and good will of marine debris response stakeholders in the territory of Guam.

The *Guide* is a living document subject to change as additional information becomes available and updates are needed. The *Guide* will be maintained by the National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program in coordination with stakeholders in Guam. The *Guide* and subsequent versions will be posted on the NOAA Marine Debris Program website at <https://marinedebris.noaa.gov/our-work/emergency-response> (NOAA, n.d.-b).

2 Marine Debris Incidents in Guam

2.1 Debris Hazards and Disaster Incidents

Guam is the southernmost island in the Mariana Archipelago, and is located in the western Pacific, about 3,700 miles west-southwest of Honolulu, Hawai'i (NOAA, 2023e). Guam is an unincorporated territory of the United States, with an area of 212 square miles and a population over 150,000, making it the most heavily populated island in Micronesia (Environmental Protection Agency [EPA], 2017; Guam Homeland Security/Office of Civil Defense [GHS/OCD], 2019). The territory has experienced steady population growth since 1990 and nearly half of the current population are indigenous CHamorus with a long and rich cultural history (EPA, 2017). The volcanic island's 100 miles of coastline is comprised of vegetated beaches, marshes, and mangroves, and is surrounded by a variety of coral reefs. Its unique geography makes Guam's inhabitants and natural resources susceptible to impacts from severe natural hazards, such as typhoons, severe storms, flooding, and earthquakes, which can generate large amounts of marine debris (GHS/OCD, 2019).

Marine debris is a common occurrence in Guam, with both land and ocean-based sources, and has been identified by the territory as an issue of concern. [Table 1](#) shows the common sources of marine debris and the significance of those sources, as reported by the Guam Bureau of Statistics and Plans ([BSP]; 2020). Debris caused by typhoons and other storms are considered highly significant, and these natural disasters occur frequently in Guam (GHS/OCD, 2019). Since 1976, Guam has experienced 20 federally declared disasters, with severe storms and typhoons making up 80% of the total ([Figure 1](#); Federal Emergency Management Agency [FEMA], 2023).

Table 1. Likely sources of marine debris and significance of those sources in the territory of Guam. Data adapted from Guam Bureau of Statistics and Plans (2020).

Source of Marine Debris	Significance of Source
Beach/shore litter	High
Land-based dumping	High
Storm drains and runoff	High
Typhoon/storm	High
Unexploded Ordnance (UXO)	High
Derelict vessels	Medium
Land-based fishing (e.g., fishing line, gear)	Medium
Ocean-based fishing (e.g., derelict fishing gear)	Low
Tsunami	Low
Vessel-based (e.g., cruise ship, cargo ship, general vessel)	Low

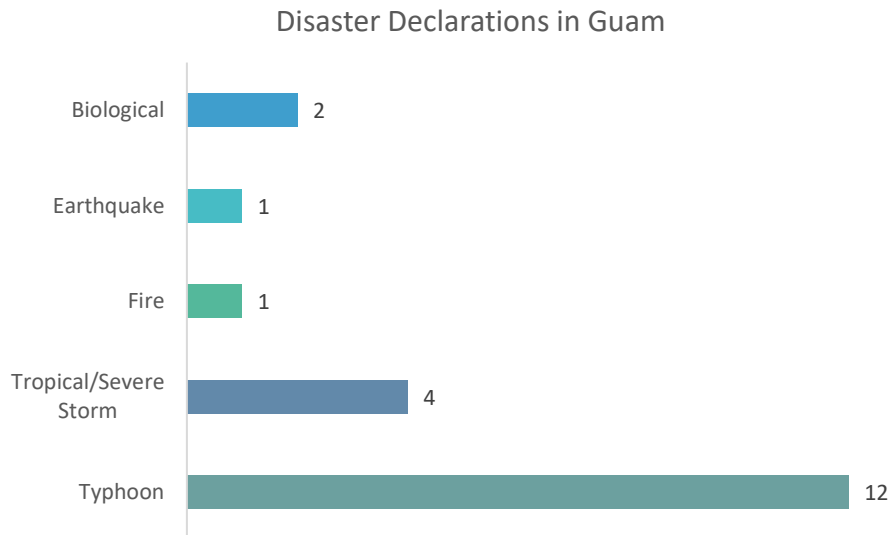


Figure 1. Disaster declarations by type in Guam since 1976. Data adapted from Federal Emergency Management Agency (2023).

Typhoons, tropical storms, and associated flooding are common in Guam and can have a high impact on the population and natural resources (GHS/OCD, 2019). In addition to negative effects on the environment, these hazards are also very costly. In a summary of historical hazards in Guam, typhoons had the highest economic impact in terms of losses in dollars, with flooding as the third highest (GHS/OCD, 2019). Part of the high cost for storm and flooding recovery comes from debris removal (Congressional Budget Office, 2019). High winds and flooding from typhoons and other storms cause large quantities of debris to be released into waterways and shorelines, causing concerns for public safety, navigation, and environmental, which can be logistically challenging and expensive to remove.

2.2 Prominent Debris Types and Locations

Some agency authorities are dependent on both the location and type of debris. Therefore, response to debris in Guam may vary depending on the debris type to be removed. Primary debris types generated after a disaster as defined by the Federal Emergency Management Agency (FEMA; FEMA, 2021) include the following:

- Chemical, biological, radiological, and nuclear-contaminated debris
- Construction and demolition
- Electronic waste (e-waste)
- Hazardous waste
- Household hazardous waste/material
- Infectious waste
- Putrescent debris
- Soil, mud, and sand
- Vegetative debris
- Vehicles and vessels
- White goods

A description of key debris types is included in the [Definitions](#) section of this document. While it is difficult to predict the exact mix of marine debris that will be generated after a disaster, different types of hazard incidents generally result in different debris types. [Table 2](#) includes an overview of typical debris streams for several natural hazards. The type, quantity, and impact of debris generated after a disaster is highly dependent on land cover and existing infrastructure along Guam’s coastline. Areas adjacent to populated urban areas, such as the capital village of Hagåtña, are more likely to be impacted by disaster debris than more rural, vegetated areas along the southern tip of the island.

Table 2. Typical debris streams for different types of disasters.
Data adapted from the Federal Emergency Management Agency (2007).

		Typical Debris Streams								
		Vegetative	Construction and Demolition	Personal Property/ Household Items	Hazardous Waste	Household Hazardous Waste	White Goods	Soil, Mud, and Sand	Vehicles and Vessels	Putrescent
Disaster Type	Typhoons	X	X	X	X	X	X	X	X	X
	Tsunamis	X	X	X	X	X	X	X	X	X
	Floods	X	X	X	X	X	X	X	X	X
	Earthquakes		X	X		X	X	X		

In addition to the debris streams listed above, unexploded ordnance (UXO) debris is also a local concern. After World War II, thousands of bombs and other UXO were left in Guam, and are still being found by civilians. UXO may detonate if disturbed and poses a direct threat to public safety and the environment (U.S. Army Corps of Engineers [USACE], 2018). While data is limited regarding the extent of UXO in Guam, the U.S. Army Corps of Engineers (USACE) executes the Formerly Used Defense Sites (FUDS) Program and inventories UXO found at FUDS sites. The presence of UXO is an additional hazard to consider when removing other debris from shorelines and coastal and marine waterways. A UXO technician must be onsite for work in areas where UXO may be present, and any UXO identified should be reported to 911.

Invasive species biosecurity is also a concern in Guam, where vessel traffic associated with military operations has been increasing. The influx of ships, ballast water, and products from other areas has the potential to introduce plants and animals to an environment outside of their typical range (NOAA, n.d.-d). Marine debris is also a common pathway for the introduction of non-native species, which have the potential to become invasive. In 2011 the Japan Tsunami generated debris that migrated across the Pacific Ocean and landed on shorelines along the west coast of the United States. Over 90 different species of marine life washed up in Oregon, attached to a single piece of debris. Eight of those species were considered to be outside of their native range, and had the

potential for negative ecological impacts (NOAA, 2023a). In Guam, the Department of Agriculture’s Biosecurity Division serves as the primary local agency for coordinating the territory’s invasive species threats. More information about organization roles and responsibilities can be found in [Section 4](#).

3 Guam Marine Debris Response Flowchart

The “Guam Marine Debris Response Flowchart” provides a visual one-page representation of organization roles and responsibilities. The flowchart functions as a decision tree for marine debris response with color-coded endpoints. Yellow endpoints represent response to debris that could be exposed to or release oil or hazardous substances. Blue endpoints represent response to debris that is not exposed to and does not have the potential to release oil or hazardous substances. Endpoints within the bottom shaded area indicate that response may occur under Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) authorities and/or funding.

The intent of the flowchart is to outline the most likely response structure with the understanding that flexibility is an inherent component of an effective response. For detailed information regarding individual organization roles and responsibilities, see [Section 4](#). Select agency authorities are presented in [Section 6](#).

Guam Marine Debris Response Flowchart

Purpose

The flowchart functions as a decision tree for marine debris response with color-coded endpoints. It is designed to inform response to debris in waterways and along shorelines after disasters.

EPA – U.S. Environmental Protection Agency
 ESF – Emergency support function
 FEMA – Federal Emergency Management Agency
 GAR – Governor’s Authorized Representative
 GHS/OCD – Guam Homeland Security/Office of Civil Defense

NCP – National Oil & Hazardous Substances Contingency Plan
 NRC – National Response Center
 NRCS – Natural Resources Conservation Service
 RP – Responsible party
 USCG – U.S. Coast Guard
 UXO – Unexploded ordnance

Flowchart Key	Response to debris that is not exposed to and does not have the potential to release oil or hazardous substances
	Response to debris that is exposed to or has the potential to release oil or hazardous substances
	Response under Stafford Act authorities and/or funds

START →

Is the debris in federal waters or on federal lands?

Debris in Federal Waters or on Federal Lands

- In Guam, managed by National Park Service, U.S. Army Corps of Engineers, U.S. Department of Defense, and U.S. Fish and Wildlife Service, who may remove debris or oversee removal by RP
- If debris has the potential to release oil or hazardous substances, see yellow “Pollution Threat” box

Is the debris on private property?

Debris on Private Property

- Refer to homeowner insurance policy
- Partner with volunteer organizations
- Check for NRCS Emergency Watershed Protection Program eligibility in Section 4.3
- If debris has the potential to release oil or hazardous substances, see yellow “Pollution Threat” box
- After a Stafford Act declaration, FEMA typically does not provide funding unless debris threatens public health and safety and removal is in the public interest

Is the debris exposed to or does it have the potential to release oil or hazardous substances?

Pollution Threat

- Report to NRC 1-800-424-8802. Call 911 to report unexploded ordnance (UXO).
- Response managed at lowest jurisdictional level capable of handling the removal: Territory → Federal
- If a territory-led response, the Guam Environmental Protection Agency is the lead agency
- If federal assistance required and there is a substantial threat, USCG or EPA oversees response by RP. Generally, response led by USCG in Area Contingency Plan coastal zone and by EPA in inland zone.
- Unlike response under Stafford Act declaration, under NCP USCG/EPA may respond without a request from the territorial government
- If vessel with no owner (RP), USCG removes pollution threat (battery, oil) but generally does not remove vessel

Debris in Guam Waters or Lands

- Response, if any, managed at lowest jurisdictional level capable of handling the removal: Villages → Territory
- GHS/OCD coordinates disaster response efforts and resources within the Territory
- Guam Department of Public Works is the lead agency responsible for debris management
- Guam Department of Parks and Recreation may lead beach clean ups within park boundaries
- Guam Department of Agriculture leads invasive species and biosecurity threats as well as conservation enforcement within Guam’s five marine preserve areas
- Guam Police Department may help identify owners for abandoned or derelict vessels
- If debris removal exceeds capabilities of local and Guam governments, the governor may request assistance from the U.S. Navy through the Joint Region Marianas, and the U.S. Navy will determine whether they can support the request

Does debris removal meet all NRCS Emergency Watershed Protection Program eligibility criteria in Section 4.3?

Is debris a direct result of an NRCS State Conservationist declared disaster and does removal meet all NRCS Emergency Watershed Protection Program eligibility criteria in Section 4.3?

Is the debris located in the designated disaster area?

Debris Eligible for NRCS Emergency Watershed Protection Program Funding
 NRCS funds removal by eligible sponsor in floodplains and upland areas if funds are available. Cost share is typically 75% NRCS, 25% sponsor.

Eligibility Determination by FEMA: Is removal necessary to eliminate the immediate threat to life, public health and safety, or improved property? Made on case-by-case discretionary basis in coordination with eligible applicant, Guam government, and other federal agencies. Guidelines for debris removal are in Section 4.3 and in FEMA Public Assistance Program and Policy Guide FP 104-009-2.

Stafford Act Declaration

Is the debris exposed to or does it have the potential to release oil or hazardous substances?

Is the debris recoverable (traceable to an owner, like a vessel with a hull identification number)?

Does the village or territorial agency have the capacity to perform or contract the debris removal work?

- Report to NRC 1-800-424-8802
- May be eligible for FEMA reimbursement funding if not at pre-existing site under NCP. If RP is known, must apply insurance proceeds first.
- Removal also authorized under NCP. See yellow “Pollution Threat” box.

FEMA Public Assistance Funding
 Reimbursement to eligible applicants to remove and dispose of debris using their own forces or contract labor

- Agencies coordinate with GAR to request Public Assistance funding from FEMA
- Guam Department of Environmental Protection typically leads oil and hazardous materials response
- If vessel with no owner, FEMA may reimburse applicant for removal after USCG removes pollution threat

Does the village or territorial agency have the capacity to perform or contract the debris removal work?

FEMA Mission Assignment
 FEMA provides direct federal assistance and mission assigns another federal agency to perform or contract the debris removal work

- USCG or EPA typically lead hazardous waste disposal under ESF 10
- U.S. Army Corps of Engineers may dispose of building debris hazmat, such as household hazardous materials, under ESF 3

Recoverable Debris in Guam Waters

- If owner is found, apply insurance and owner takes property
- If no owner is found and vessel blocks access to a public-use area, FEMA may reimburse applicant or mission assign another federal agency for removal

FEMA Public Assistance Funding
 Reimbursement to eligible applicants to remove and dispose of debris using their own forces or contract labor

- Agencies coordinate with GAR to request Public Assistance funding from FEMA
- See blue “Debris in Guam Waters or Lands” box for organization roles and most likely applicants

FEMA Mission Assignment
 FEMA provides direct federal assistance and mission assigns another federal agency to perform or contract the debris removal work

- U.S. Army Corps of Engineers typically leads eligible debris removal under ESF 3

- FEMA provides reimbursement funding but does not conduct debris removal work
- FEMA reimbursement funding has a typical cost share of 75% FEMA, 25% applicant**
- Eligible applicants in Guam must have legal responsibility to remove debris and include territorial governments and private nonprofit organizations that serve a public function

4 Roles and Responsibilities

While debris removal on land usually begins immediately after a disaster, response to marine debris typically occurs more slowly. Marine debris may be left in place if there is a lack of resources or unclear roles and responsibilities. Determining responsibility for marine debris response and removal can be complicated and may involve multiple agencies and overlapping jurisdictions. The response lead may change depending on the type of incident, the magnitude of the incident, and the debris location. Response to marine debris typically begins at the lowest jurisdictional level capable of handling the removal. After major disasters, the Guam Homeland Security/Office of Civil Defense (GHS/OCD) coordinates response activities among territorial agencies in accordance with the *Guam Comprehensive Emergency Management Plan* (CEMP; GHS/OCD, 2016).

When the capabilities of territorial agencies are exceeded, the governor may request assistance from the Federal Government and/or request a presidential disaster declaration under the Stafford Act. If the president issues a declaration that a major disaster exists, it authorizes Federal Emergency Management Agency (FEMA) to provide financial assistance through the Public Assistance Program. This program provides reimbursement funding for eligible marine debris removal to territorial governments that have the legal responsibility to remove the debris. In Guam, the governor's authorized representative (GAR) manages funds allocated under FEMA's Public Assistance Program.

If the local or territorial governments do not have the capacity to perform or contract debris removal, then FEMA may mission assign another federal agency to undertake this work. The Federal Government uses the emergency support function (ESF) concept to apply resources and assign agency responsibilities under a Stafford Act disaster response. ESFs most commonly applied during response to marine debris are ESF 3, Public Works and Engineering, led by FEMA and U.S. Army Corps of Engineers (USACE), and ESF 10, Oil and Hazardous Materials Response, led by the U.S. Coast Guard (USCG) and the U.S. Environmental Protection Agency (EPA). Like the ESF concept during active response, the Recovery Support Function (RSF) framework is used to provide structure to improve access to resources and foster coordination in the months and years after a disaster. RSFs bring together departments, agencies, and supporting organizations—including stakeholders not traditionally associated with emergency management—to focus on recovery needs (FEMA, 2016). The Infrastructure Systems RSF, coordinated by USACE, and the Natural and Cultural Resources RSF, coordinated by the Department of the Interior, are those most likely to be applied during recovery from marine debris and its impacts.

Like the Federal Government, Guam uses the ESF structure to apply territory resources and assign agency responsibilities. The Guam lead for ESF-3, Public Works and Engineering is the Guam Department of Public Works and the leads for ESF-10, Hazardous Materials Response, are the Guam Environmental Protection Agency and Guam Fire Department.

Local, territorial, and federal agency roles and responsibilities as they relate to marine debris response are outlined in the following sections, followed by responsibilities of private landowners and other organizations. For a visual one-page representation of the most likely response structure, see the "Guam Marine Debris Response Flowchart" in [Section 3](#). Select agency authorities are presented in [Section 6](#) and a map of agency jurisdictional boundaries can be found [online](#) (NOAA, n.d.-c).

4.1 Village/Mayoral Governments

- Village Mayors and Vice Mayors serve as civil defense wardens and respond to emergencies and disasters within their respective villages (GHS/OCD, 2016)
 - Village Mayoral Offices serve as local command posts where recovery efforts are coordinated
 - Coordinate emergency response efforts within their jurisdictions
 - Serve as the conduit for the flow of information from the Emergency Operations Center (EOC) to the public
- Following a Stafford Act major disaster declaration, village mayors or their respective offices may serve as eligible applicants and receive technical assistance or Public Assistance reimbursement funding from the Federal Emergency Management Agency (FEMA) to perform or contract debris removal
 - As applicant (subgrantee), responsible for identifying debris locations, types, and quantities; demonstrating the pre-disaster condition and capacity of waterways; determining ownership of recoverable debris; and providing a staging area for temporary storage of recoverable debris (FEMA, 2020)
 - See [Section 4.3 Federal Emergency Management Agency](#) for Public Assistance Program policies and eligibility criteria
- May serve as project sponsor and/or receive debris removal funding from the Natural Resources Conservation Service (NRCS) Emergency Watershed Protection (EWP) Program, if specific criteria are met
 - See [Section 4.3 Natural Resources Conservation Service](#) for EWP eligibility criteria

4.2 Territorial Agencies

- Territorial waters extend 12 nautical miles from the coastline, and Guam manages submerged lands 3 nautical miles from the high tide line
- Following a Stafford Act major disaster declaration, Guam agencies may serve as eligible applicants and receive technical assistance or Public Assistance reimbursement funding from FEMA to perform or contract debris removal
 - Agencies coordinate with the governor's authorized representative (GAR) to request Public Assistance funding
 - As applicant (subgrantee), responsible for identifying debris locations, types, and quantities; demonstrating the pre-disaster condition and capacity of waterways; determining ownership of recoverable debris; and providing a staging area for temporary storage of recoverable debris (FEMA, 2020)
 - See [Section 4.3 Federal Emergency Management Agency](#) for Public Assistance Program policies and eligibility criteria

Guam Bureau of Statistics and Plans (BSP)

- Leads the annual International Coastal Cleanup in coordination with other federal and Guam agencies

Guam Coastal Zone Management Program

- Implements the Guam Coastal Zone Management Program through a partnership with NOAA under the authority of the Coastal Zone Management Act of 1972 (16 U.S.C. § 1451 et seq.)

- Manages Coastal Zone Management federal consistency reviews to ensure that local and federal actions within the coastal zone are consistent and coordinated

Guam Department of Agriculture

Biosecurity Division

- Serves as Guam’s lead agency for biosecurity, agricultural quarantine, plant inspection, and invasive species programs
- Maintains a hotline for reporting invasive species at 671-475-7378

Division of Aquatic and Wildlife Resources

- Conserves and manages fish and wildlife and their habitats through partnerships and coordination
- Manages and enforces conservation laws within the island’s five marine preserves
- Maintains a hotline for reporting threats to Guam’s fish and wildlife at 671-864-8652
- The Technical Guidance Section is responsible for permitting activities within Guam’s marine protected areas

Guam Coral Reef Initiative

- Develops and implements the *Guam Coral Reef Resilience Strategy* (Guam Coral Reef Initiative, 2019), used by managers to guide coral reef management and conservation activities in Guam, including conducting outreach to educate the public about marine debris issues

Guam Department of Land Management

- Serves as a support agency for ESF 3, Public Works and Engineering, and participates in the Debris Task Force to coordinate debris management operations
- Coordinates with GHS/OCD and other partner agencies to identify properties for permitted temporary transition sites for the storage and reduction of disaster debris as well as sites for the permanent disposition of all categories of disaster debris (GHS/OCD, 2016)
- Surveys and develops, in coordination with other Guam agencies, flood zones and designated wetland areas of particular concern, which may require permits for development in those areas
- Prepares and maintains digital maps of boundaries of all lands owned, controlled or in possession of the Government of Guam

Guam Territorial Seashore Protection Commission

- Established under the Territorial Seashore Protection Act (21 Guam Code § 63101 et seq), the Commission studies the seashore reserve to ensure conservation of its resources, and prepare a Guam Seashore Reserve Plan

Guam Department of Parks and Recreation

- Serves as a support agency for ESF 3, Public Works and Engineering
- Manages parks and recreation facilities on Guam
- Oversees regular beach clean ups within parks boundaries

Historic Resources Division

- Serves as Guam’s State Historic Preservation Office

- Maintains the *Comprehensive Statewide Historic Preservation Plan*
- Maintains an inventory of historic and cultural properties
- Reviews proposed debris removal projects for compliance with Section 106 of the National Historic Preservation Act

Guam Department of Public Works (DPW)

- Serves as the lead agency for ESF 3, Public Works and Engineering, and the lead Guam agency responsible for debris management. This includes collection, separation, and disposition of disaster-related debris (GHS/OCD, 2016)
- Serves as a support agency for ESF 10, Oil and Hazardous Material Response
- Implements Guam's solid waste management plan

Guam Environmental Protection Agency (GEPA)

- Serves as a support agency for ESF 3, Public Works and Engineering
- Serves as a co-lead agency for ESF 10, Oil and Hazardous Material Response
- Participates in the Debris Task Force with other designated agencies to coordinate debris clearance activities and prioritize resources (GHS/OCD, 2016)
- Coordinates with GHS/OCD and other partner agencies to identify properties for permitted temporary transition sites for the storage and reduction of disaster debris as well as sites for the permanent disposition of all categories of disaster debris
- At the direction of the Debris Task Force, stands-up designated debris transition sites and ensure staffing of those areas
- Serves as the lead agency for response to pollution threats, including oil spills and hazardous materials
- Administers the Guam Environmental Trust Fund, used to clean up hazardous materials and restore and repair damage done to the environment (10 Guam Code § 45200)
- Administers the Guam Recycling Revolving Fund, which provides funding for Guam's zero waste and recycling programs
- Administers the Litter Control Revolving Fund, used for educational programs aimed at raising awareness of litter, as well as purchase of equipment used in the cleanup of litter from public areas (10 Guam Code § 51204)
- Implements the Guam Zero Waste Grant Program that targets a 50% and 75% waste reduction by 2035 and 2045, respectively (10 Guam Code § 51309)

Guam Fire Department

- Serves as the co-lead agency for ESF 10, Oil and Hazardous Material Response, and assists in the coordination of all ESF 10 response and recovery activities

Guam Homeland Security/Office of Civil Defense (GHS/OCD)

- Coordinates response and government resources during significant emergencies and major disasters
- Activates and operates the Emergency Operations Center
- Serves as state coordinating official and coordinates with the governor's authorized representative (GAR) during a major disaster to request federal assistance under the Stafford Act
- Coordinates damage assessment and needs assessment processes with local and federal assessment teams

- Develops and maintains a *Guam Comprehensive Emergency Management Plan* to respond to incidents and a *Guam Hazard Mitigation Plan* (GHS/OCD, 2016; 2019)
- Develops and coordinates response trainings and exercises

Guam National Guard

- Serves as a support agency for ESF 10, Oil and Hazardous Material Response
- On order of the Governor of Guam, provides forces and capabilities to support the Government of Guam in response to natural or man-made disasters

Guam Police Department

- Lead law enforcement agency for Guam
- Serves as a support agency for ESF 10, Oil and Hazardous Material Response
- Manages vessel registration and may help to identify owners of abandoned vessels

Guam Solid Waste Authority

- Conducts residential waste pick up and disposal
- Implements, in partnership with Village Mayors, the Municipal Recycling Program to promote recycling on the municipal level
- May accept disposal of derelict or damaged vessels after pollutants have been removed

Port Authority of Guam

- A public corporation that maintains and oversees the Port of Guam, the largest deep-water port in the region
- While resources are limited, may support USCG or other responding agencies in the removal of hazards to navigation, within Port Authority jurisdiction
- Maintains the *Port of Guam All Hazards Emergency Response Plan* and contribute to the *Guam Coastal Resilience Assessment* report
- Harbormasters are responsible for maintenance at the Port of Guam as well as two smaller boat harbors

4.3 Federal Agencies

Animal and Plant Health Inspection Service (APHIS)

- Veterinary Services Program provides guidance for removal and burial of diseased animal carcasses
- Plant Protection and Quarantine Program provides guidance to reduce the risk of introduction and spread of invasive species through planning, surveillance, quick detection, and containment. For issues related to plant debris movement from Guam to other U.S. states or territories, contact the APHIS Hawai'i State Plant Health Director at 808-838-2780.

Federal Emergency Management Agency (FEMA), Region 9

- FEMA's [Public Assistance Program and Policy Guide](#) (2020) includes information on debris removal from waterways after a major disaster declared by the president
- Under the Stafford Act, provides reimbursement funding for eligible debris removal from navigable waterways (non-federally maintained) or natural waterways (not improved or maintained) during presidential major disaster declarations when another federal agency does not have authority to fund the activity (FEMA, 2020)

- FEMA provides funding but does not conduct debris removal work
- FEMA provides Public Assistance funding for eligible debris removal to eligible applicants. **The typical cost share is 75% FEMA, 25% applicant.**
- FEMA eligible applicants must have legal responsibility to remove debris and include state and territorial governments, Indian Tribal Governments, local governments, and private nonprofit organizations that serve a public function
- Issues mission assignments to other federal agencies for technical assistance, federal operations support, or to perform or contract debris removal from waterways when territory capabilities are exceeded
- Makes eligibility determinations for debris removal on a case-by-case discretionary basis in coordination with the eligible applicant, territory, and other federal agencies
 - Debris removal must be necessary to eliminate an immediate threat to life, public health and safety, or improved property (FEMA, 2020)
 - For navigable waterways, debris removal is limited to a max depth of 2 feet below the low-tide draft of the largest vessel that used the waterway prior to the incident
 - Any debris below this zone is not eligible unless it is necessary to remove debris extending upward into an eligible zone (FEMA, 2020)
 - For non-navigable waterways, including natural waterways, debris removal is only eligible to the extent that it is necessary to eliminate an immediate threat including the following: if the debris obstructs, or could obstruct, intake structures; if the debris could cause damage to structures; or if the debris is causing, or could cause, flooding to improved property during the occurrence of a 5-year flood (FEMA, 2020)
- Employs debris specialists that can be mobilized to assist eligible applicants with debris management
- FEMA must ensure compliance with federal laws, regulations, and executive orders prior to funding debris removal work.

National Oceanic and Atmospheric Administration (NOAA)

National Marine Fisheries Service (NMFS or NOAA Fisheries)

Office of Habitat Conservation and Office of Protected Resources

- Reviews proposed debris removal activities and mission assignments that involve a federal agency (directly or through funding and/or issuance of a federal permit) for compliance with Magnuson-Stevens Fisheries Conservation and Management Act, Endangered Species Act (ESA), and Marine Mammal Protection Act
 - The ESA directs federal agencies to ensure their actions do not jeopardize the existence of any species listed under the ESA or destroy or adversely modify designated critical habitat. Generally, NOAA Fisheries manages marine and anadromous species while the U.S. Fish and Wildlife Service (USFWS) manages land and freshwater species. The Pacific Islands Regional Office can help agencies determine if an ESA consultation is necessary, and additional information is provided on the ESA consultation [website](#) (NOAA, 2023c).
 - Magnuson-Stevens Fisheries Conservation and Management Act directs all federal agencies to ensure the actions they take, including those they fund or authorize, do not adversely affect essential fish habitat (EFH). If a federal agency determines its - 38 - activities or actions may adversely affect EFH, they must consult with NOAA Fisheries. Additional information can be found on the Pacific Islands EFH [website](#),

and maps of EFH can be found on the EFH mapper [website](#) (NOAA, 2023d; NOAA, n.d.-a).

- Provides Protected Species (marine mammal and sea turtle) standing response services
 - Maintains a year-round, 24-hour telephone watch through the NOAA Marine Wildlife Hotline: (888) 256-9840. Additional resources can be found at <https://www.fisheries.noaa.gov/report>.
- Provides best management practices and conservation recommendations through emergency consultation proceedings to responding agencies; to avoid and minimize potential adverse effects to NOAA trust resources (i.e., threatened and endangered species, essential fish habitat, etc.) from response activities
- May provide onsite support to internal and external partners at an incident command post (ICP) or joint field office (JFO) if there is a need for NOAA expertise
- Facilitates inter-agency planning and coordination for various emergency response events

National Ocean Service

Office of Coast Survey

- If requested by the USCG Captain of the Port, mobilizes navigation response teams to survey navigationally significant waterways for sunken debris, changes in water depth, and hazards to navigation following a disaster

Office of National Geodetic Survey

- Connects Pacific stakeholders to commercial high-resolution satellite imagery, such as imagery from the National Geospatial-Intelligence Agency, to support emergency response

Office of Response and Restoration

- Manages the Environmental Response Management Application (ERMA), a web-based geographic information system (commonly known as GIS) that includes an [online](#) dynamic “Guam Marine Debris Response Map” (NOAA, n.d.-c)
- Serves as scientific support coordinators to coordinate application of NOAA assets and services during emergencies to help the federal on-scene coordinator (FOSC) make timely operational decisions
- Provides scientific support for debris response planning and operations, including baseline information, debris behavior, debris impact, debris survey and detection protocols, removal best management practices, disposal guidance, and information management
- May provide onsite support to internal and external partners at an ICP or JFO if there is a need for marine debris or NOAA expertise
- Funds marine debris assessment and removal projects through grants or congressional supplemental funding
- Facilitates inter-agency planning and coordination for responses to marine debris events
- Develops external communications, such as talking points appropriate for the public, informational graphics, etc.
- For events determined by the NOAA Administrator to be severe marine debris events, may develop interagency plans, assess composition volume and trajectory of associated marine debris, and estimate potential impacts to the economy, human health, and navigation safety

National Weather Service

- Predicts, forecasts, and issues official watches and warnings of severe weather

- Provides operational tools and briefings to federal and territory officials for emergency management awareness and decision support

National Park Service (NPS)

- Responsible for debris assessment and cleanup within War in the Pacific National Park in Asan
- May coordinate with partners to conduct marine debris assessment and cleanup
- May deploy emergency response teams after disasters and provide best management practices to protect managed areas and associated resources

Natural Resources Conservation Service (NRCS)

- When funding is available, provides emergency financial and technical assistance through the Emergency Watershed Protection (EWP) Program to relieve imminent hazards to life and property created by a natural disaster that causes a sudden impairment of a watershed
 - Watershed impairments can include sediment and debris deposition in floodplains and upland portions of a watershed
 - Public and private landowners are eligible, but must be represented by a project sponsor, including any legal subdivision of the territory government or agency with a legal interest in or responsibility for the affected area
 - Applicants must document they have exhausted or have insufficient funding or other resources available to provide adequate relief from applicable hazards
 - **Typical cost share is 75% NRCS and 25% project sponsor**
- The EWP Program will only provide assistance for measures that meet the following conditions:
 - Debris is a direct result of either a major disaster declared by the president or of an NRCS State Conservationist declared natural disaster
 - Provide protection from additional flooding or soil erosion
 - Reduce threats to life or property from a watershed impairment, including sediment and debris removal in floodplains and uplands
 - Restore the hydraulic capacity to the natural environment to the maximum extent practical
 - Are economically and environmentally defensible and technically sound
- May assist in the location of burial pits for animal mortality

U.S. Army Corps of Engineers (USACE), Honolulu District

- Typically maintains regional pre-event contracting capabilities

Emergency Operations

- Serves as lead federal agency under ESF 3, Public Works and Engineering
- If local or territory governments do not have the capacity to perform or contract debris removal and/or surveying following a Stafford Act major disaster declaration, may provide technical support or lead eligible debris removal from navigable waterways (non-federally maintained) and wetlands under a FEMA mission assignment
- Responds within its authority under the Flood Control and Coastal Emergency Act (33 U.S.C. § 701n)

Navigation

- Responsible for operation, maintenance, and debris removal from authorized federally maintained channels
- May remove or oversee removal by responsible party (RP) of sunken vessels or other obstructions if they are determined by USACE and USCG to be hazards to navigation (33 C.F.R. § 245)
- Authorized to clear snags in specified small waterways (33 C.F.R. § 263.24)
- May provide assistance for debris removal from flood control structures (33 U.S.C. § 701n)
- May study and undertake projects to remove and dispose of derelict objects such as sunken vessels, waterfront debris and derelict structures, and other sources of drift that may damage vessels or threaten public health, recreation, or the environment at publicly maintained commercial boat harbors (33 U.S.C. § 426m)

Regulatory Program

- May issue permits for debris removal within waterways and wetlands in Guam

U.S. Coast Guard (USCG), District 14, Sector Guam

- In most cases, marine debris removal by the USCG is not authorized
- Establishes a safety zone around hazards to navigation and broadcasts maritime safety warnings including notices to mariners to warn of wrecked vessels obstructing watercourse or hazards to navigation
- Maintains a year-round, 24-hour telephone watch through the National Response Center (NRC) for reporting of oil or hazardous material releases
 - Note: Reports of pollution threats should be made to the NRC at 800-424-8802
- Oversees response to debris exposed to (or with the potential to release) oil or hazardous substances that poses a substantial threat within the coastal zone waterward to the exclusive economic zone as defined in the *Mariana Islands Area Contingency Plan* (ACP; USCG, 2021)
 - Actions generally limited to removing oil or other hazardous substances while leaving vessels in place
 - May coordinate with territorial agencies to have vessel removed after abating pollution threat
- Serves as lead FOSC under ESF 10, Oil and Hazardous Materials Response, in the ACP coastal zone
 - Coordinates with the Government of Guam and oversees response by RP
 - Unlike response activities during a Stafford Act major disaster declaration, the USCG may respond without a request from the territorial government under the National Contingency Plan (NCP). During Stafford Act declarations, the USCG retains the authority to act under the NCP.
 - For a map of the ACP coastal-inland zone boundary, see [Section 4.6](#)
- Following a Stafford Act major disaster declaration, may lead debris removal from waterways under a FEMA mission assignment if local or territory governments do not have the capacity to perform or contract the debris removal work
- The Captain of the Port may request assistance from NOAA's navigation response team to survey navigationally significant waterways for sunken debris, changes in water depth, and hazards to navigation following a disaster
- May track location of known abandoned and derelict vessels

U.S. Department of Defense (DoD)

- See [U.S. Army Corps of Engineers \(USACE\)](#) for a description of individual agency roles

Joint Region Marianas

- Responsible for debris assessment and cleanup within the three Guam DoD installations including: Naval Base Guam, Marine Corps Base Camp Blaz, and Anderson Airforce Base
 - For a map of areas managed by the DoD, see [Section 4.6](#)
- For areas not managed by the U.S. Navy, if debris removal exceeds the capabilities of municipal and territorial governments, the governor may request assistance from the U.S. Navy through the Joint Region Marianas Command, and the U.S. Navy will determine whether they can support the request
- For federally declared disasters, FEMA may request assistance from the Joint Region Marianas Command
- If the debris is polluted or has the potential to release oil or other hazardous substances, the FOSC may request assistance from the U.S. Navy (40 C.F.R. § 300)

U.S. Navy Supervisor of Salvage and Diving

- Manages and provides technical assistance for salvage, deep search and recovery, towing, and oil spill response operations
- Maintains an array of remotely operated vehicles, oil spill response, and salvage equipment
- Provides technical assistance for salvage, deep search and recovery, towing, and oil spill response and manages regional standing emergency salvage contracts (U.S. National Response Team, 2020)

U.S. Department of Interior

- Responsible for debris assessment and cleanup within lands and waters managed by the U.S. Department of Interior
 - For a map of areas managed by the U.S. Department of Interior, see [Section 4.6](#)
- Lead for Natural and Cultural Resources Recovery Support Function
- See [National Park Service](#) and [U.S. Fish and Wildlife Service \(USFWS\)](#) for a description of individual agency roles

U.S. Environmental Protection Agency (EPA), Region 9

- Oversees response to debris exposed to (or with the potential to release) oil or hazardous substances that poses a substantial threat within the inland zone, as defined in the *Mariana Islands Area Contingency Plan* (ACP; USCG, 2021)
 - For a map of the ACP coastal-inland zone boundary, see [Section 4.6](#)
- During Stafford Act responses, serves as lead FOSC under ESF 10, Oil and Hazardous Materials Response, in the ACP inland zone and in close coordination with USCG during incidents affecting both inland and coastal zones
 - Coordinates with the territory government and oversees response by RP
 - Unlike response activities during a Stafford Act major disaster declaration, the EPA may respond without a request from the the government under the NCP. During Stafford Act declarations, the EPA retains the authority to act under the NCP.
- Following a Stafford Act major disaster declaration, may coordinate with the USCG on the removal and disposal of contaminated debris under a FEMA mission assignment if local or

territory governments do not have the capacity to perform or contract the debris removal work

- Administers general ocean disposal permits for the ocean disposal of steel-hulled vessels (40 C.F.R. § 229.3)
- Ocean Dumping Management Program provides guidance regarding derelict vessel disposal, emergency disposal permits, and removal authorities

U.S. Fish and Wildlife Service (USFWS)

Ecological Services Program

- Reviews proposed debris removal activities that involve a federal agency (directly or through funding and/or issuance of a federal permit) for compliance with the Endangered Species Act (ESA)
 - The ESA directs federal agencies to ensure their actions do not jeopardize the existence of any species listed under the ESA or destroy or adversely modify designated critical habitat. Generally, the USFWS manages land and freshwater species, while NOAA Fisheries manages marine and anadromous species.
 - If a federal agency determines its activities or actions may affect listed species or designated critical habitat—even if the effects are expected to be beneficial—they must consult with the USFWS or NOAA Fisheries. See the USFWS's Information for Planning and Consultation [website](#) for an up-to-date list of Guam's threatened and endangered land and freshwater species (USFWS, n.d.).

National Wildlife Refuges

- Manages the Guam National Wildlife Refuge
- Responsible for cleanup of debris within Refuge boundaries
- For a map of the Guam National Wildlife Refuge, see [Section 4.6](#)

4.4 Private Landowners

- Homeowner insurance policy may cover debris removal from private property and property owners may partner with volunteer organizations
- May complete right-of-entry agreements with entities conducting private property debris removal or using private property as an access point
- After a Stafford Act major disaster declaration, debris removal from private property or privately-owned waterways and shorelines is generally the responsibility of the property owner and not eligible for FEMA funding unless its removal is necessary to mitigate a health and safety threat and is in the public interest (FEMA, 2020)
- May be eligible for debris removal funding from the NRCS EWP Program if represented by a project sponsor and specific criteria are met. See [Section 4.3 Natural Resources Conservation Service](#) for EWP Program eligibility criteria.

4.5 Nongovernmental Organizations

- May provide debris removal assistance through funded projects and programs
- Following a Stafford Act major disaster declaration, certain private nonprofit organizations that serve a public function and have the legal responsibility to remove the debris may serve as an eligible applicant and receive Public Assistance reimbursement funding from FEMA to perform or contract debris removal (44 C.F.R. § 206.222)

- Organizations coordinate with the GAR to request Public Assistance funding
- As an applicant (subgrantee), responsible for identifying debris locations, types, and quantities; demonstrating the pre-disaster condition and capacity of waterways; determining ownership of recoverable debris; and providing a staging area for temporary storage of recoverable debris (FEMA, 2020)
- See [Section 4.3 Federal Emergency Management Agency](#) for Public Assistance Program policies and eligibility criteria

Guam Extreme Cleanup Crew

- Recruits volunteers for marine and terrestrial cleanups that require skilled labor such as rappelling, rock climbing, scuba diving, freediving, chainsaw operation, and drone operation
- Coordinate cleanups with government and nongovernmental organization partners

Pacific Coastal Research and Planning

- Provide geospatial support through on-site oblique imagery and mapping, plus open/web-based access of debris mapping data and oblique imagery to all partners
 - For example, after vessel groundings, may conduct initial geo-referencing of the vessel footprint and mapping overlay of bathymetry, benthic habitat, and buffering for vessel exclusion zone
- Provide uncrewed aircraft systems (drone) aerial support to survey, assess, and inventory marine debris and impacts

Pacific Disaster Center

- Applied research center managed by the University of Hawai'i to help partners mitigate, prepare for, respond to, and recover from disasters
- Serves as clearinghouse for data and products, including high-resolution satellite imagery after disasters

4.6 Guam Marine Debris Response Map

The “Guam Marine Debris Response Map”, available [online](#) in the Environmental Response Management Application (ERMA; NOAA, n.d.-c) displays relevant organization jurisdiction boundaries. [Figure 2](#) shows a screenshot of the online map with a legend to the right-hand side. After a marine debris incident, the agency (or agencies) with jurisdiction and authority for removing debris will vary depending on where the debris is located.

For detailed information regarding local, territory, and federal agency roles and responsibilities, see Sections [4.1](#), [4.2](#), and [4.3](#), respectively. Select agency authorities applicable to marine debris response are presented in [Section 6](#).

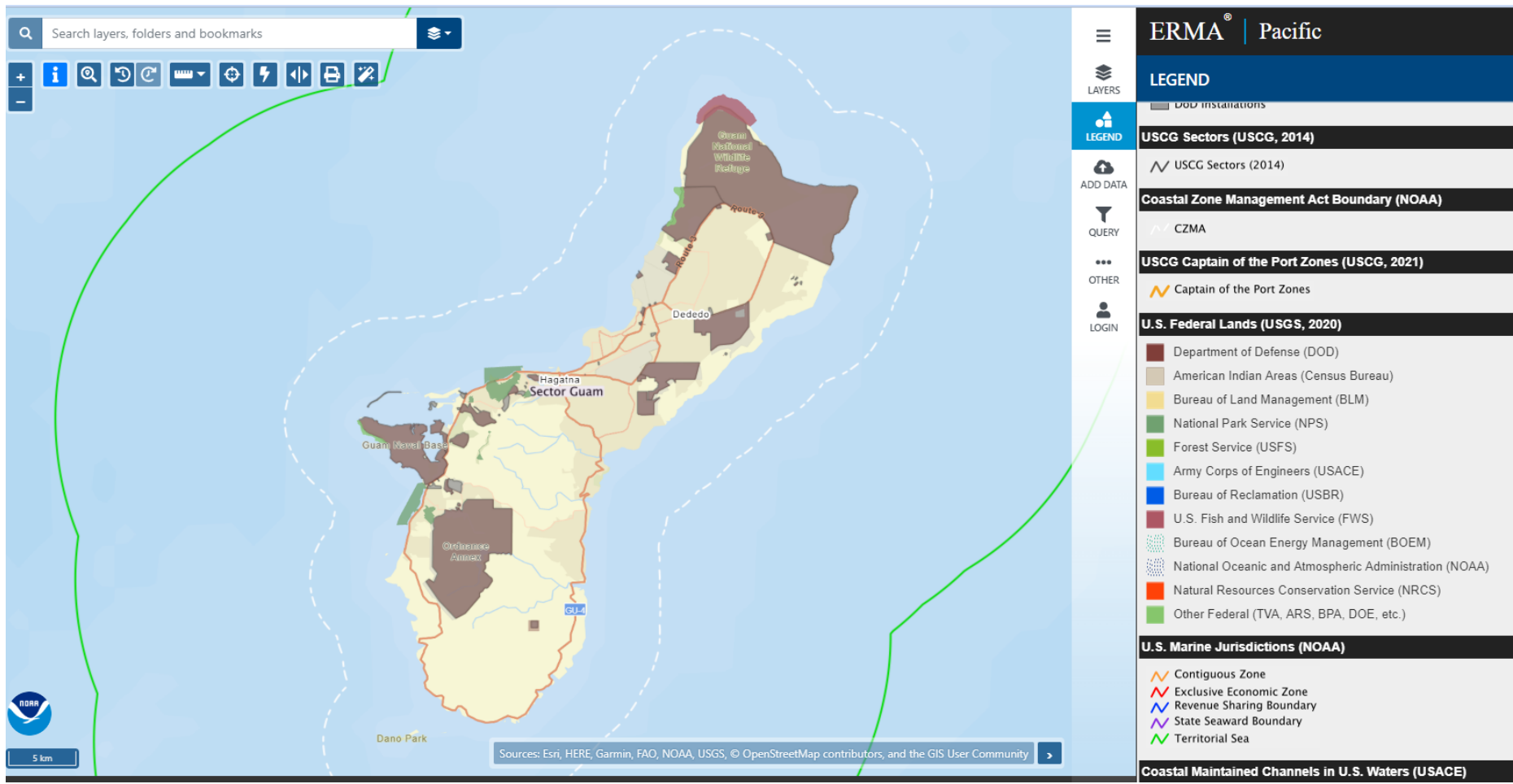


Figure 2. Screenshot of the Guam Marine Debris Response Map in the Environmental Response Management Application (National Oceanic and Atmospheric Administration, n.d.-c)

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6 Agency Authorities

6.1 Select Agency Authorities

6.1.1 Territory Agency Authorities

General Authorities of the Territory

- Creation of certain hazards; oil pollution by vessels, 9 Guam Code § 61.65
- Creation of hazards on land; Penalty, 9 Guam Code § 61.60
- Mayors of Guam: Powers, duties and responsibilities, 5 Guam Code § 40112
- Mayors of Guam: Authority of Mayors and Vice Mayors, 5 Guam Code § 40115

Guam Bureau of Statistics and Plans (BSP)

- Bureau of Statistics and Plans: Responsibilities and Authority, 5 Guam Code § 1203
- Chamorro Land Trust Commission, 21 Guam Code § 75A100 et seq

Guam Department of Agriculture

- Endangered Species Act of Guam, 5 Guam Code § 63201 et seq
- Guam Forestry Legacy Act of 2012, 5 Guam Code § 63501 et seq
- Guam Invasive Species Council Act of 2011, 5 Guam Code § 70101 et seq
- Guam Ocean and Fisheries Conservation Act of 2015, 5 Guam Code § 63901 et seq
- Land Conservation Act, 5 Guam Code § 655101 et seq

Guam Department of Land Management

- Department of Land Management, 21 Guam Code § 60103
- Guam Seashore Protection Act of 1974, 21 Guam Code § 63101 et seq
- Land Management Act, 21 Guam Code § 60101

Guam Department of Parks and Recreation

- Conservation of archeological resources, 21 Guam Code § 76201 et seq
- Department of Parks and Recreation, 21 Guam Code § 77102
- Guam register of historic sites, 21 Guam Code § 76506
- Protection and recovery of underwater historic property and sites, 21 Guam Code § 76301 et seq

Guam Department of Public Works (DPW)

- Prohibited hazardous waste activities, 10 Guam Code § 51111
- Prohibited solid waste activities, 10 Guam Code § 51110
- Solid Waste Management and Litter Control Act, 10 Guam Code § 51101 et seq

Guam Environmental Protection Agency (GEPA)

- Guam Environmental Pollution Control Act, 10 Guam Code § 54101 et seq
- Guam Environmental Protection Agency Act, 10 Guam Code § 45101 et seq
- Guam Oil Spill Responder Act, 10 Guam Code § 54A001 et seq
- Litter control revolving fund, 10 Guam Code § 51204

- Recycling revolving fund, Guam Code § 51301
- Water Resources Conservation Act, 10 Guam Code § 46191 et seq
- Water Pollution Control Act, 10 Guam Code § 47101 et seq
- Zero waste grant program, 10 Guam Code § 51309

Guam Homeland Security/Office of Civil Defense (GHS/OCD)

- Homeland Security and Emergency Management Modernization, 5 Guam Code § 14.101 et seq

Guam National Guard

- Guam National Guard, 10 Guam Code § 63100 et seq

Guam Police Department

- Territorial Boating Act, 10 Guam Code § 69011 et seq
- Vessel title and registration, 10 Guam Code § 77102

Guam Solid Waste Authority

- Guam Solid Waste Authority Act, 10 Guam Code § 51A101 et seq
- Powers of the department, 10 Guam Code § 51A804
- Solid waste operations fund, 10 Guam Code § 51A301

6.1.2 Federal Agency Authorities

Animal and Plant Health Inspection Service

- Animal Health Protection Act, 7 U.S.C. § 8301 et seq.
- Plant Protection Act, 7 U.S.C. § 7701 et seq.

Federal Emergency Management Agency (FEMA)

- Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. § 5121 et seq.
 - Debris Removal, 42 U.S.C. § 5173
 - Essential Assistance, 42 U.S.C. § 5170b
 - Federal Emergency Assistance, 42 U.S.C. § 5192
- [*Public Assistance Program and Policy Guide FP 104-009-2*](#) (FEMA, 2020)

National Oceanic and Atmospheric Administration (NOAA)

- Coastal Zone Management Act of 1972, 16 U.S.C. § 1451 et seq.
- Endangered Species Act, 16 U.S.C. § 1531 et seq.
- Fish and Wildlife Coordination Act, 16 U.S.C. § 661 et seq.
- Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801 et seq.
- Marine Debris Research, Prevention, and Reduction Act, 33 U.S.C. § 1951 et seq.
- Marine Mammal Protection Act of 1972, 16 U.S.C. § 1361 et seq.
- Marine Protection, Research, and Sanctuaries Act (Ocean Dumping Act), 33 U.S.C. § 1401 et seq.
- National Marine Sanctuaries Act, 16 U.S.C. § 1431 et seq.
- National Marine Sanctuary Program Regulations, 15 C.F.R. § 922

Natural Resources Conservation Service (NRCS)

- Emergency Watershed Protection Program, 7 C.F.R. § 624

U.S. Army Corps of Engineers (USACE)

- Authority for snagging and clearing for flood control (Section 208), 33 C.F.R. § 263.24
- Federal Water Pollution Control Act (commonly known as Clean Water Act) as amended by the Oil Pollution Act of 1990, 33 U.S.C. § 1251 et seq.
 - Permits for dredged or fill material (Section 404), 33 U.S.C. § 1344
- Flood Control and Coastal Emergency Act, 33 U.S.C. § 701n (Public Law 84-99)
- Permits for Structures or Work in or Affecting Navigable Waters of the United States, 33 C.F.R. § 322
- Removal of snags and debris, and straightening, clearing, and protecting channels in navigable waters, 33 U.S.C. § 603a
- Removal of Wrecks and Other Obstructions, 33 C.F.R. § 245
- Rivers and Harbors Appropriation Act of 1899 and 1945, 33 U.S.C. § 401 et seq.
 - Obstruction of navigable waters generally; wharves; piers, etc.; excavations and filling in (Section 10), 33 U.S.C. § 403
 - Taking possession of, use of, or injury to harbor or river improvements, 33 U.S.C. § 408
 - Obstruction of navigable waters by vessels; floating timber; marking and removal of sunken vessels, 33 U.S.C. § 409
 - Removal by Secretary of the Army of sunken water craft generally; liability of owner, lessee, or operator, 33 U.S.C. § 414
 - Summary removal of water craft obstructing navigation; liability of owner, lessee, or operator, 33 U.S.C. § 415
 - Collection and removal of drift and debris from publicly maintained commercial boat harbors and adjacent land and water areas (Water Resources Development Act, Section 202), 33 U.S.C. § 426m
- Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. § 5121 et seq.

U.S. Coast Guard (USCG)

- Abandoned Barge Act of 1992, 46 U.S.C. § 4701-4705
- Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 et seq.
- Federal Water Pollution Control Act (commonly known as Clean Water Act) as amended by the Oil Pollution Act of 1990, 33 U.S.C. § 1251 et seq.
 - Oil Pollution Liability and Compensation, 33 U.S.C. § 2701 et seq.
- Marking of structures, sunken vessels and other obstructions, 33 C.F.R. § 64
- National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. § 300
- Ports and Waterways Safety Act, 33 U.S.C. § 1221 et seq.
- Saving life and property, 14 C.F.R. § 88

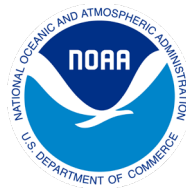
U.S. Environmental Protection Agency (EPA)

- Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 et seq.
- Federal Water Pollution Control Act (commonly known as Clean Water Act) as amended by the Oil Pollution Act of 1990, 33 U.S.C. § 1251 et seq.

- Marine Protection, Research, and Sanctuaries Act (Ocean Dumping Act), 33 U.S.C. § 1401 et seq.
- National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. § 300

U.S. Fish and Wildlife Service (USFWS)

- Endangered Species Act, 16 U.S.C. § 1531 et seq.
- Fish and Wildlife Coordination Act, 16 U.S.C. § 661 et seq.
- Marine Mammal Protection Act of 1972, 16 U.S.C. § 1361 et seq.
- Migratory Bird Treaty Act, 16 U.S.C. § 703 et seq.
- National Wildlife Refuge System Administration Act of 1966, 16 U.S.C. § 668dd et seq.
- National Wildlife Refuge System Improvement Act of 1997



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