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Introduction
The Federative Republic of Brazil is bordered on the north by Venezuela, Suriname, Guyana and the overseas department of French Guiana; on the northwest by Colombia; on the west by Peru and Bolivia; on the southwest by Paraguay and Argentina; on the south by Uruguay; and on the east by the Atlantic Ocean.

The country's more than 7,491 km of coastline is comprised of sandy beaches, bays and lagoons, coral reefs, and the shores of numerous archipelagos including Fernando de Noronha, Atol das Rocas Saint Peter and Paul Rocks, and Trindade and Martim Vaz. The Amazon and Para River complex, with numerous interconnecting channels, covers 325 km of coastline near the French Guiana border and includes the island of Marajo.

At Risk Wildlife
In this section, some individual wildlife species are mentioned followed by a letter in parentheses. These are species included in the IUCN Red List of Threatened Species within the top three categories of risk - Vulnerable to extinction (V), Endangered (E) or Critically Endangered (CR).

Avian species – Brazil has breeding populations of at least 25 species of seabird. The most important breeding sites are found on a number of oceanic islands. The Fernando de Noronha/Atol das Rochas complex hosts the greatest number of individuals and species, with petrels, tropicbirds and boobies predominating.

High seabird abundance and diversity is found in southeastern Brazilian waters, which are also important feeding areas for some seabird populations nesting in the Tristan da Cunha and Gough group. The country is also of regional importance for wintering and passage of nearctic and austral migrants, especially shorebirds, ducks, Magellanic penguins and other waterbirds.

Species of special concern include the Brazilian merganser (CR), Tristan albatross (CR), sooty albatross (E), Atlantic yellow-nosed albatross (E), grey-headed albatross (E), northern royal albatross (E), Atlantic petrel (E), southern royal albatross (V). wandering albatross (V), Leach's storm-petrel (V), Trindade petrel (V), Desertas petrel (V), white-chinned petrel (V), spectacled petrel (V) and Agami heron (V).

Marine mammals – South American fur seals, South American sea lions, American manatee (V), Burmeister's porpoise, and orca are found along the coast, and some of these species venture into tidal rivers. The Amazon River Basin is home to the tucuxi (also called Amazon river dolphin or boto), whose conservation status has not been determined but is likely at least Vulnerable, and Amazon manatee (V). These species are, however, rarely found in tidal areas, preferring to remain further inland. The Franciscana (La Plata dolphin) (V) may be found nearshore from Espirito Santo State to Uruguay and southern right, humpback and Bryde's whales are common along much of the coast. Blue (E), fin (V), sperm (E), and Antarctic minke whale inhabit offshore waters.

Marine reptiles – Five species of sea turtle feed and nest in Brazil. Hawksbill (CR), green (E), loggerhead (V), and olive ridley (V) turtles all nest on the Atol das Roca and the Fernando de Noronha archipelago off northeast Rio Grande do Norte state and along the coast to Quissama in Rio de Janeiro state. The only nesting population of leatherback (V) turtles found in the southwest Atlantic is in Espirito Santo state. Priority beaches for loggerhead turtles are in Espirito Santo, Bahia, Sergipe, and northern Rio de Janeiro. Hawksbill nest on the north coast of Bahia and Sergipe, and southern Rio de Janeiro. Green turtles nest on the oceanic islands of Trindade, Atol das Rocas Biological Reserve, and Fernando de Noronha Marine National Park. Olive ridleys spend time in shallow waters and nest from Alagoas and Segripe to northern Bahia.

Regional Seas
Atlantic Ocean
South Atlantic Ocean

Past experience
Brazil has experienced a number of oil spills affecting wildlife. The MARINA (1985) spilt 2,500 tonnes of crude and the CANOPUS (1995) grounded on a reef spilling a small quantity of bunker fuel.
A broken pipeline owned and operated by Petrobas, Brazil's state owned oil company, spilt 1300 tonnes of bunker fuel into Guanabara Bay (Rio de Janeiro) in January 2000. Wildlife response was divided into bird and cetacean

sections. Petrobas oversaw infrastructure and logistical support for the wildlife response. A Brazilian NGO coordinated bird rescue, treatment, rehabilitation, and release operations, establishing two field stations, a triage facility at Limão Beach and a long-term rehabilitation facility at Guaratiba Reserve – Instituto Estadual de Florestas. Necropsies were performed by Pesagro-Rio, a state Laboratory of Animal Biology.
A separate NGO managed cetacean response, while the Projeto Maqua of the Universidade do Estado do Rio de Janeiro (UERJ), which had been studying tucuxi in Guanabara Bay over a period of 20 years, monitored this population. A pod of about 70 tucuxi stranded and/or were oiled. Long-term monitoring indicates this population has been decreasing for a long time.
In 2001 crude oil spilled from a sunken Petrobras oil platform P-36, 120 km off the Brazilian coast, however impact may have been minimal as the platform was not operational when it sank.
Between July and September 2002, a mystery spill oiled penguins along the coastlines of Brazil and Uruguay. A Brazilian NGO, assisted by an international NGO, rescued and released a number of penguins.
The VICUÑA (2004) spilt approximately 400 tonnes of fuel in the port of Paranaguá, polluting protected mangroves swamps and beaches at Baía de Paranaguá and Antonina. A mobile wildlife rehabilitation center (Petrobas mobile unit) for seabirds was set up and four search and rescue boats attempted to locate and capture oiled wildlife. Wildlife casualties included a small number of sea turtles and dolphins, but it is unclear whether the animals died as a result of the spill.
A spill from an unidentified ship (August 2008) oiled more than 355 penguins, some of which were treated, while others washed up dead on the beaches of the island city of Florianopolis.
In 2013, the gas carrier Golden Miller, suffered an explosion and fire which resulted in some oil on nearby shores.
In 2019 a spill of unknown origin impacted numerous beaches along 1930 km of the northeast coast impacting hatching and feeding sea turtles. Fundação Projecto Tamar collected and cleaned oiled turtles and pre-emptively captured nestlings at the beach, taking them offshore for release in unoiled waters. It is unknown how this will affect their ability to return to their native beaches for nesting.
Chronic oil pollution has been a long-standing problem along a 4,200-mile stretch of coast from southern Brazil to northern Argentina, often impacting feeding and migrating penguin population.

Response: the role of the authorities
Under the National Contingency Plan (Plano Nacional de Contingência para Incidentes de Poluição por Óleo em Águas sob Jurisdição Nacional, PNC), the Ministry of the Environment (Ministério do Meio Ambiente, MMA) is the National Authority, leading an executive committee composed of various other ministries, and the Ports Secretary, which is responsible for proposing guidelines for the implementation of the plan.

An evaluation and monitoring group, led by the MMA, includes representatives of the Federal Environment Agency (Instituto Brasiliero do Meio Ambiente e dos Recursos Naturais Renovaveis, IBAMA), the National Petroleum, Natural Gas, and Bio-combustibles Agency (Agência Nacional do Petróleo, Gás Natural e Biocombustíveis, ANP), and the Brazilian Navy assesses whether an incident requires activating the NCP.

In the event of a spill, IBAMA may turn response over to the environment agency of the relevant coastal state or to Petrobras, the national oil company. Petrobras maintains nine oil spill response centres, or Centros de Defesa Ambiental, at various points along the coast.

The Ministério do Meio Ambiente has developed oil sensitivity indexes for the coastline.

Oiled wildlife response
Formal guidelines?
In 2016 IBAMA launched the National Guidelines for Oiled Wildlife Response and the National Action Plan for Emergencies with Oiled Wildlife (Plano Nacional de Ação de Emergência para Fauna Impactada por Óleo, PAE-FAUNA) which consists of a Good Practice Manual, an Environmental Mapping for Emergency Response at Sea (Marem) system, and the IBAMA Oiled Fauna Plan, developed in conjunction with several institutions. A response plan for tucuxi, developed during the Guanabara spill, also exists.

Response objectives and strategy
Authorised wildlife rehabilitators will attempt to rescue and rehabilitate oil-impacted animals following the Oiled Fauna Plan.

Euthanasia or rehabilitation?
Authorised NGOs, university personnel and consultancy companies will attempt to rehabilitate animals, with euthanasia utilised based on welfare concerns.

Impact assessment
Impact assessment would be carried out under the direction of IBAMA with the assistance of authorised universities, consultancy companies and NGOs, some of which are listed in the Wildlife Responders section below and others are members of the Rede de Encalhe de Mamíferos Aquáticos do Brasil (REMAB), a network of marine mammal organisations that respond to stranded marine mammals and or otherwise affiliated with the Instituto Chico Mendes para Conservação da Biodiversidade (ICMBio).

Notification and early response
IBAMA has developed a notification system in the case of oil spills and other wildlife emergencies.

Wildlife responders
There are several wildlife centres with oiled wildlife experience. Aiuká personnel have extensive experience in international oiled wildlife response. Aiuká also holds a contract with an oil company for response to birds stranded on offshore platforms.
In the south of Brazil, the Centro de Recuperação de Animais Marinhos (CRAM, the Center for the Recovery of Marine Animals) has considerable experience in responding to oiled wildlife.

In the Santos Basin area, Petrobras has a Veterinary Care Network with 14 facilities for rehabilitation of any live animals found during the company's regular beach monitoring. This government mandated monitoring and care network covers the states of Santa Catarina, São Paulo and Rio de Janeiro, where there has been the highest incidence of chronic oiling of wildlife.

REMAB, led by ICMBio, would likely be involved in any actions to aid impacted marine mammals.

Projeto TAMAR, a partnership between Centro TAMAR/ICMBio in the Ministry of the Environment, other government agencies, and Fundacão Pró TAMAR, monitors, rescues and rehabilitates sea turtles. They have twenty-two field stations dedicated to research and conservation on the coast and offshore islands, so would likely be involved in sea turtle response.

IBAMA also has a network of Wildlife Rescue Centres (Centros de Triagem de Animais Silvestres - CETAS), which largely deal with confiscated animals, but may be able to assist in a spill response. It has partnerships with various universities in responding to these animals, which may also assist in case of an oil spill.

Cooperation between stakeholders
Authorised groups, some listed above, work closely with IBAMA on response to marine wildlife incidents. ICMBio oversees a number of cooperative efforts including REMAB, southern right whale conservation, and manatee conservation.

Brazil is a signatory to the Operative Network for Regional Cooperation among Maritime Authorities of South America, Mexico & Panama (ROCRAM).

Permanent facilities
Aiuká has a primary facility in Praia Grande and a smaller facility in Rio de Janeiro. In the south of Brazil, the Centro de Recuperação de Animais Marinhos (CRAM, the Center for the Recovery of Marine Animals) has a small hospital. All three centres can care for marine mammals, birds, and turtles.
Projeto TAMAR has facilities in Praia do Forte, Florianópolis, Ubatuba, Aracaju, and Vitória e Fernando de Noronha where sea turtles are rehabilitated, and at-risk neonatal turtles are reared.
See Wildllife Responders regarding the Petrobras facilities in the Santos Basin.

Current processes
n/s

Documentation and references
General references
General references
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http://www.ibama.gov.br/emergencias-ambientais/petroleo-e-derivados/paefauna
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