



# **Puerto Rico Marine Debris Emergency Response Guide: Comprehensive Guidance Document**

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National Oceanic and Atmospheric Administration  
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Technical Memorandum NOS OR&R Marine Debris Emergency Response Guide 014a  
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# Puerto Rico Marine Debris Emergency Response Guide

## *Comprehensive Guidance Document*

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## List of Acronyms<sup>1</sup>

ACP	Area contingency plan
BMP	Best management practice
CBRA	Coastal Barrier Resources Act
CBRS	John H. Chafee Coastal Barrier Resources System
COR3	Central Office for Recovery, Reconstruction and Resiliency
DNER ( <i>DRNA</i> )	Puerto Rico Department of Natural and Environmental Resources, <i>Departamento de Recursos Naturales y Ambientales</i>
DoD	U.S. Department of Defense
<i>DTOP</i>	Puerto Rico Department of Transportation and Public Works, <i>Departamento de Transportación y Obras Públicas</i>
EFH	Essential fish habitat
EHP	Environmental planning and historic preservation
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
<i>FURA</i>	Puerto Rico Joint Forces of Rapid Action, <i>Fuerzas Unidas de Rápida Acción</i>
GIS	Geographic information system
ICP	Incident command post
ICS	Incident command system
JFO	Joint field office
JRO	Joint recovery office
JOCIP	Joint Operational Catastrophic Incident Plan of Puerto Rico
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
NWR	National Wildlife Refuge (of USFWS)
<i>OGPe</i>	Puerto Rico Permit Management Office, <i>Oficina de Gerencia de Permisos</i>
PREMB	Puerto Rico Emergency Management and Disaster Administration Bureau
PRPB ( <i>JP</i> )	Puerto Rico Planning Board, <i>Junta de Planificación</i>
RCP	Regional Oil and Hazardous Substances Pollution Contingency Plan
RP	Responsible party
SHPO	Puerto Rico State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service

<sup>1</sup>Spanish acronyms are italicized

## Definitions

**Abandonment** – Any vessel, ground facility, deepwater port, regular pipeline, oil pipeline, or offshore facility which has been abandoned or fallen into disuse, including the parties which would have been responsible before such vessel or facility was abandoned (12 L.P.R.A. § 8004n(b)(8)(F)).

**Area contingency plan (ACP)** – The *Puerto Rico and the U.S. Virgin Islands Area Contingency Plan (ACP)* defines roles, responsibilities, resources, and procedures necessary to respond to oil and hazardous substances. The ACP is prepared by the Puerto Rico and U.S. Virgin Islands Area Committee for the use of all agencies engaged in responding in a defined geographic area (U.S. Coast Guard [USCG], 2015).

**Banks** – The lateral strips of the beds of rivers comprised between the low-water mark and the mark reached by the water during the greatest ordinary rise, and margins, the lateral zones which adjoin the banks (12 L.P.R.A. § 614).

**Beds of public ownership** – The following are of public ownership: (1) The beds or channels of creeks not comprised in the foregoing section. (2) The natural beds or channels of rivers to the extent covered by the waters thereof during their highest ordinary rise (12 L.P.R.A. § 613).

**Captain 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). Puerto Rico is in Captain of the Port San Juan in Sector San Juan.

**Coastal waters** – Those of the sea within the jurisdiction of the Commonwealth of Puerto Rico and all such interior waters where the ebb and flow of the sea is sensed (12 L.P.R.A. § 1115b(c)).

**Coastal zone (Regional/Area contingency plan [RCP/ACP] coastal zone)** – U.S. Coast Guard area of responsibility for response under the National Contingency Plan, with geographic boundaries defined in the *Caribbean Regional Oil and Hazardous Substances Pollution Contingency Plan (RCP)* and the *Puerto Rico and the U.S. Virgin Islands Area Contingency Plan (ACP)*; Caribbean Regional Response Team, 2014; USCG, 2015).

**Coastal zone (under the Puerto Rico Coastal Zone Management Program)** – Strip of coastal land one thousand linear meters (1,000 m) inland, measured from the coast line, as well as additional distances needed to include key coastal natural systems. It also includes territorial waters of Puerto Rico and the marine or ocean floor (3 marine leagues, 9 nautical miles, or 10.35 land miles), the islands of Vieques, Culebra, Mona, Monito, Desecheo, Caja de Muertos, and all the keys and islets within them (P.R. Reg. No. 4860 art. 2.107; Puerto Rico Department of Natural and Environmental Resources [DNER], 2009; National Oceanic and Atmospheric Administration [NOAA], 2012).

**Construction and demolition debris** – Damaged components of buildings and structures such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting, pipe, concrete, asphalt, equipment, furnishings, and fixtures (Federal Emergency Management Agency [FEMA], 2007).

**Disaster** – An event that results in damages to the property as well as deaths and/or injuries in one or more communities (25 L.P.R.A. § 3643(c)).

**Eligible applicant** – Entities who may receive Public Assistance reimbursement funding from the Federal Emergency Management Agency under the Stafford Act. Eligible applicants include state and territorial governments, Indian Tribal Governments, local governments, and private nonprofit organizations that serve a public function and have the legal responsibility to remove the debris (44 C.F.R. § 206.222).

**Eligible debris** – Debris that is a direct result of a major disaster declared by the president, in the designated disaster area, and whose removal is necessary to eliminate the immediate threat to life, public health and safety, or improved property (FEMA, 2020).

**Emergency** –

- **National Oceanic and Atmospheric Administration** – 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 (NOAA, 2020d).
- **Puerto Rico** –
  - Situation, event, or combination of circumstances that causes unexpected and unforeseen public needs and requires the immediate action of the municipal government, because the life, health, or safety of citizens is in danger or because the service is in danger of being suspended or affected. Public or municipal property and that the ordinary procedure of purchases and acquisitions of goods and services cannot be fulfilled promptly due to the urgency of the action that must be taken. The emergency may be caused by a fortuitous event or force majeure such as a natural disaster, catastrophic accident, or any other situation or event that, due to its unexpected and unforeseen occurrence, impact, and magnitude, places life, health, safety, tranquility, or well-being of citizens (21 L.P.R.A. § 8351(82)).
  - Any situation or circumstance that warrants the necessary state and municipal efforts geared towards saving lives and protecting property, health, and public safety, or minimizing or avoiding the risk of a disaster in any part of Puerto Rico (25 L.P.R.A. § 3643(e)).
- **Stafford 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)).
- **U.S. Army Corps of Engineers** – 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)** –

- **Federal Emergency Management Agency** – 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.

- **Puerto Rico** – A functional area within the four (4) stages of emergency management geared to facilitating the dispatch of aid or assistance in a coordinated manner when so requested during emergencies or disasters. This assistance shall be aimed at saving lives and protecting property, as well as public health and safety. ESFs represent those types of federal or state assistance that municipalities or states, and territories are more likely to need in the aftermath of a disaster in terms of the internal resources available. The ESF is described and included in the National Response Framework and the State Emergency Management Plan (25 L.P.R.A. § 3643(f)).

**Environmental emergencies** – Any discharge or threat of discharge, accidental or unauthorized intentional leakage, seepage, pumping, injection, dumping, emission, or disposal, or any situation caused by spilling or leaving a pollutant or a hazardous or low-level radioactive substance or waste or hydrocarbons or their byproducts in or on any piece of land or any superficial or underground body of water or out or dispersed into the air or so as to gain access to any paved area or any area covered in asphalt, concrete, tar, or any kind of man-made material that poses a risk or a threat of risk for public health and safety, the general welfare, or the environment (12 L.P.R.A. § 8004a(1)).

**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; NOAA, 2019a).

**Federal disaster assistance** – Federal aid for disaster victims, municipal and state governments, or the instrumentalities thereof, under the provisions of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Pub. Law 93-288, as amended, (formerly known as the Disaster Relief Act of 1974) and/or any other substitute law (25 L.P.R.A. §3643(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, 2015).

**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** –

- Any substance or substance mixture that is toxic, corrosive, highly sensitizing, irritating, combustible, flammable, or which generates pressure through decomposition, heat or other means, if such substance or substance mixture is capable of causing bodily injuries or illness as a result of its use, management, or ingestion (12 L.P.R.A. § 8004n(b)(10)).
- (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 –**

- Any element, substance, compound or mixture used in any production process that is reused, destroyed, stored, or disposed of and which may harm living organisms or the environment. Also includes any element, substance, compound, or mixture that exhibits the characteristics of hazardous waste as established and defined in the regulations adopted by the Quality Board which apply to such waste, which exhibits the characteristics of hazardous waste as defined in the Resource Conservation and Recovery Act in 42 U.S.C. § 6903, which is (listed) or has the characteristics identified under 42 U.S.C. § 6921 (12 L.P.R.A. § 8004a(3)). *See also 12 L.P.R.A. § 1304(s) and 12 L.P.R.A. § 1321a(2).*
- 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, 2007).

**Household hazardous waste/material –** Hazardous product or material used and disposed of by residential consumers, including 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, 2007).

**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).

**Incident Command System (ICS) –** Standardized approach to the command, control, and coordination of on-scene incident management that provides a common hierarchy within which personnel from multiple organizations can be effective (FEMA, 2017).

**Inland zone (Regional/Area contingency plan [RCP/ACP] inland zone) –** U.S. Environmental Protection Agency area of responsibility for response under the National Contingency Plan, with geographic boundaries defined in the *Caribbean Regional Oil and Hazardous Substances Pollution*



*Contingency Plan (RCP) and the Puerto Rico and the U.S. Virgin Islands Area Contingency Plan (ACP; Caribbean Regional Response Team, 2014; USCG, 2015).*

**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.

**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.

**Maritime-terrestrial zone (Terrestrial maritime zone)** – The area of the coast of Puerto Rico where the high and low water marks caused by the ebb and flow of the tides are discernible, including the highest waves during a hurricane; where the tides are not discernible, including the lands reclaimed from the sea, and the banks of the rivers up to where they become navigable or the tides become discernible; and the term means the maritime-terrestrial zone of Puerto Rico without restrictions, as defined in the applicable laws (12 L.P.R.A. § 1203(i); 23 L.P.R.A. § 2103(n)).

**Marine waters of the Commonwealth** – The seas surrounding the Commonwealth of Puerto Rico and the high seas within the jurisdiction, when navigated during a pleasure trip from or to the Commonwealth coast (12 L.P.R.A. § 1401(f)).

**National Incident Management System (NIMS)** – A systematic, proactive approach to guide all levels of government, nongovernmental organizations, and the private sector to work together to prevent, protect against, mitigate, respond to, and recover from the effects of incidents. NIMS provides stakeholders across the whole community with the shared vocabulary, systems, and processes to successfully deliver the capabilities described in the National Preparedness System (FEMA, 2017).

**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, 2021).

**Natural bed of river or creek** – The land covered by its waters at their ordinary high-water mark (12 L.P.R.A. § 611).

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

**Navigable waters/waterways** –

- **Puerto Rico** – The navigable waters under the control or dominion of the Commonwealth of Puerto Rico (12 L.P.R.A. § 1401(j); 23 L.P.R.A. § 2103(h)).
- **U.S. Army Corps of Engineers** – Include both those waterways which are federally maintained and those waterways which are not federally maintained. U.S. Army Corps of Engineers defines navigable waters of the United States as 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).

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

**Oil** –

- The product generally known as such, of any class or form, and any byproduct thereof, including, but not limited to petroleum, oil, fuel, oily waste, and residual mixtures containing oils, silts, or refined oil (12 L.P.R.A. § 8004n(b)(5)).
- 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)).

**Pollution (to pollute)** –

- To alter the natural properties of a body of water so that it causes damage or is prejudicial to human health, or to animal and plant life, or causes bad odors or impurities, or alters adversely its physical, chemical, microbiological or radioactive properties, in such a way that mars the enjoyment of life or property or violates the criteria about and the standards of purity established to that effect by the regulations of the Board on Environmental Quality (12 L.P.R.A. § 1115b(f)).
- The depositing of any pollutant in and on the land, air, or water of or adjacent to the Commonwealth of Puerto Rico or which affects the physical, chemical, or biological properties of the land, air, or water of or adjacent to the Commonwealth of Puerto Rico in a manner and to a degree which renders or is likely to render such land, air, or water harmful

or inimical to the public health, safety, and welfare, to the flora, the fauna, and to domestic, industrial, agricultural, or recreational uses of such land, water, or air (12 L.P.R.A. § 1253(n)).

**Property in the maritime public domain** – The shoreline and the shore of the rivers, including the maritime zone which also extends along the banks to a point where it is sensible to tidal action; including those salt marshes, ponds, marshes, estuaries and low lands at large bathed by the ebb and flow of the tides, their bed and subsoil (P.R. Reg. No. 4860 art. 2.17).

**Public channels** – Channels which are not private property are of public ownership (12 L.P.R.A. § 603).

**Public waters** – The following are public or of public ownership: (1) Waters which rise continuously or intermittently on lands of public ownership (2) Continuous or intermittent waters of springs and creeks which run through natural channels (3) Rivers (12 L.P.R.A. § 521).

**Rights of way** – Banks, even when they are private property under a former law or custom, are subject throughout their entire length, and margins for a zone of three meters, to a right of way for public use in the general interest of navigation, the floating of logs or rafts, fishing, and salvage. Nevertheless, when the topography of the land or other legitimate causes should so require, the zone of this right of way shall be widened or reduced and all interests conciliated in so far as possible (12 L.P.R.A. § 615).

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

**Responsible party (vessels; RP)** – Any person owning, operating, or demise chartering a vessel. This term shall also include the owners of oil being transported in a tank vessel with a single hull after December 31, 2010 (12 L.P.R.A. § 8004n(b)(8)(A)).

**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)).

**Ship or vessel** – Any system of transportation on water that has a motor installed, including, but without being limited to jet skis, motorized rafts, power sailboats, motorboats, or boats of any sort, but excluding hydroplanes. This term also means those homemade vessels powered by a motor (12 L.P.R.A. § 1401(k)).

**Solid waste** – Trash; debris; junk such as refrigerators, stoves, water heaters, freezers, and similar commercial and residential devices; and ashes, mud, or any solid, liquid, semi-solid, or gaseous nonhazardous waste material resulting from domestic, industrial, commercial, mining, agricultural, or government operations (12 L.P.R.A. § 1320(a)).

**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; 42 U.S.C. § 5121 et seq.).

**State of emergency** – Means a state of emergency decreed by the President of the United States, the Governor or by the Mayors of Puerto Rico (21 L.P.R.A. § 8351(97)).

**Terrestrial maritime zone** – See [Maritime-terrestrial zone](#).

**Territorial waters** –

- Puerto Rico’s seaward boundary is 3 marine leagues (9 nautical miles; NOAA, 2012).
- All waters extending seaward from the shoreline of the island of Puerto Rico and from its adjacent islands as it has been or may in the future be modified or altered by separation, erosion, or withdrawal of the sea, out to 3 marine leagues (10.35 land miles; P.R. Reg. No. 4860 art. 2.5).

**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).

**Watercraft** – A mode of transportation which does not have a motor installed, such as rowboats, canoes, kayaks, sailboats with or without oars, water skis, surfboards with or without sails, rafts, inflatable systems, and any device that moves on the surface of the water without being propelled by a motor, although it could be fit for installation or adaptation of some type of motor (12 L.P.R.A. § 1401(l)).

**White goods** – Discarded household appliances such as refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, dryers, and water heaters. May contain refrigerants, mercury, or compressor oils that must be removed before disposal (FEMA, 2007).

# 1 Introduction

## 1.1 Purpose

The purpose of this document is to improve preparedness for response and recovery following a disaster that generates marine debris in Puerto Rico. This document outlines existing response structures at the municipal, territory, 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 [map](#) in this document. A dynamic version of this jurisdiction map is also available [online](#) (NOAA, 2021b). The document also includes an overview of permitting and compliance requirements that must be met before debris removal work begins. This information is synthesized in a one-page reference [handout](#).

Determining responsibility for marine debris response and removal can be complicated and may involve multiple agencies and overlapping jurisdictions. Additionally, the lead organization may change depending on the type of incident 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 *Puerto Rico Marine Debris Emergency Response Guide: Comprehensive Guidance Document (Guide)* serves as a complete reference for marine debris response in Puerto Rico. The accompanying [Field Reference Guide](#) includes an organization contact table and the most pertinent information for quick reference in the field and during response operations (NOAA, 2023b).

## 1.2 Scope of Guide

The *Guide* addresses both natural and anthropogenic marine debris incidents affecting Puerto Rico. 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 such as litter carried by rivers.

## 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 Puerto Rico. Spanish translation of this document was made possible by the Puerto

Rico Sea Grant Program including the director, Ruperto Chaparro, and the document translator, Cristina Olán-Martínez.

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's (NOAA) Marine Debris Program in coordination with stakeholders in Puerto Rico. Contact information in the [Field Reference Guide](#) will be verified annually, and the *Guide* will undergo a formal review every five years if needed (NOAA, 2023b). The *Guide* and subsequent versions will be posted on the NOAA Marine Debris Program emergency response website at <https://marinedebris.noaa.gov/our-work/emergency-response> (NOAA, 2023a).

## 2 Marine Debris Incidents in Puerto Rico

### 2.1 Disaster Incidents

Puerto Rico is an unincorporated organized territory of the United States in the north central Caribbean Sea surrounded by shallow coral reef ecosystems. Puerto Rico is a volcanic archipelago of over 143 islands that includes the main island of Puerto Rico; two small inhabited islands, Vieques and Culebra, off the east coast; and Mona Island to the west. The land area is made up of a mountainous interior, a karst area in the north, and coastal lowlands with no natural lakes (NOAA, 2020c). The main island of Puerto Rico is about three times the size of Rhode Island, and the island is divided into 78 municipalities—44 of which are coastal (DNER, 2009). The most populated area of the main island is in and around the capital of San Juan, while the population density is low in the western half of the island around the Cordillera Central mountain range. Of the territory’s 3.6 million residents, two-thirds live in coastal areas vulnerable to the impacts of natural disasters (NOAA, 2021a).

Puerto Rico’s location in the Caribbean and the island’s physical characteristics place it at risk of many natural hazards, including earthquakes, tsunamis, landslides, floods, severe storms, and associated storm surge (DNER, 2009; Puerto Rico Emergency Management and Disaster Administration Bureau [PREMB], 2019a). Since 1953, there have been 44 disaster declarations in Puerto Rico, including 18 hurricanes, 10 severe storms, eight floods, and two earthquakes—all of which can lead to disaster debris in adjacent waterways (Figure 1; FEMA, 2021). Because of Puerto Rico’s remote geographic location, response to disaster debris can be complicated or delayed, especially if ports or airports are damaged (PREMB, 2019a).

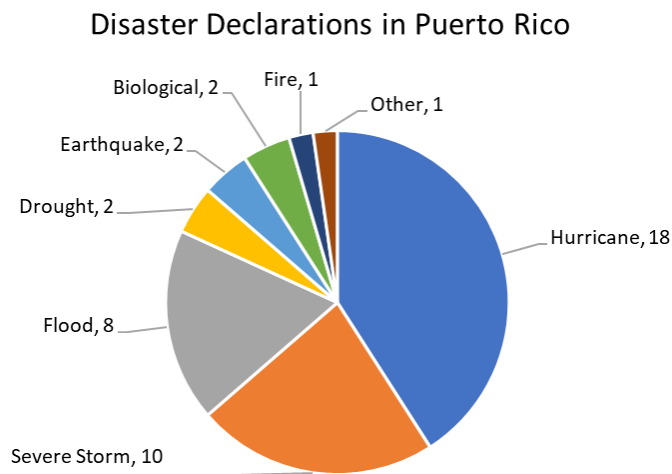


Figure 1. Disaster declarations by type in Puerto Rico since 1953. Data adapted from Federal Emergency Management Agency (2021).

Puerto Rico is a tectonically active region vulnerable to earthquakes and associated tsunamis and landslides. In 1918, a tsunami after a magnitude 7.5 earthquake killed at least 91 people in northwestern Puerto Rico (U.S. Geological Survey, 2001). More recently, in late 2019 and early 2020, a series of earthquakes occurred in southwest Puerto Rico, including 10 earthquakes that

were a magnitude 5 or larger (U.S. Geological Survey, 2020). Regions of Puerto Rico with hilly or mountainous terrain are susceptible to landslides after earthquakes or extreme rainfall events, which could result in large amounts of sediment and debris entering coastal waterways.

While there is a risk of earthquakes and tsunamis in Puerto Rico, hurricanes and tropical storms may pose the greatest threat in terms of resulting marine debris. Hazards, such as storm surge, heavy rainfall, flooding, landslides, extreme winds, and tornadoes, associated with these disasters can all result in debris in coastal and nearshore waterways. In 2017, both Hurricane Irma and Hurricane Maria—two of the costliest weather disasters in U.S. history—struck Puerto Rico. As a Category 4 storm, Hurricane Maria was the strongest hurricane to make landfall in the territory since 1928 and resulted in the loss of over 2,900 lives and destroyed local infrastructure (NOAA, 2021a). Puerto Rico was devastated by storm surge, wind, and rain, which caused widespread flooding and 41,000 landslides across the island (FEMA, 2018; NOAA, 2019b). Disaster debris was a significant problem after the 2017 hurricane season, and 8 million cubic yards of debris was removed by the U.S. Army Corps of Engineers (USACE) and local jurisdictions (FEMA, 2018). Of that debris, 260 displaced vessels were salvaged or recovered as part of the U.S. Coast Guard's (USCG) multi-agency operation (NOAA, 2018). As of this publication, removal of marine debris in Puerto Rico from Hurricanes Irma and Maria is still ongoing.

## 2.2 Prominent Debris Types

Some agency authorities are dependent on both the location and type of debris. Therefore, response to debris in Puerto Rico 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, 2007) include the following:

- Chemical, biological, radiological, and nuclear-contaminated
- 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 1](#) includes an overview of typical debris streams for several natural hazards. Although [Table 1](#) only covers natural hazards, anthropogenic hazards, such as an accident during waterway commerce or dam failure, are also concerns. The type, quantity, and impact of debris generated after a disaster is highly dependent on land cover and existing infrastructure along the Puerto Rican coastline. Debris accumulation in waterways depends on surrounding debris sources, and upstream debris can move downstream to impact developed areas with flooding and infrastructure damage.



**Table 1.** Typical debris streams for different types of disasters. Data adapted from Federal Emergency Management Agency (2007).

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

### 3 Puerto Rico Marine Debris Response Flowchart

The “Puerto Rico 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 green 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](#). Information regarding organization contact information is included in [Appendix 8.1](#), and select agency authorities are presented in [Appendix 8.2](#).

# Puerto Rico 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 that enters a waterway following a natural or anthropogenic incident and poses a threat to the natural or built environment. This may include shoreline and wetland debris and debris in some inland, non-tidal waterways.

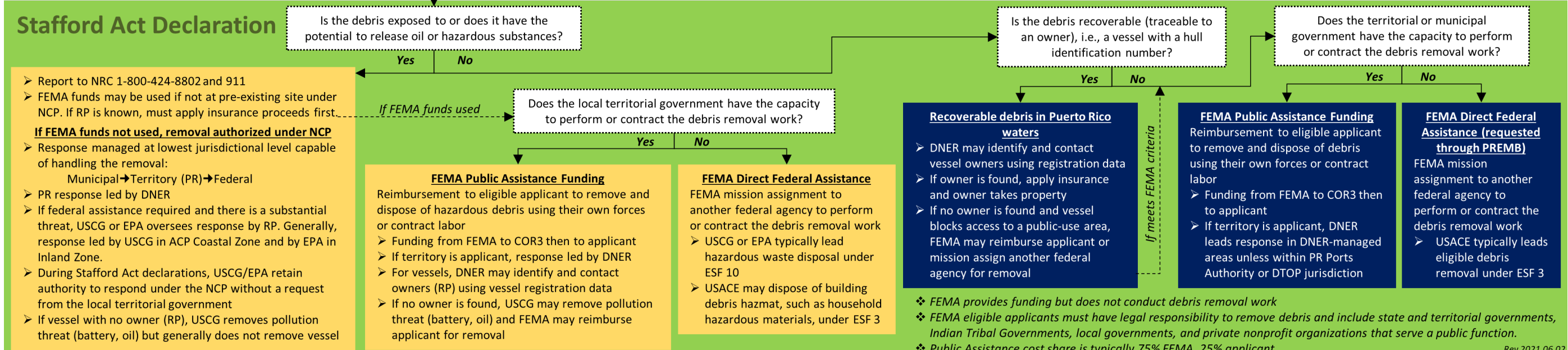
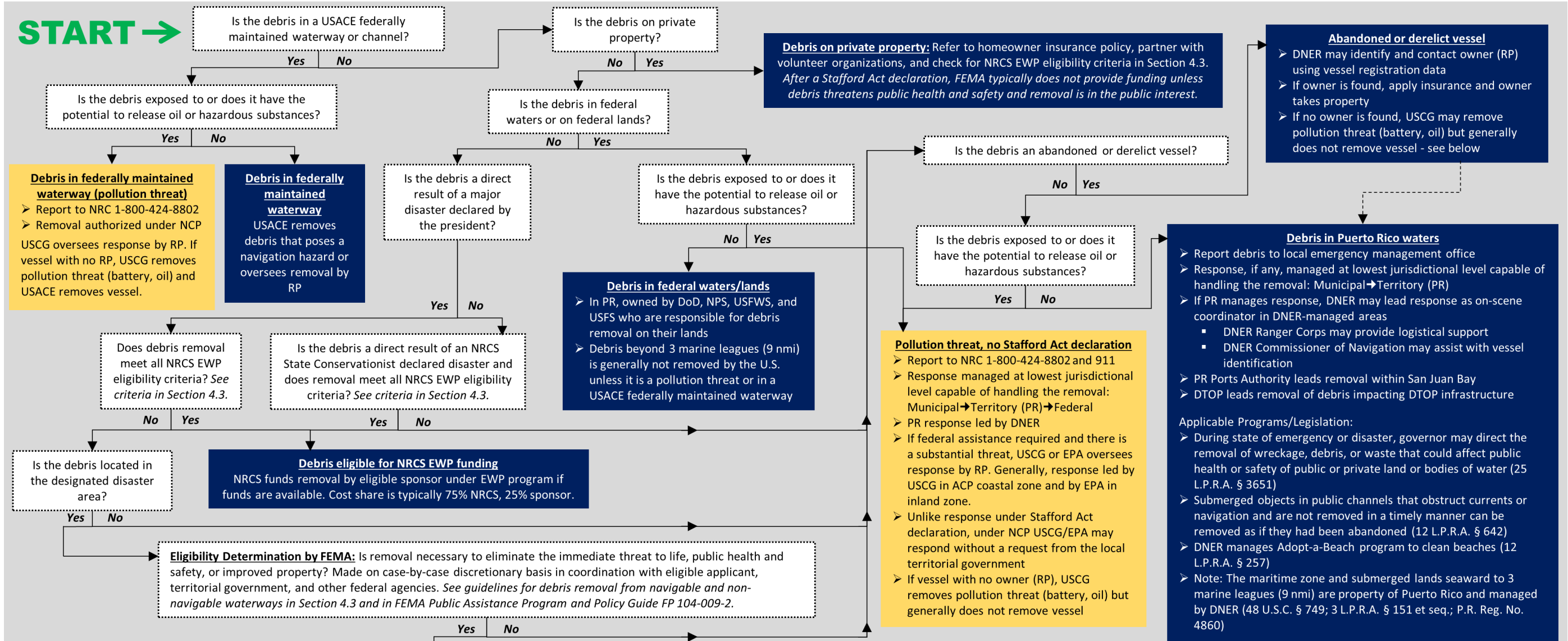
## Acronyms

ACP – Area Contingency Plan  
 COR3 – Central Office for Recovery, Reconstruction and Resiliency  
 DoD – U.S. Department of Defense  
 DTOP – PR Department of Transportation and Public Works  
 DNER – PR Department of Natural and Environmental Resources  
 EPA – U.S. Environmental Protection Agency  
 ESF – Emergency Support Function

EWP – Emergency Watershed Protection  
 FEMA – Federal Emergency Management Agency  
 NCP – National Oil & Hazardous Substances Contingency Plan  
 NPS – National Park Service  
 NRC – National Response Center  
 NRCS – Natural Resources Conservation Service  
 PREMB – PR Emergency Management and Disaster Administration Bureau

RP – Responsible Party  
 USACE – U.S. Army Corps of Engineers  
 USCG – U.S. Coast Guard  
 USFS – U.S. Forest Service  
 USFWS – U.S. Fish and Wildlife Service

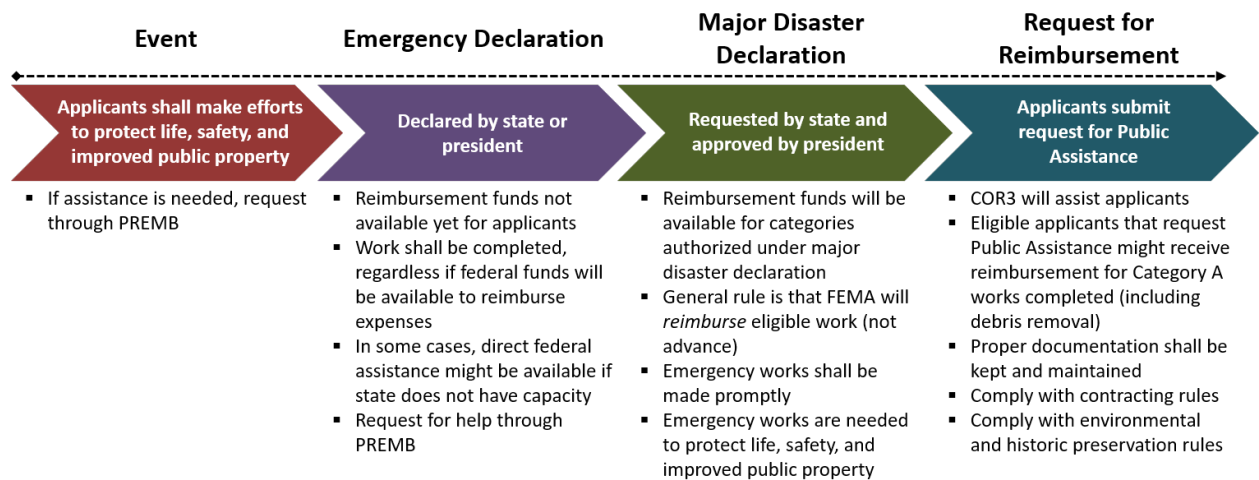
Flowchart Key	Response to debris that is exposed to or has the potential to release oil or hazardous substances
	Response to debris that is not exposed to and does not have the potential to release oil or hazardous substances
	Response under Stafford Act authorities and/or funds



## 4 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. Emergency response in Puerto Rico is in accordance with the National Incident Management System, and the Incident Command System (ICS) is the standard for on-scene emergency management for all types of hazards. While information on response to debris in waterways is limited, the *Joint Operational Catastrophic Incident Plan of Puerto Rico* (JOCIP) establishes operational procedures for all levels of government, nongovernmental organizations, and the private sector to protect life and property before, during, and after a catastrophic disaster (PREMB, 2019a).

Local municipal offices of emergency management lead the initial response to emergencies and disasters and serve as a first point of contact for reporting a marine debris incident. Municipalities may declare local states of emergency through executive order from the mayor. The Puerto Rico Emergency Management and Disaster Administration Bureau (PREMB) in the Department of Public Safety manages emergency response for the territory, and the Federal Government may supplement territorial response actions. The governor may declare a state of emergency or disaster for the territory, and under the Stafford Act, may request federal assistance from the president if the territory’s capabilities are exceeded (25 L.P.R.A. § 3650; 42 U.S.C. § 5121 et seq.). After issuing a state of emergency or disaster, the governor may also direct the removal of wreckage, debris, or waste that may affect the health or safety of public or private lands or bodies of water (25 L.P.R.A. § 3651). If the president issues a declaration that a major disaster exists, it authorizes FEMA to provide financial assistance to municipal and territorial governments. [Figure 2](#) describes the process and agency roles for reimbursement funding requests during a major disaster declaration.



**Figure 2.** Description of response process and agency roles related to a request for Public Assistance funding after a presidential major disaster declaration. Graphic adapted from Central Office for Recovery, Reconstruction and Resiliency.

At the territory level, the Puerto Rico Department of Natural and Environmental Resources (DNER) is typically the lead agency for marine debris response, including debris that is exposed to or has the potential to release oil or hazardous substances. The Puerto Rico Ports Authority is also

authorized to respond to debris in San Juan Bay, and the Puerto Rico Department of Transportation and Public Works (DTOP) leads removal of debris impacting DTOP infrastructure. 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 USACE, and ESF 10, Oil and Hazardous Materials Response, led by USCG and the U.S. Environmental Protection Agency (EPA). The JOCIP outlines primary and support agencies in Puerto Rico for tasks in three operational phases including pre-incident, response (from the time of the incident until 30 days after impact), and recovery (PREMB, 2019a). Although information on debris response is included, there is limited information on how response to debris in waterways and shorelines should be managed. [Table 2](#) summarizes critical debris-related functions and responsible organizations as described in the JOCIP. Additionally, [Appendix 8.3](#) includes an overview of debris-related tasks and agency roles.

**Table 2.** Debris-related critical functions with responsible organizations during response and recovery phases. Data adapted from Puerto Rico Emergency Management and Disaster Administration Bureau (2019a).

Objective	Critical Function	Responsible Organizations	Metric
Response Phase: Environmental Response	Vegetative material	Municipalities, Puerto Rico Department of Natural and Environmental Resources (DNER), Private companies	Was the collection of debris coordinated with municipalities and private companies?
	Hazardous materials	DNER	Is the storage area for hazardous materials verified?
	Waste transportation	Municipalities, Private companies	Is the place identified for the deposit of vegetative material?
Recovery Phase: Infrastructure Recovery	Debris removal	Municipalities, Puerto Rico Department of Transportation and Public Works, Highways and Transportation Authority, DNER	Was all debris removed?

Municipal, 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 “Puerto Rico Marine Debris Response Flowchart” in [Section 3](#). Information regarding organization contact information and select agency authorities are presented in [Appendix 8.1](#) and [Appendix 8.2](#), respectively. A map of agency jurisdictional boundaries can be found in [Section 4.6](#).

#### 4.1 Local Governments

- Lead initial response to emergencies and disasters and may declare local states of emergency through executive order from mayor (21 L.P.R.A. § 7028(u))
- Establish services and programs for the collection of waste and may regulate the management of solid waste (21 L.P.R.A. § 7015(a); 21 L.P.R.A. § 7518)
- May identify temporary debris management sites before a disaster

- Offer assistance to the community in cases of emergency or natural disasters (21 L.P.R.A. § 7015(g))
- Following a Stafford Act declaration, may serve as eligible applicant and receive technical assistance or Public Assistance reimbursement funding from FEMA to perform or contract debris removal
  - Coordinates with PREMB 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)
- 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
- Municipal responsibilities outlined in the JOCIP related to debris response include
  - Responsible for vegetative debris, waste transportation, and debris removal within its jurisdiction ([Table 2](#))
  - Serves as support and lead agency for tasks outlined in [Table 3 \(Appendix 8.3\)](#)

**Table 3.** Municipal debris-related tasks and emergency support functions (ESF) during response and recovery phases. Data adapted from Puerto Rico Emergency Management and Disaster Administration Bureau (2019a).

	Municipal Role	Objective	Function	Time from Incident	Tasks	ESF
Response	Support	Environmental Response	Removal of debris	+24hr	Identify agricultural operations and provide debris removal assistance	10
				+72hr	Identify affected areas and the type of debris	10
					Identify loading, staging, and disposal sites	
				30 Days	Operate loading, staging, and disposal sites following Federal Emergency Management Agency's guidelines	
		Segregate the debris areas by type of debris				
		Restore Critical Infrastructure	Communications	+24hr	Removal of debris that obstructs the access to the cellular towers and radio repeaters	3
				+72hr	Coordinate road cleaning and debris removal to access primary communication sites	2
Public Works	30 Days		Coordinate collection of debris with municipalities	3		
Recovery	Lead	Infrastructure Recovery	Debris Management	30 Days +	Debris removal coordination with municipal resources, Puerto Rico Department of Transportation and Public Works (DTOP), and private contractors	3, 10
					Provide guidance on accounting collected debris and vegetative material reimbursement claims	
					Give priority to the collected debris blocking roads and access to communities	
					Maintain a debris removal program in communities and neighborhoods	
					Keep debris removal program in public places	
					Coordinate with municipalities, DTOP, and private contractors for the collection and reduction of debris	
					Implement the recycling process to separate vegetative materials, metals, and other products	
					Establish temporary centers of disposal of debris to then move to final disposal	

### Municipal Emergency Management Offices

- Lead the initial response to emergencies and disasters (25 L.P.R.A. § 3649)
- Serve as initial agency for reporting debris incidents
- Develop and implements emergency management plans
- May organize volunteers including specialized technical groups
- Responsibilities outlined in the JOCIP related to debris response include
  - Pre-Incident: Support organization for removing debris from waterbodies to prevent flooding
  - Response Phase:
    - Identify and assign damage assessment resources for transport and debris removal, including vehicles, personnel, and documents

- Deploy specialized vehicles for debris removal and handling of hazardous materials under ESF 10 (PREMB, 2019a)

## 4.2 Territorial Agencies

### Financial Oversight and Management Board for Puerto Rico

- Created under the Puerto Rico Oversight, Management, and Economic Stability Act of 2016 (48 U.S.C. § 2101 et seq.)
- Works with the people and Government of Puerto Rico to create the necessary foundation for economic growth and to restore opportunity to the people of Puerto Rico

### Puerto Rico Aqueduct and Sewer Authority

- May remove debris from waterways they manage
- Following a Stafford Act declaration, may serve as eligible applicant and receive Public Assistance reimbursement funding from FEMA to remove and dispose of debris within its jurisdiction

### Puerto Rico Department of Agriculture

- Provides debris removal assistance during the response phase under ESF 10 (PREMB, 2019a)

### Puerto Rico Department of Natural and Environmental Resources (DNER)

- Lead agency for marine debris response, including debris that is exposed to or has the potential to release oil or hazardous substances
  - Coordinates response with other agencies and organizations
  - Monitors and conserves submerged land, the maritime-terrestrial zone, and Puerto Rico's territorial waters to 9 nautical miles (3 L.P.R.A. § 155(h); 12 L.P.R.A. § 1115d(m))
  - Note: Maritime zone and submerged lands seaward to 3 marine leagues (9 nmi) are property of Puerto Rico and managed by DNER (48 U.S.C. § 749; P.R. Reg. No. 4860)
- DNER Ranger Corps inspects and keeps watch over bodies of water of Puerto Rico and enforces natural resource protection laws and regulations (12 L.P.R.A. § 1215(a)(6-9))
- Implements the Puerto Rico Coastal Zone Management Program in coordination with other agencies (DNER, 2009)
  - Maintains geographic demarcation of the maritime-terrestrial zone boundary (DNER, n.d.-b)
- Following a Stafford Act declaration, may serve as eligible applicant and receive technical assistance or Public Assistance reimbursement funding from FEMA to perform or contract debris removal within its jurisdiction
  - 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)
- DNER responsibilities outlined in the JOCIP related to debris response include
  - Responsible for vegetative debris, hazardous materials, and debris removal ([Table 2](#))
  - Serves as support and lead agency for tasks outlined in [Table 4 \(Appendix 8.3\)](#)



**Table 4.** Puerto Rico Department of Natural and Environmental Resources (DNER) debris-related tasks and emergency support functions (ESF) during pre-incident, response, and recovery phases. Data adapted from Puerto Rico Emergency Management and Disaster Administration Bureau, 2019a.

	DNER Role	Objective	Function	Time from Incident	Tasks	ESF
Pre-incident	Support	State Awareness and Public Information	Threat Analysis	-96hr	As a mitigation procedure, remove debris from streets, highways, and water bodies to prevent flooding from sewers, rain systems, or bridges	3, 5, 11
Response	Lead	Environmental Response	Removal of Debris	+24hr	Identify agricultural operations and provide debris removal assistance	10
				+72hr	Identify affected areas and the type of debris	
					Identify loading, staging, and disposal sites	
				30 Days	Operate loading, staging, and disposal sites following Federal Emergency Management Agency's guidelines	
Segregate the debris areas by type of debris						
Recovery	Support	Infrastructure Recovery	Debris Management	30 Days +	Debris removal coordination with municipal resources, Puerto Rico Department of Transportation and Public Works, and private contractors	3, 10
					Provide guidance on accounting collected debris and vegetative material reimbursement claims	
					Give priority to the collected debris blocking roads and access to communities	

### Debris Response

- Leads assessment, response, and removal of marine debris in DNER-managed areas including the maritime-terrestrial zone, territorial waters, Jobos Bay National Estuarine Research Reserve, wildlife refuges, and state forests
- DNER Ranger Corps serves as first responder and may provide logistical response support and equipment (12 L.P.R.A. § 1205(b)(2); DNER, 2009)
- For recoverable debris, including vessels with a hull identification number, identifies owner (responsible party, RP) to cover removal costs, remove debris, and/or restore resources
  - DNER Commissioner of Navigation and/or Ranger Corps may assist with vessel owner (RP) identification using the Neptuno system, which is DNER's vessel registration database
- When an RP is not known, may identify potential funding mechanisms and collaborate with other agencies and organizations as needed to respond to and remove debris
- Assesses debris impacts to natural resources and may conduct restoration to address impacts
- Establishes protocols and procedures to facilitate response to debris and ensure the conservation and protection of natural resources, including the *Hurricane Maria Vessel Removal Protocol for the Commonwealth Puerto Rico* and draft protocols for vessel groundings and abandoned vessels (DNER & USCG, 2017)
- Manages Adopt-a-Beach program to integrate nongovernmental organizations and municipalities into programs for cleaning beaches (12 L.P.R.A. § 257)

### **Environmental Emergencies: Oiled or Hazardous Debris**

- Lead territorial agency for response to and management of environmental emergencies, including oil and hazardous material spills (12 L.P.R.A. § 8004e; USCG, 2015)
  - Manages territory's response to debris exposed to or with the potential to release oil or hazardous substances
  - Administers Environmental Emergency Fund to respond to emergencies caused by hazardous substances or waste if there is no RP (12 L.P.R.A. § 8004g)
- Organizes local environmental emergency response planning committees in coordination with municipalities (12 L.P.R.A. § 8004c(c))
- Note: Reports of pollution threats should be made to 911 and the National Response Center (NRC). See [Appendix 8.1](#) for information regarding contact information.

### **Navigation and Waterway Safety**

- Office of the Commissioner of Navigation administers laws and regulations that promote safety in the territorial waters of Puerto Rico (DNER, n.d.-a)
- Maintains registration and numbering system for boats, ships, and vessels and a system of aids to navigation, including buoys and floating markers (12 L.P.R.A. § 1403)
- Fees, including registration fees, are managed in a special fund for programs and administration (12 L.P.R.A. § 1411)

### **Solid and Hazardous Waste Management**

- Manages and regulates the transfer, storage, and final disposal of solid and hazardous waste (12 L.P.R.A. § 1305; 12 L.P.R.A. § 8002c(b)(3)(E); 12 L.P.R.A. § 8002g)
  - Establishes rules and regulations for solid waste disposal and for the management of hazardous waste (12 L.P.R.A. § 8002c(b)(4)(A); 12 L.P.R.A. § 8002c(b)(9)(A))
  - Issues permits to establish and operate solid waste facilities, and for the storage, recycling, and final disposal of solid wastes (12 L.P.R.A. § 1306)
  - Authorizes and establishes requirements for temporary debris management sites
- Maintains list of landfills for debris disposal on the DNER [website](#) (DNER, n.d.-c)
- Coordinates with and provides technical assistance to municipalities regarding the management and disposal of solid waste (DNER, n.d.-c)
- Conducts strategic planning for solid waste management

### **Permitting and Compliance**

- Regulates activities which could pollute the environment and enforces compliance with environmental policy, including air and water quality standards, solid waste control, and pollution control (DNER, 2009)
- Manages joint permit application process with USACE for activities which may alter or affect water resources, including wetlands
- Works in coordination with USACE, Puerto Rico Planning Board (PRPB), Puerto Rico Permit Management Office (OGPe), and other agencies as appropriate
- For additional information on DNER compliance requirements, see [Section 5](#)

### **Puerto Rico Department of Public Safety**

#### **Puerto Rico Emergency Management and Disaster Administration Bureau (PREMB)**

- Manages emergency response for the territory and coordinates government resources and those of the private sector before, during, and after emergencies (PREMB, 2019b)
- Responsible for the coordination, implementation, and administration of disaster management plans and programs (25 L.P.R.A. § 3644)

- Activates and operates the emergency operations center
- Coordinates with the Central Office for Recovery, Reconstruction and Resiliency (COR3) regarding request for major disaster declaration
- Coordinates damage assessment and needs assessment processes with local and federal assessment teams and communicates status to COR3
- Following a Stafford Act declaration
  - Serves as state on-scene coordinator
  - Eligible applicants—including municipal governments and state agencies—make requests for debris removal funding and assistance through PREMB who assists in the preparation and submission of applications ([Figure 2](#))
  - May serve as eligible applicant and receive Public Assistance reimbursement funding from FEMA
- Maintains the JOCIP in coordination with other territorial and federal agencies, and conducts training and exercises associated with its execution (PREMB, 2019a)
- PREMB responsibilities outlined in the JOCIP include
  - Responsible for identifying and assigning damage assessment resources for transport and debris removal, including vehicles, personnel, and documents
  - Serves as support and lead agency for tasks outlined in [Table 5](#) ([Appendix 8.3](#))

**Table 5.** Puerto Rico Emergency Management and Disaster Administration Bureau (PREMB) debris-related tasks and emergency support functions (ESF) during pre-incident and response phases. Data adapted from Puerto Rico Emergency Management and Disaster Administration Bureau (2019a).

	PREMB Role	Objective	Function	Time from Incident	Tasks	ESF
Pre-Incident	Lead	State Awareness and Public Information	Threat Analysis	-96hr	As a mitigation procedure, remove debris from streets, highways, and water bodies to prevent flooding from sewers, rain systems, or bridges	3, 5, 11
Response	Support	Restore Critical Infrastructure	Public Works	30 Days	Coordinate collection of debris with municipalities	3

**Puerto Rico Joint Forces of Rapid Action (FURA)**

- Responsible for coastal and harbor patrol and may serve as first responder after a marine debris incident
- Notifies and coordinates with appropriate agencies, including DNER and USCG, as appropriate
- Staff includes trained search and rescue divers

**Puerto Rico Department of Transportation and Public Works (DTOP)**

- Leads removal of debris impacting DTOP infrastructure
- Following a Stafford Act declaration, may serve as eligible applicant and receive technical assistance or Public Assistance reimbursement funding from FEMA to perform or contract debris removal that impacts DTOP infrastructure

- 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)
- DTOP responsibilities outlined in the JOCIP related to debris response include
  - Responsible for debris removal during the recovery phase ([Table 2](#))
  - Lead agency to identify debris removal resources, including personnel, vehicles, material, and equipment
  - Serves as support and lead agency for tasks outlined in [Table 6 \(Appendix 8.3\)](#)
- DTOP Flood Prevention and Conservation Area of Beaches and Rivers shall be in charge of the conservation and cleaning of beaches (12 L.P.R.A. § 255a)

**Table 6.** Puerto Rico Department of Transportation and Public Works (DTOP) debris-related tasks and emergency support functions (ESF) during pre-incident, response, and recovery phases. Data adapted from Puerto Rico Emergency Management and Disaster Administration Bureau (2019a).

	DTOP Role	Objective	Function	Time from Incident	Tasks	ESF
Pre-Incident	Lead	State Awareness and Public Information	Threat Analysis	-96hr	As a mitigation procedure, remove debris from streets, highways, and water bodies to prevent flooding from sewers, rain systems, or bridges	3, 5, 11
Response	Lead	Restore Critical Infrastructure	Communications	+24hr	Removal of debris that obstructs the access to the cellular towers and radio repeaters	3
	Support		Communications	+72hr	Coordinate road cleaning and debris removal to access primary communication sites	2
	Lead		Public Works	30 Days	Coordinate collection of debris with municipalities	3
Recovery	Lead	Infrastructure Recovery	Debris Management	30 Days +	Debris removal coordination with municipal resources, DTOP, and private contractors	3, 10
					Provide guidance on accounting collected debris and vegetative material reimbursement claims	
					Give priority to the collected debris blocking roads and access to communities	
					Maintain a debris removal program in communities and neighborhoods	
					Keep debris removal program in public places	
					Coordinate with municipalities, DTOP, and private contractors for the collection and reduction of debris	
					Implement the recycling process to separate vegetative materials, metals, and other products	
					Establish temporary centers of disposal of debris to then move to final disposal	

**Puerto Rico Permit Management Office (OGPe)**

- Administers and enforces planning laws and regulations adopted by the PRPB under the Office of the Governor
- Works in coordination with DNER, PRPB, and other agencies to comply with environmental policy
- For additional information on OGPe’s role in permitting and compliance, see [Section 5](#)

**Puerto Rico Planning Board (PRPB)**

- Regulates and manages land use in Puerto Rico under the Office of the Governor

- Prepares zoning regulations and regulations regarding the use of beaches and other bodies of water (DNER, 2009)
- Works in coordination with DNER and OGPe (DNER, 2015)
- For additional information on PRPB's role in permitting and compliance, see [Section 5](#)

### **Puerto Rico Ports Authority**

- Lead territorial agency for response to debris within its jurisdiction, including San Juan Bay
  - Operates barge to remove and dispose of small debris items
  - Contracts private debris removal companies to remove large debris items or large quantities of debris
- Controls navigation and marine trade in public harbors, docks, and navigable waters of Puerto Rico, except in areas controlled by the Port of the Americas Authority (23 L.P.R.A. § 2201 et seq.)
  - Maintains and operates all port facilities in Puerto Rico, including the Port of San Juan
- Following a Stafford Act declaration, may serve as eligible applicant and receive Public Assistance reimbursement funding from FEMA to remove and dispose of debris within its jurisdiction
  - 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)
- Establishes rules for the seizure and sale of abandoned ships or merchandise which illegally obstructs any port, dock, or part of a harbor zone (23 L.P.R.A. § 2517)

### **Puerto Rico Public-Private Partnerships Authority**

#### **Central Office for Recovery, Reconstruction and Resiliency (COR3)**

- Established by executive order of the governor after Hurricanes Maria and Irma (P.R. Exec. Order No. OE-2017-65) and amended by Executive Orders OE-2017-069 (November 10, 2017) and OE-2020-014 (January 31, 2020)
- Coordinates with PREMB regarding request for major disaster declaration
- Coordinates with FEMA to estimate damage per capita as part of request for disaster assistance
- Following a Stafford Act declaration, serves as liaison between FEMA and territorial government and administers Public Assistance funding to eligible applicants, including municipal governments and state agencies
  - Eligible applicants make requests for debris removal funding and assistance through PREMB
  - COR3 serves as state recipient of FEMA funding (grantee) and assists applicants (subrecipients or subgrantees) with requests for reimbursement funding from FEMA ([Figure 2](#); COR3, n.d.)

### **Puerto Rico State Historic Preservation Office (SHPO)**

- Organized under the Office of the Governor and advises and assists federal and territorial agencies and municipalities in carrying out historic preservation responsibilities under the National Historic Preservation Act (3 L.P.R.A. § 1111 et seq.; 54 U.S.C. §§ 300101 et seq.)
- Maintains inventory of historic properties and nominates properties to the National Register of Historic Places (SHPO, 2021b)
- For additional information on SHPO compliance requirements, see [Section 5](#)

## 4.3 Federal Agencies

### **Animal and Plant Health Inspection Service**

- Veterinary Services program provides for removal and burial of diseased animal carcasses
- Manages Plant Protection and Quarantine program to reduce the risk of introduction and spread of invasive species through planning, surveillance, quick detection, and containment

### **Federal Emergency Management Agency (FEMA), Region 2**

- 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
  - Provides Public Assistance funding for eligible debris removal to eligible applicants at a typical cost share of 75% FEMA, 25% territory/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. For additional information on permitting and compliance requirements, see [Section 5](#).

### **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 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 and Endangered Species Act (ESA)
- For additional information on NOAA Fisheries compliance requirements, see [Section 5](#)

## **National Ocean Service**

### *Office of Coast Survey*

- Mobilizes navigation response teams to survey ports and near-shore waterways for sunken debris, changes in water depth, and hazards to navigation following a disaster

### *Office of National Geodetic Survey*

- Acquires and rapidly disseminates spatially-referenced remote-sensing datasets to support national emergency response. Imagery is obtained using high resolution digital cameras, film-based aerial camera systems, LIDAR, and thermal and hyperspectral imagers.

### *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 version of the “Puerto Rico Marine Debris Response Map” (NOAA, 2021b)
- 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 (BMPs), disposal guidance, and information management
- 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 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., to ensure the public and partner agencies understand and act on sound science and information critical to response and recovery operations
- 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 territorial officials for emergency management awareness and decision support

## **National Park Service (NPS)**

- Responsible for debris assessment and cleanup within NPS-managed lands and waters, including San Juan National Historic Site
- May coordinate with partners to conduct marine debris assessment and cleanup
- Provides BMPs to protect NPS-managed areas and associated resources
- For a map of NPS lands in Puerto Rico, see [Section 4.6](#)

## **Natural Resources Conservation Service (NRCS)**

- When funding is available, provides emergency financial and technical assistance through the EWP Program to protect from additional flooding or soil erosion; to reduce threats to life or property from a watershed impairment, including sediment and debris removal in



uplands, floodplains, and non-tidally influenced waters; and to restore the hydraulic capacity to the natural environment to the maximum extent practical

- After natural disasters, help communities address watershed impairments that pose imminent threats to lives and property
- Typical cost share of 75% NRCS and 25% project sponsor
- Public and private landowners are eligible for assistance but must be represented by a project sponsor, including any legal subdivision of the territorial government or agency with a legal interest in or responsibility for the affected area
- EWP Program eligibility criteria include the following:
  - Debris is a direct result of either a major disaster declared by the president or of an NRCS State Conservationist declared natural disaster
  - Debris is a threat to life and/or property
  - Imminent threat was created by the event
  - Recovery measures are for runoff retardation or erosion prevention
  - Event caused a sudden impairment in the watershed
  - Have economic, environmental, and social documentation adequate to warrant removal action
  - Proposed removal action is technically viable and environmentally defensible
- Assists in the location of burial pits for animal mortality

#### **U.S. Army Corps of Engineers (USACE), Jacksonville District, Antilles Office**

- Typically maintains regional pre-event contracting capabilities
- May request assistance from NOAA's navigation response team to survey ports and near-shore waterways

#### **Emergency Operations**

- Serves as lead federal agency under ESF 3, Public Works and Engineering
- Following a Stafford Act declaration, may provide technical support or lead eligible debris removal from navigable waterways (non-federally maintained) and wetlands under a FEMA mission assignment to perform or contract debris removal and surveying
- 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, including Aguadilla, Arecibo, Mayagüez, Ponce, and San Juan Ports
  - For a map of federally maintained channel boundaries, see [Section 4.6](#)
- May remove or oversee removal by RP of sunken vessels (wrecks) or other obstructions if they are determined by USACE and USCG to be hazards to navigation on or near the federal channel (33 C.F.R. § 245)
  - May remove trees, brush, and other debris from navigable waterways if they are determined to promote flooding or be obstructions to navigation
- 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)

- Reviews permit applications when activities intersect with federally maintained waterways and channels, including levee systems

### **Regulatory Program**

- May issue permits for debris removal within waterways and wetlands in Puerto Rico
- For additional information on USACE permitting and compliance requirements, see [Section 5](#)

### **U.S. Coast Guard (USCG), District 7, Sector San Juan**

- In most cases, removal of marine debris by USCG is not authorized
- 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 *Caribbean Regional Oil and Hazardous Substances Pollution Contingency Plan (RCP)* and the *Puerto Rico and the U.S. Virgin Islands Area Contingency Plan (ACP)*; Caribbean Regional Response Team, 2014; USCG, 2015)
  - Removal 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
  - Oversees response to pollution threats in federally maintained waterways and channels in coordination with USACE
- Serves as lead federal agency (FOSC) under ESF 10, Oil and Hazardous Materials Response, in the ACP coastal zone
  - Directs response in accordance with the National Contingency Plan (NCP)
  - Coordinates with territorial governments and oversees response by RP
  - Unlike response activities during a Stafford Act declaration, USCG may respond without a request from territorial or tribal governments under the NCP. During Stafford Act declarations, USCG retains the authority to act under the NCP.
  - For a map of the ACP coastal-inland zone boundary, see [Section 4.6](#)
- Maintains a year-round, 24-hour telephone watch through the NRC for reporting of oil or hazardous material releases
  - Note: Reports of pollution threats should be made to 911 and the NRC. See [Appendix 8.1](#) for information regarding contact information.
- Following a Stafford Act declaration, may lead removal of debris from waterways under a FEMA mission assignment to perform or contract the work
- 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
- May request assistance from NOAA's navigation response team to survey ports and near-shore waterways
- May track location of known abandoned and derelict vessels

### **U.S. Customs and Border Protection**

- May serve as first responder to coordinate with RP and inspect foreign vessels or debris entering Puerto Rico from international waters

### **U.S. Department of Defense (DoD)**

- Responsible for debris assessment and cleanup within DoD-managed lands and waters
  - For a map of areas managed by DoD, see [Section 4.6](#)

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

### **U.S. Department of Interior**

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

### **U.S. Environmental Protection Agency (EPA), Region 2**

- 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 *Caribbean RCP* and the *Puerto Rico and the U.S. Virgin Islands ACP* (Caribbean Regional Response Team, 2014; USCG, 2015)
  - For a map of the ACP coastal-inland zone boundary, see [Section 4.6](#)
- During Stafford Act responses, serves as lead federal agency (FOOSC) 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
  - Directs response in accordance with the NCP
  - Coordinates with territorial governments and oversees response by RP
  - Unlike response activities during a Stafford Act declaration, EPA may respond without a request from territorial or tribal governments under the NCP. During Stafford Act declarations, EPA retains the authority to act under the NCP.
- Following a Stafford Act declaration, coordinates with USCG on the removal and disposal of contaminated debris under a FEMA mission assignment
- 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 ESA and Coastal Barrier Resources Act (CBRA)
- For additional information on USFWS compliance requirements, see [Section 5](#)

#### **National Wildlife Refuges (NWR)**

- Coordinates and manages debris assessment and cleanup in the Caribbean Islands National Wildlife Complex, which includes Cabo Rojo NWR, Culebra NWR, Desecheo NWR, Laguna Cartagena NWR, and Vieques NWR
- Uses lessons learned from past disasters to protect listed threatened or endangered land and freshwater species, certain marine species, and their critical habitat
- For a map of NWRs in Puerto Rico, see [Section 4.6](#)

### **U.S. Forest Service**

- Assesses vegetative debris characteristics and suggests salvage pathways, e.g., compost, chips, biofuels, timber salvage

- Works with partner organizations to develop protocols for hardwood resources collected as disaster debris
- When necessary, responsible for debris assessment and cleanup within U.S. Forest Service-managed lands and waters, including El Yunque National Forest
- For a map of areas managed by U.S. Forest Service, see [Section 4.6](#)

## 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)
- Listed as a special team under ESF 3, primarily for vessel removal from navigable waterways
- Listed as a special team under ESF 10, primarily for oil spill response

## 4.4 Private Landowners

- After a Stafford Act declaration, debris removal from private property or privately-owned waterways and banks 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.
- 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

## 4.5 Academia and Other Organizations

- Following a Stafford Act 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)
- May provide debris removal assistance through funded projects and programs
- As outlined in the JOCIP, private companies may be contracted to assist with vegetative debris and waste transportation during the response phase ([Table 2](#); [Appendix 8.3](#); PREMB, 2019a)

## Port of the Americas Authority

- Public corporation that controls navigation and marine trade within the Port of the Americas boundary (23 L.P.R.A. § 2201; 23 L.P.R.A. § 2901 et seq.)
- May promulgate state of emergency within its jurisdiction (23 L.P.R.A. § 2904(i))

- Following a Stafford Act declaration, may serve as eligible applicant and receive Public Assistance reimbursement funding from FEMA to remove and dispose of debris within its jurisdiction

#### **San Juan Bay Estuary Program**

- Develops strategies to reduce debris in the water and conducts cleanups within the San Juan Bay Estuary system (San Juan Bay Estuary Program, n.d.)

#### **University of Puerto Rico**

##### **Sea Grant College Program**

- Promotes conservation of coastal resources and funds scientific research
- Provides coordination and guidance on marine debris cleanup options

## **4.6 Puerto Rico Marine Debris Response Map**

The “Puerto Rico Marine Debris Response Map” displays relevant organization jurisdiction boundaries. 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. This map includes information that stakeholders identified as important in determining jurisdiction within the territory. A dynamic version of the response map is also available [online](#) in ERMA (NOAA, 2021b). For detailed information regarding local, territorial, and federal agency roles and responsibilities, see Sections [4.1](#), [4.2](#), and [4.3](#). Select agency authorities applicable to marine debris response are presented in [Appendix 8.2](#).

# Puerto Rico Marine Debris Response Map



## Legend

- Puerto Rico Seaward Boundary (9 n.mi.)
  - U.S. Army Corps of Engineers (USACE) Federally Maintained Waterway
  - U.S. Coast Guard-EPA Coastal-Inland Zone Boundary for oil or hazardous substance response
  - Jobs Bay National Estuarine Research Reserve
  - Municipal Boundary
- USA Federal Lands**  
Federal Managing Group
- |  |  |
|--|--|
| <span style="background-color: #8B4513; width: 20px; height: 10px; display: inline-block;"></span> Forest Service        | <span style="background-color: #FF8C00; width: 20px; height: 10px; display: inline-block;"></span> Fish and Wildlife Service |
| <span style="background-color: #A9A9A9; width: 20px; height: 10px; display: inline-block;"></span> Department of Defense | <span style="background-color: #32CD32; width: 20px; height: 10px; display: inline-block;"></span> National Park Service     |

## City of San Juan



## 5 Permitting and Compliance Requirements in Puerto Rico

Before marine debris removal work can begin, organizations responsible for removal must meet certain permitting and compliance requirements. While the organization or individual conducting the debris removal work is responsible for obtaining necessary permits—such as a U.S. Army Corps of Engineers (USACE) permit—it is the responsibility of the lead federal agency to ensure compliance with the National Environmental Policy Act (NEPA) and to coordinate with resource agencies which could include the Puerto Rico Department of Natural and Environmental Resources (DNER), Puerto Rico State Historic Preservation Office (SHPO), U.S. Fish and Wildlife Service (USFWS), and National Oceanic and Atmospheric Administration (NOAA).

During response after a Stafford Act declaration, the Federal Emergency Management Agency (FEMA) provides funding to applicants for debris removal and is therefore considered the lead federal agency responsible for resource agency coordination. Federal emergency support function (ESF) 11, Agriculture and Natural Resources, may be activated for Stafford Act incidents requiring a coordinated federal response to protect natural and cultural resources and historic properties (FEMA, 2008). If a permit is required, but there is no federal funding and there are no federal agencies involved in debris removal activities, then as the permitting agency USACE is considered the lead federal agency.

A description of individual agency requirements and authorities is outlined below and is summarized in the “Permitting and Compliance for Marine Debris Removal in Puerto Rico” handout in [Section 5.3](#). Information regarding organization contact information can be found in [Appendix 8.1](#), and select agency authorities are presented in [Appendix 8.2](#).

### 5.1 Territorial Requirements

#### **Puerto Rico Department of Natural and Environmental Resources (DNER)**

- Manages joint permit application process with USACE for activities which may alter or affect water resources or wetlands, such as debris removal that involves dredging, the discharge of dredge or fill material, or impacts the navigability of a waterway
  - Serves as the initial agency to submit permit application form “ENG 4345” located on both the DNER [website](#) and USACE [website](#) under “Permitting Forms” (DNER, n.d.-d; USACE, n.d.)
  - DNER forwards permit applications to all reviewing agencies including USACE, Puerto Rico Planning Board (PRPB), and Puerto Rico Permit Management Office (OGPe)
- Reviews federal permit applications and issues water quality certifications for discharges into the waters of Puerto Rico (12 L.P.R.A. § 8002c(b)(7)(A))
- Regulates the transfer, storage, and final disposal of solid and hazardous waste (12 L.P.R.A. § 1305; 12 L.P.R.A. § 8002c(b)(3)(E); 12 L.P.R.A. § 8002g)
  - Issues permits to establish and operate solid waste facilities, and for the storage, recycling, and final disposal of solid wastes (12 L.P.R.A. § 1306)
  - Authorizes and establishes requirements for temporary debris management sites, including segregation of debris and minimum distances from a body of water
- Works in coordination with PRPB and OGPe (DNER, 2015)
- Permit requirements may be waived in emergency situations, but consultation with DNER is required to make this determination

### **Puerto Rico Permit Management Office (OGPe)**

- Issues final determinations, permits, and certifications related to development and use of buildings, except for projects in unzoned areas within the coastal zone (DNER, 2015)
- Makes environmental compliance determinations and works in coordination with DNER, PRPB, and other agencies to comply with environmental policy

### **Puerto Rico Planning Board (PRPB)**

- Reviews territorial and federal actions for federal consistency to ensure proposed activity complies with the enforceable policies of the Puerto Rico Coastal Zone Management Program
- Reviews public projects for conformity with plans and programs adopted by the PRPB
- Works in coordination with DNER and OGPe (DNER, 2015)

### **Puerto Rico State Historic Preservation Office (SHPO)**

- Federal agencies must consult with SHPO to determine if project will affect historic properties (SHPO, 2021a)
- For proposed debris removal projects that use federal funds or permits, SHPO reviews project plans to ensure compliance with the National Historic Preservation Act (3 L.P.R.A. § 1111 et seq.; 54 U.S.C. §§ 300101 et seq.)
- Coordination with SHPO is recommended in the early planning stages of a debris removal project
- If there are listed or eligible properties in the impact area, a determination is made about whether the project will result in adverse effects, and if so, agreements are drawn up detailing measures to avoid, reduce, or mitigate adverse effects

## **5.2 Federal Requirements**

### **Federal Emergency Management Agency (FEMA)**

- Serves as lead federal agency responsible for resource agency coordination when providing funding to applicants for debris removal under a Stafford Act declaration
  - Ensures applicant's debris removal operations avoid impacts to floodplains, wetlands, federally listed threatened and endangered species and their critical habitats, and historic properties (including maritime or underwater archaeological resources if waterways are impacted)
  - Requires applicant to stage debris at a safe distance from property boundaries, surface water, wetlands, structures, wells, and septic tanks with leach fields
  - May require site remediation at staging sites and other impacted areas upon completion of debris removal and disposal
- When FEMA provides debris removal funding under the Stafford Act, the applicant applies for all necessary permits and FEMA initiates contact with SHPO. Failure to achieve compliance could jeopardize funding.
- Unified Federal Review requires agencies to work together to streamline and expedite the federal environmental and cultural compliance review process

### **National Environmental Policy Act (NEPA)**

- NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions
- If a debris removal project involves a federal agency (directly or through funding and/or issuance of a federal permit), it is the responsibility of the lead federal agency to ensure



NEPA compliance. If multiple federal agencies play a major role in the debris removal, then there may be a joint lead agency which shares the lead agency's responsibility for management of the NEPA process (Council on Environmental Quality, 2007).

- FEMA is provided with statutory exclusions under Section 316 of the Stafford Act which exempts debris removal from the NEPA review process
- Therefore, the NEPA review process is not required when FEMA is providing funding for debris removal from waterways under a Stafford Act declaration. However, compliance with all other federal and territorial environmental laws and regulations is still required, even when a project is statutorily excluded from NEPA review.
- For marine debris removal operations, the impact of removal must be evaluated to minimize environmental and ecological damage to the maximum practical extent. In some cases, debris removal may be more environmentally damaging than leaving the debris in place.

### **National Oceanic and Atmospheric Administration (NOAA)**

#### **National Marine Fisheries Service (NMFS or NOAA Fisheries)**

- If a debris removal project involves a federal agency (directly or through funding and/or issuance of a federal permit), it is the responsibility of the lead federal agency to coordinate with NOAA Fisheries Southeast Regional Office prior to beginning debris removal work to ensure compliance with the Endangered Species Act (ESA) and Magnuson-Stevens Fisheries Conservation and Management Act
  - ESA directs all federal agencies to ensure the actions they take, including those they fund or authorize, do not jeopardize the continued existence of any listed endangered or threatened species or result in the destruction or adverse modification of designated critical habitat unless an exemption has been granted. Generally, NOAA Fisheries manages marine and anadromous species while USFWS manages land and freshwater species and certain marine species such as manatee. If a federal agency determines its activities or actions will affect listed species or designated critical habitat—even if the effects are expected to be beneficial—they must consult with NOAA Fisheries or USFWS. See NOAA Fisheries Southeast Region endangered species [website](#) for an up-to-date threatened and endangered species list for Puerto Rico (NOAA, 2020b).
  - 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 activities or actions may adversely affect EFH, they must consult with NOAA Fisheries. See NOAA's EFH mapper [website](#) to view maps for EFH (NOAA, 2020f).
- Consultation during emergencies can be expedited so federal agencies can complete critical missions in a timely manner while still providing protections to listed species and EFH. Steps to complete the emergency response consultation process are outlined on NOAA's emergency consultation [website](#) (NOAA, 2020d).
- Additional consultation information during non-emergencies can be found on the NOAA ESA [website](#) (NOAA, 2020e) and NOAA EFH [website](#) (NOAA, 2020a)

### **U.S. Army Corps of Engineers (USACE), Jacksonville District, Antilles Regulatory Section**

- A USACE permit may be required for debris removal within waterways and wetlands if the activity involves dredging or excavation, the discharge of dredged or fill material, or involves structures or work impacting the navigability of a waterway

- USACE Antilles Regulatory Section has a joint permit application process with DNER and PRPB. DNER serves as the initial agency to submit permit application form “ENG 4345” located on both the DNER [website](#) and USACE [website](#) under permitting forms (DNER, n.d.-d; USACE, n.d.). The joint application process is being update, so please check the USACE website or contact the Antilles office prior to submitting an application.
- DNER forwards a copy to all reviewing agencies including USACE, PRPB, and OGPe. All agencies independently process the application, but keep the other agencies informed when there is a request for additional information or a change to the project.
- Typically, USACE will not issue a permit until federal consistency is complete by PRPB and a water quality certification or waiver is issued by DNER
- USACE may not require a permit for certain types of debris removal, particularly if there is no disturbance to the seafloor. Please coordinate with USACE prior to submitting an application.
- Nationwide permits that may cover debris removal activities include:
  - **Nationwide Permit 3: Maintenance.** Authorizes repair, rehabilitation, replacement, or removal of structures or fills destroyed or damaged by storms, floods, fires, or other discrete events. This permit may be issued for removal or maintenance of culverts, sediments, or debris accumulated around outfalls, bridges, etc.
  - **Nationwide Permit 18: Minor Discharges.** Authorizes minor discharges of dredged or fill material provided the quantify of discharged material and the volume of area excavated do not exceed 25 cubic yards
  - **Nationwide Permit 19: Minor Dredging.** Dredging of no more than 25 cubic yards
  - **Nationwide Permit 20: Response Operations for Oil and Hazardous Substances.** Issued for activities conducted in response to a discharge or release of oil or hazardous substances subject to the National Contingency Plan (NCP)
  - **Nationwide Permit 22: Removal of Vessels.** Authorizes temporary structures or minor discharges of dredged or fill material required for the removal of wrecked, abandoned, or disabled vessels, or the removal of man-made obstructions to navigation
  - **Nationwide Permit 27: Aquatic Habitat Restoration, Enhancement, and Establishment Activities.** Authorizes activities associated with the restoration and enhancement of tidal areas, streams, and other waters of the U.S., provided those activities result in net increases in aquatic resource functions and services
  - **Nationwide Permit 38: Cleanup of Hazardous and Toxic Waste.** Issued for the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with legal or regulatory authority, other than activities undertaken entirely on a Superfund (Comprehensive Environmental Response, Compensation, and Liability Act) site
  - Note: See the USACE [website](#) for a complete description of all nationwide permits (USACE, 2021)
- Individual permits may also be used to authorize debris removal projects, but typically using a Nationwide Permit will result in a more streamlined review process
- In emergency situations, permitting procedures may be expedited and resource agency coordination may occur “after the fact” as opposed to before a permit is issued. This may result in additional work by the applicant once the emergency and immediate threat has been mitigated.

- Navigation Section reviews permit applications when activities intersect with federally maintained waterways and channels, including levee systems

## U.S. Fish and Wildlife Service (USFWS)

### Ecological Services Program

- If a debris removal project involves a federal agency (directly or through funding and/or issuance of a federal permit), it is the responsibility of the lead federal agency to coordinate with USFWS Caribbean Ecological Services Field Office prior to beginning debris removal work to ensure compliance with ESA and the Coastal Barrier Resources Act (CBRA).
  - ESA directs all federal agencies to ensure the actions they take, including those they fund or authorize, do not jeopardize the continued existence of any listed endangered or threatened species or result in the destruction or adverse modification of designated critical habitat unless an exemption has been granted. Generally, USFWS manages land and freshwater species and certain marine species such as manatee, 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 USFWS or NOAA Fisheries. See USFWS’s Information for Planning and Consultation [website](#) for an up-to-date list of Puerto Rico’s threatened and endangered land and freshwater species (U.S. Fish and Wildlife Service [USFWS], n.d.).
  - CBRA restricts federal expenditures and financial assistance that encourage development of coastal barriers so that damage to property, fish, wildlife, and other natural resources associated with the coastal barrier is minimized. The John H. Chafee Coastal Barrier Resources System (CBRS) is a collection of specific units of land and associated aquatic habitats that serve as barriers protecting the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts. After a Stafford Act declaration, costs for debris removal and emergency protective measures in designated CBRS units may be eligible for reimbursement under FEMA’s Public Assistance Program, provided the actions eliminate an immediate threat to lives, public health and safety, or protect improved property. A map of CBRS units in Puerto Rico can be downloaded from the USFWS [website](#) (USFWS, 2019).
- For projects that do not involve federal permits or funding, USFWS consultation is not required, but it is recommended. Harassing or harming (“taking”) an endangered or threatened species or significantly modifying their habitat is still prohibited under ESA regardless of federal involvement.
- Reviews may be expedited in emergencies, and USFWS staff may embed in response teams
- Each debris removal project is reviewed individually unless USFWS prepares a programmatic consultation. Under a programmatic consultation, all parties agree on certain conservation measures that must be implemented. If a debris removal project arises that does not fit the programmatic measures, then it must be reviewed individually.
- USFWS may evaluate and/or provide best management practices (BMPs) that provide necessary protections while allowing projects to go forward
- If the proposed debris removal project will not impact listed threatened or endangered species, or if the federal consulting agency agrees to implement USFWS’s recommendations, the consultation process is completed at the “informal” stage. However, if debris removal operations will adversely affect a listed species or critical habitat, the federal consulting agency must initiate a “formal” consultation, a process which typically ends with the

issuance of a biological opinion by USFWS (or NOAA Fisheries, if the ESA-listed species affected is under NOAA Fisheries' purview).

### **5.3 Permitting and Compliance for Marine Debris Removal in Puerto Rico Handout**

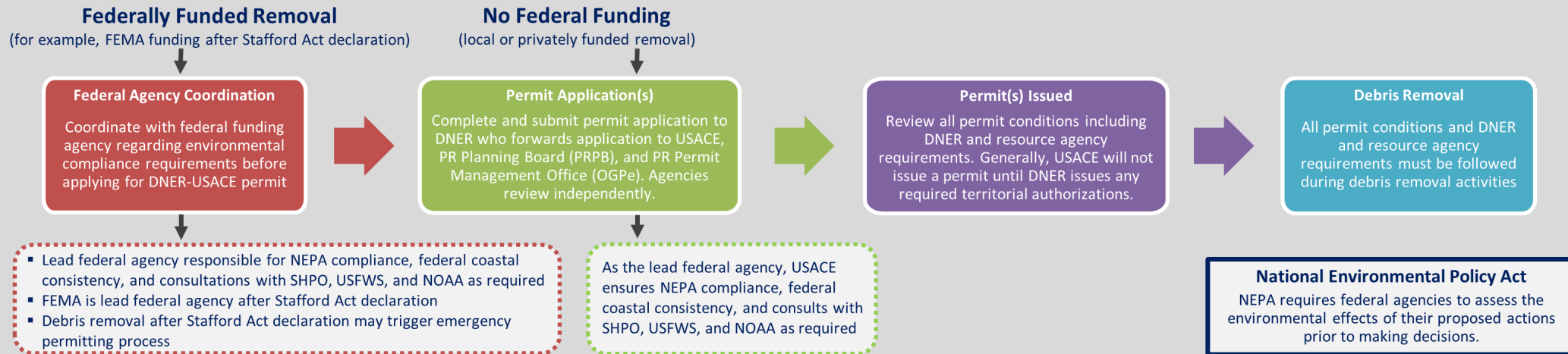
The "Permitting and Compliance for Marine Debris Removal in Puerto Rico" handout on the following page synthesizes permitting and compliance requirements that must be met before debris removal operations begin. The top portion of the handout outlines the process to follow to stay in compliance, while the bottom portion highlights specific territorial and federal agency requirements with general contact information.

For detailed information regarding individual territorial and federal requirements, see [Sections 5.1](#) and [5.2](#), respectively.

# Permitting and Compliance for Marine Debris Removal in Puerto Rico

- A PR Department of Natural and Environmental Resources (DNER) and U.S. Army Corps of Engineers (USACE) permit may be required for activities which may alter or affect water resources or wetlands, such as debris removal that involves dredging, the discharge of dredge or fill material, or impacts the navigability of a waterway
- The **organization or individual conducting the debris removal** is responsible for obtaining necessary permits, and DNER and USACE have a joint permit application process
- The **lead federal agency** is responsible for compliance with National Environmental Policy Act (NEPA), federal coastal consistency, and consulting with the PR State Historic Preservation Office (SHPO), U.S. Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA) as required

## Compliance Process When Permit is Required



## Primary Agency Requirements and Contact Numbers

<p><b>PR Department of Natural and Environmental Resources (DNER)</b> 787-999-2200 ayudaciudadano@drna.pr.gov</p>	<ul style="list-style-type: none"> <li>▪ Manages joint permit application process with USACE and PRPB                             <ul style="list-style-type: none"> <li>▪ Serves as the initial agency to submit a permit application and forwards a copy to all reviewing agencies including USACE, PRPB, and OGPe</li> </ul> </li> <li>▪ Reviews federal permit applications for compliance with PR water quality standards</li> <li>▪ Issues permits to establish and operate solid waste facilities, and for the storage, recycling, and final disposal of solid wastes</li> <li>▪ Authorizes and establishes requirements for temporary debris management sites for declared disasters</li> </ul>	<p><b>U.S. Army Corps of Engineers (USACE)</b> Jacksonville District Antilles Office Regulatory Section CESAJ-RD-SA@usace.army.mil</p>	<ul style="list-style-type: none"> <li>▪ USACE, DNER, and PRPB have a joint permit application process</li> <li>▪ USACE may not require a permit for certain types of debris removal, particularly if there is no disturbance to the seafloor. Please coordinate with USACE prior to submitting an application.</li> <li>▪ Some permits that may be required for debris removal in waterways and wetlands are:                             <ul style="list-style-type: none"> <li>▪ <b>NWP-3 Maintenance</b> for removal/maintenance of culverts, sediments or debris accumulated around outfalls, bridges, etc.</li> <li>▪ <b>NWP-18 Minor Discharges</b> of dredge or fill material</li> <li>▪ <b>NWP-19 Minor Dredging</b> of no more than 25 cubic yards</li> <li>▪ <b>NWP-22 Removal of Vessels</b> for removal of wrecked, abandoned, or disabled vessels or other man-made obstructions to navigation</li> </ul> </li> </ul>
<p><b>PR Planning Board (PRPB)</b> 787-723-6200</p>	<ul style="list-style-type: none"> <li>▪ Reviews federal actions for consistency with enforceable policies</li> <li>▪ Reviews public projects for conformity with plans and programs adopted by the PRPB</li> </ul>	<p><b>National Oceanic and Atmospheric Administration (NOAA)</b> NOAA Fisheries ESA: 727-824-5312 EFH: 787-405-3605</p>	<ul style="list-style-type: none"> <li>▪ Consultation required if marine debris response involves federal permits and/or funding (USACE permit, FEMA funding, etc.) to comply with:                             <ul style="list-style-type: none"> <li>▪ Endangered Species Act (ESA) to ensure actions do not jeopardize the continued existence of any listed endangered or threatened marine species or adversely modify designated critical habitat</li> <li>▪ Magnuson-Stevens Fisheries Conservation and Management Act to ensure actions do not adversely affect essential fish habitat (EFH)</li> </ul> </li> </ul>
<p><b>PR Permit Management Office (OGPe)</b> 787-754-5504</p>	<ul style="list-style-type: none"> <li>▪ Issues final determinations, permits, and certifications related to development and use of buildings</li> <li>▪ Makes environmental compliance determinations</li> </ul>	<p><b>U.S. Fish and Wildlife Service (USFWS)</b> Caribbean Ecological Services Field Office 786-244-0081</p>	<ul style="list-style-type: none"> <li>▪ Consultation required if marine debris response involves federal permits and/or funding (USACE permit, FEMA funding, etc.) to comply with:                             <ul style="list-style-type: none"> <li>▪ ESA to ensure actions do not adversely modify designated critical habitat or jeopardize the continued existence of any listed endangered or threatened land or freshwater species and certain marine species such as manatee</li> <li>▪ Coastal Barrier Resources Act to ensure actions do not encourage development on coastal barriers of Puerto Rico</li> </ul> </li> </ul>
<p><b>PR State Historic Preservation Office (SHPO)</b> 787-721-3737</p>	<ul style="list-style-type: none"> <li>▪ Ensures compliance with National Historic Preservation Act</li> <li>▪ Consultation with SHPO required if marine debris response involves a federal agency and/or funding (USACE permit, FEMA funding, etc.) to evaluate whether activities affect properties included in or eligible for the National Register of Historic Places</li> </ul>		

## 6 Puerto Rico Marine Debris Response Needs

Marine debris response challenges and associated recommendations are outlined below. Response challenges identified by stakeholders will serve as future points of discussion and action for the Puerto Rico marine debris response community. Potential opportunities for addressing these challenges include table-top activities to exercise this *Guide*, response exercises that incorporate debris scenarios, and coordination meetings associated with this document's review.

### 6.1 Response Challenges and Recommended Actions

The following challenges and recommendations have been compiled based on stakeholder input to improve preparedness for response and recovery operations following a marine debris incident in Puerto Rico. This information represents the opinions expressed by stakeholders, and not necessarily the authors of this report.

#### 6.1.1 Policies, Procedures, and Timelines

- Challenge: There is no commonly known procedure for reporting marine debris after disasters
  - Action: Establish and promote a procedure for the public and local authorities to report marine debris incidents
  
- Challenge: There are no protocols or guidance for responding to and removing marine debris quickly after disasters. The timeline to remove debris is too long. For example, years after hurricanes there is still construction debris and vessels in mangroves and the maritime zone, which affects the environment and the economy.
  - Actions:
    - Encourage the addition of information on response to debris in waterways in the JOCIP
    - Establish standing interagency debris task force that meets regularly to share information, develop protocols, and improve coordination
    - Develop a pre-event inventory of priority areas for debris removal and/or priority debris types. Prioritization could be based on an agreed-upon set of conditions such as ecological sensitivity, commercial use, location of critical infrastructure, recreational use, etc.
    - Compile and/or develop BMPs for debris removal and disseminate to stakeholders such as government agencies, nongovernmental organizations, debris removal contractors, and private property owners
    - Before an incident, identify local technical monitors with environmental expertise and require contractors to use state and federally approved BMPs
  
- Challenge: Agency authorities are limited in scope
  - Actions:
    - Identify debris removal mechanisms and funding for private property owners, such as through homeowner's insurance or volunteer organizations
    - Prior to hurricane season, host workshops for local communities outlining what disaster and debris removal funds are available and how they can apply

### 6.1.2 Interagency Coordination and Understanding of Roles

- Challenge: It is unclear who is responsible for response and removal of marine debris after disasters and there is no common understanding of roles of the various response and regulatory agencies
  - Actions:
    - Establish standing interagency debris task force that meets regularly to share information, develop protocols, and improve coordination
    - Develop and share standard operating procedures and host regular trainings and exercises that incorporate marine debris response and removal information
    - Implement a procedure for retiring or transitioning employees to share information before leaving their positions
  - *Note: See [Section 5 Puerto Rico Marine Debris Response Flowchart](#) and [Section 5.3 Permitting and Compliance Handout](#) for an overview of the response process and organization responsibilities, respectively*
- Challenge: There is a need to improve interagency coordination and collaboration in order to maximize efficiencies after disasters
  - Actions:
    - Establish standing interagency debris task force that meets regularly to share information, develop protocols, and improve coordination
    - Conduct regular trainings and exercises that incorporate marine debris response and removal information

### 6.1.3 Communication and Education

- Challenge: There is limited information and data on marine debris management among agencies
  - Actions:
    - Encourage agencies to develop materials and training to support other organizations' awareness and knowledge of programs and processes
    - Conduct regular trainings and exercises that incorporate marine debris response and removal information
    - Regularly retrain agency staff and establish a plan for continuity of knowledge when there is staff turnover
    - Communicate with and support efforts of community groups and nongovernmental organizations to obtain and share data on marine debris removal and potential debris accumulation hot spots
- Challenge: There is a need to disseminate post-event data to all interested parties
  - Action: Develop an inter-agency communication plan for disseminating information during a marine debris incident that clearly defines stakeholder audiences, identifies trusted spokespeople, and outlines agency responsibilities
- Challenge: It is difficult to understand the required federal and state regulatory permits/requirements for debris removal
  - Actions:

- Regularly retrain agency staff and establish a plan for continuity of knowledge when there is staff turnover
    - Update “Endangered Species Consultation for Emergency Responses in Puerto Rico and U.S. Virgin Islands” form to include debris response information (U.S. National Response Team, n.d.)
  - *Note: See [Section 5 Permitting and Compliance Requirements in Puerto Rico](#) and [Section 5.3 Permitting and Compliance for Marine Debris Removal in Puerto Rico Handout](#) for an overview of the response process and organization responsibilities, respectively*
- Challenge: There is a need for more frequent education on marine debris and contaminants
  - Actions:
    - Encourage agencies and nongovernmental organizations to develop materials and training related to marine debris and contaminants
    - Conduct regular trainings and exercises that incorporate marine debris response and removal information
- Challenge: Boaters and marinas need more education on who to call for oil sheens, sunken vessels, or other incidents
  - Action: Encourage agencies and nongovernmental organizations to disseminate existing materials and training for boaters and marinas
- Challenge: There are multiple marine debris response efforts from nongovernmental organizations, but methods are different and not consistent
  - Action:
    - Compile and standardize existing (or develop new) BMPs for debris response and removal
    - Disseminate standardized BMPs to stakeholders such as government agencies, nongovernmental organizations, debris removal contractors, and private property owners
    - Host regular trainings and meetings with nongovernmental organizations to share methods and lessons learned

#### 6.1.4 Vessels, Oil, and Hazardous Materials

- Challenge: Because it is expensive to register a vessel in Puerto Rico, vessels are registered in other regions (e.g., Delaware or U.S. Virgin Islands) which makes it difficult to track down vessel owners
  - Actions:
    - Continue to promote vessel registration with DNER through education campaigns, renewal notices, etc.
    - Benchmark with other Caribbean islands to better understand their processes and potential solutions
    - Promote communication between DNER, other agencies, and marinas to develop reports of vessel owners with vessels registered outside of Puerto Rico
- Challenge: Marinas do not require vessel owners to dry dock vessels before a storm
  - Actions:



- Encourage marinas to require vessel insurance policies and document vessel ownership as a best practice
  - Monitor marinas and yacht clubs and develop strategies, like public-private alliances, for disposing of abandoned boats at their facilities to avoid abandonment in public places
  - Require boat owners to remove vessels before a disaster via legislation that penalizes noncompliance
- Challenge: There is no information available on areas for safe harbor of vessels
  - Action: Identify areas around zones of high vessel traffic that provide a safe area for storage of vessels during storms
- Challenge: Responding to and disposing of derelict vessels after hurricanes is a challenge, and as time passes environmental damage increases
  - Actions:
    - Encourage the surrender of boats before they become abandoned or derelict, possibly through an incentive program
    - Monitor marinas and yacht clubs and develop strategies for disposing of abandoned boats at their facilities to avoid abandonment in public places
    - Establish a coordination mechanism between USCG and local agencies to have derelict vessels removed after USCG has abated a pollution threat
- Challenge: There is confusion between agencies about who is responsible or has jurisdiction for the clean-up of oil from vessels
  - *Note: DNER is the lead response agency for Puerto Rico, and USCG or EPA (depending on where the vessel is located) leads response if federal assistance is required. See [Section 3 Puerto Rico Marine Debris Response Flowchart](#) for additional details.*
- Challenge: Puerto Rico lacks regulations to mitigate abandoned vessels

### 6.1.5 Resources and Funding

- Challenge: There is a lack of qualified debris removal contractors
  - Actions:
    - Create a list of interested contractors
    - Develop and regularly administer training to certify local interested contractors or nongovernmental organizations that could supplement the government's labor force after a disaster
- Challenge: With no recurring funds, it is difficult to fund marine debris removal outside of a Stafford Act declaration or USCG response to contaminants
  - Actions:
    - Compile and make available a list of existing funding sources for debris removal that includes timelines, who is eligible, and where work may be conducted
    - Establish partnerships with nongovernmental organizations to assist with fundraising and contracting for debris removal in emergency situations
    - If allowed by Financial Oversight and Management Board, establish a marine debris removal fund supported by vessel registration fees

- Challenge: Prioritizing response to marine debris is difficult in light of other infrastructure damage following large-scale disasters
  - Action: Provide a tool for nongovernmental organizations and communities to identify and report marine debris that might represent a hazard to their safety or essential activities, including the economy and surrounding ecosystems

### 6.1.6 Removal Logistics, Debris Management, and Prevention

- Challenge: It is difficult to access debris in remote locations
  - Action: Establish a drone program for enhanced access to remote locations
- Challenge: Response in nearshore marine habitats and in sensitive areas where you cannot use heavy equipment is challenging, and removal in some locations may cause more environmental damage than leaving the debris in place
  - Actions:
    - Compile and/or develop BMPs for debris removal and disseminate to stakeholders such as government agencies, nongovernmental organizations, debris removal contractors, and private property owners
    - Before an event, identify local technical monitors with environmental expertise and require contractors to use established BMPs
    - Develop resource advisor training program for the territory
- Challenge: There is a need for advanced planning of vegetative debris management after disasters so that downed hardwood trees are managed as a resource rather than waste
  - Actions:
    - Develop and socialize best practices for vegetative debris disposal that includes identification and routing to recover value as compost, biochar, wood chips, artisanal uses, or salvage timber as appropriate, and that avoids disposal in landfills or burning
    - Identify different groups that collect, process, and repurpose hardwood
- Challenge: Owners of debris dump their personal disaster debris on public lands, such as the Jobos Bay National Estuarine Research Reserve and other natural sites
  - Actions:
    - Increase enforcement of code violations
    - Conduct campaigns to discourage the use of single-use plastics in the food and beverage industry
    - Add additional fees/taxes to imported single-use items to account for the cost of proper disposal
    - Enact bans on single-use plastics
- Challenge: There is a need to manage debris upstream coming from the rivers to prevent the marine debris issue
  - Actions:
    - Increase enforcement of code violations
    - Establish temporary after-storm debris collection areas in coastal communities to prevent small to medium-sized debris (including white goods) from being dumped in bodies of water

- Conduct campaigns to discourage the use of single-use plastics in the food and beverage industry
  - Add additional fees/taxes to imported single-use items to account for the cost of proper disposal
  - Enact bans on single-use plastics
- Challenge: There is a lack of awareness of and/or availability of recycling options for marine debris, so debris that could have been recycled ends in dump sites
  - Actions:
    - Conduct a campaign to increase awareness of recycling options and best practices
    - Explore additional recycling or alternative disposal options

## 6.2 Additional Resources

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## 8 Appendices

### 8.1 Contact Information

Contact information for local governments, territorial agencies, federal agencies, and nongovernmental organizations can be found in the *Field Reference Guide* on the NOAA Marine Debris Program website at <https://marinedebris.noaa.gov/emergency-response-guide/puerto-rico-marine-debris-emergency-response-guide>. Contact information included in the field guide is verified annually.

### 8.2 Select Agency Authorities

#### 8.2.1 Local Government Authorities

- Faculties—Waste management programs and systems, 21 L.P.R.A. § 4055
- Municipal Emergency Management and Disaster Administration Offices, 25 L.P.R.A. § 3649
- Municipal powers in general, 21 L.P.R.A. § 4054(f)
- Powers, duties and general functions, 21 L.P.R.A. § 4109(u)

#### 8.2.2 Territorial Agency Authorities

- Puerto Rico Department of Public Safety Act, 25 L.P.R.A. § 3501 et seq.
  - Removal of debris and wreckage, 25 L.P.R.A. § 3651
  - Special powers of the Governor of Puerto Rico, 25 L.P.R.A. § 3650

#### **Puerto Rico Department of Natural and Environmental Resources (DNER)**

- Act for the Conservation, Development and Use of the Water Resources of Puerto Rico, 12 L.P.R.A. § 1115 et seq.
  - Secretary—Assignment of functions, 12 L.P.R.A. § 1115d(m)
- Natural and Environmental Resources Rangers of the Department of Natural and Environmental Resources Act, 12 L.P.R.A. § 1201 et seq.
  - Duties, 12 L.P.R.A. § 1205(a)
- Organic Act of the Department of Natural and Environmental Resources, 3 L.P.R.A. § 151 et seq. (Organic Act of DNER Law 23, 1999)
  - Functions and duties of the Secretary, 3 L.P.R.A. § 155(h)
- Protection, Conservation and Management of Coral Reefs, 12 L.P.R.A. § 241 et seq. (Coral reef law 147, 1999)
- Regulation for the Use, Surveillance, Conservation and Administration of Territorial Waters, Submerged Lands under these and the Maritime-Terrestrial Zone, P.R. Reg. No. 4860

#### **Debris Response**

- Natural and Environmental Resources Rangers of the Department of Natural and Environmental Resources Act, 12 L.P.R.A. § 1201 et seq.
  - Duties, 12 L.P.R.A. § 1205(b)(2)
- To institute the “Adopt-a-Beach” program, 12 L.P.R.A. § 257

#### **Environmental Emergencies: Oiled or Hazardous Debris**

- Environmental Emergencies, 12 L.P.R.A. § 8004-8004o



- Commonwealth Commission—Duties and responsibilities, 12 L.P.R.A. § 8004c(c)
- Environmental Emergency Fund—Use, 12 L.P.R.A. § 8004g
- Environmental Emergency Management Program, 12 L.P.R.A. § 8004e

### **Navigation and Waterway Safety**

- Navigation and Aquatic Safety, 12 L.P.R.A. Section 1401 et seq. (Navigation and Aquatic Safety Law 430, 2000)
  - Creation of the Special Fund, 12 L.P.R.A. § 1411
  - Functions and duties of the Commissioner, 12 L.P.R.A. § 1403

### **Solid and Hazardous Waste Management**

- Environmental Quality Board, 12 L.P.R.A. § 8002-8002p
  - Nature of the Board for federal purposes, 12 L.P.R.A. § 8002g
  - Powers and duties, 12 L.P.R.A. § 8002c(b)(3)(E), 12 L.P.R.A. § 8002c(b)(4)(A), and 12 L.P.R.A. § 8002c(b)(9)(A)
- Puerto Rico Solid Waste Authority Act, 12 L.P.R.A. § 1301 et seq.
  - Coordination, 12 L.P.R.A. § 1306
  - Powers, 12 L.P.R.A. § 1305

### **Puerto Rico Department of Public Safety**

#### **Puerto Rico Emergency Management and Disaster Administration Bureau (PREMB)**

- Functions of the Emergency Management and Disaster Administration Bureau, 25 L.P.R.A. § 3644

### **Puerto Rico Department of Transportation and Public Works (DTOP)**

- Flood Prevention and Conservation Area of Beaches and Rivers, 12 L.P.R.A. §§ 255-255g
  - Powers, 12 L.P.R.A. § 255a

### **Puerto Rico Ports Authority**

- Dock and Harbor Act of Puerto Rico of 1968, 23 L.P.R.A. § 2101 et seq. (Docks and Ports Act of 1968)
  - General Powers of the Authority, 23 L.P.R.A. § 2201 et seq.
  - Public auction sale, 23 L.P.R.A. § 2517

### **Puerto Rico Public-Private Partnerships Authority**

#### **Central Office for Recovery, Reconstruction and Resiliency (COR3)**

- P.R. Exec. Order No. OE-2017-65 and amended by Executive Orders OE-2017-069 (November 10, 2017) and OE-2020-014 (January 31, 2020)

### **Puerto Rico State Historic Preservation Office (SHPO)**

- Puerto Rico State Historic Preservation Office, 3 L.P.R.A. §§ 1111-1116
- National Preservation Programs, Historic Preservation, Policy, 54 U.S.C. § 300101 et seq.

## **8.2.3 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

### **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.
- National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. § 300

### **U.S. Fish and Wildlife Service (USFWS)**

- Coastal Barrier Resources Act, 16 U.S.C. § 3501 et seq.
- 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

### 8.3 JOCIP Debris Roles by Response Phase and Task

Included below are key debris-related tasks, emergency support functions (ESF), and responsible agencies for all phases of response, including pre-incident, response, and recovery, as presented in the *Joint Operational Catastrophic Incident Plan of Puerto Rico (JOCIP; PREMB, 2019)*. Challenges that may affect each task and corresponding contingencies are also included.

#### Pre-Incident Phase

Objective	Time from Incident	Function	Tasks	ESF	Agency	Support Agency	Challenge	Contingency
State Awareness and Public Information	-96hr	Threat Analysis	As a mitigation procedure, remove debris from streets, highways, and water bodies to prevent flooding from sewers, rain systems, or bridges	3, 5, 11	Puerto Rico Emergency Management and Disaster Administration Bureau (PREMB), Puerto Rico Department of Transportation and Public Works (DTOP)	Puerto Rico Department of Natural and Environmental Resources (DNER), Municipal Emergency Management Offices	There is no heavy equipment or personnel available at the state level	Coordinate with contractor

#### Response Phase

Objective	Time from Incident	Function	Tasks	ESF	Agency	Support Agency	Challenge	Contingency
Environmental Response	+24hr	Removal of Debris	Identify agricultural operations and provide debris removal assistance	10	DNER, PR Department of Agriculture, and U.S. Environmental Protection Agency (EPA)	Municipalities and private contractors	Lack of resources, equipment and/or personnel	Coordinate with the Farmers Association, contractors, and U.S. Department of Agriculture for support
	+72hr	Removal of Debris	Identify affected areas and the type of debris	10	DNER, EPA	Municipalities, private contractors, Business Emergency Operations Center, infrastructure sector	Lack of trained personnel	Coordinate just in time training for municipal staff and volunteers
			Identify loading, staging, and disposal sites				Lack of available areas for debris collection	Coordinate with the PR Land Authority and the municipalities for temporarily available areas
	30 Days	Removal of Debris	Operate loading, staging, and disposal sites following Federal Emergency Management Agency's (FEMA) guidelines				Lack of personnel and specialized equipment	Coordinate with private contractors, craftsmen, and local locksmiths and offer just in time training for volunteer staff
Segregate the debris areas by type of debris								
Restore Critical Infrastructure	+24hr	Communications	Removal of debris that obstructs the access to the cellular towers and radio repeaters	3	DTOP	Municipalities	There are no resources to open the road	Mobilize private contractors to open the roads and accesses of the communication sites

**Response Phase Continued**

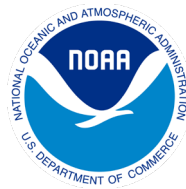
Objective	Time from Incident	Function	Tasks	ESF	Agency	Support Agency	Challenge	Contingency
Restore Critical Infrastructure	+72hr	Communications	Coordinate road cleaning and debris removal to access primary communication sites	2	PR Tele-communications Regulatory Board	DTOP, Municipalities, Business Emergency Operations Center, Communications sector	-	-
	30 Days	Public Works	Coordinate collection of debris with municipalities	3	DTOP	PREMB, Municipalities, FEMA, U.S. Army Corps of Engineers (USACE)	There are no resources	Use contractors through FEMA and USACE

**Recovery Phase**

Objective	Time from Incident	Function	Tasks	ESF	Agency	Support Agency	Challenge	Contingency
Infrastructure Recovery	30 Days +	Debris Management	Debris removal coordination with municipal resources, DTOP, and private contractors	3, 10	DTOP, Municipalities	DNER/USACE	Lack of equipment, trucks, and machinery for the collection	Hire private contractors
			Provide guidance on accounting collected debris and vegetative material reimbursement claims				Lack of knowledge in the processes to work reimbursement (FEMA)	Provide just in time training
			Give priority to the collected debris blocking roads and access to communities				Lack of resources	Request federal resources
			Maintain a debris removal program in communities and neighborhoods			FEMA	Lack of resources	Request federal resources
			Keep debris removal program in public places					
			Coordinate with municipalities, DTOP, and private contractors for the collection and reduction of debris					
			Implement the recycling process to separate vegetative materials, metals, and other products					
			Establish temporary centers of disposal of debris to then move to final disposal					
Federal Support	30 Days +	Public Assistance	Request up to 75% of eligible costs to collect debris from public areas and for emergency measures taken to save lives	-	FEMA	-	-	-

#### 8.4 Puerto Rico Legislation Applicable to Marine Debris Response

Citation	Title
12 L.P.R.A. § 639	Animals and other property swept away
12 L.P.R.A. § 642	Submerged objects
12 L.P.R.A. § 706	Removal of obstructions
12 L.P.R.A. § 780	Deposit of floating objects for safety
12 L.P.R.A. § 1115c	Assignment of dominion
12 L.P.R.A. § 1203(i)	Definition of maritime-terrestrial zone
12 L.P.R.A. § 8004n(b)(8)(F)	Definition of abandonment
23 L.P.R.A. § 2103(n)	Definition of terrestrial maritime zone
23 L.P.R.A. § 2517	Public auction sale
25 L.P.R.A. § 3650	Special powers of the Governor of Puerto Rico
25 L.P.R.A. § 3651	Removal of debris and wreckage
P.R. Reg. No. 4860 art. 2.17	Property in the maritime public domain
P.R. Reg. No. 4860 art. 2.5	Territorial waters defined
48 U.S.C. § 2101 et seq.	Puerto Rico Oversight, Management and Economic Stability Act of 2016



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