

RESPONSE PROTOCOL FOR MARINE MAMMAL STRANDING

This document is based on the following publications:

1. “PROTOCOLO DE RESPUESTA A VARAMIENTOS DE MAMÍFEROS MARINOS” [RESPONSE PROTOCOL FOR MARINE MAMMAL STRANDING]. Ministry of the Environment. 2018.
 2. Response Protocol for Marine Species Stranding (Cetaceans, Pinnipeds, Sea Turtles, Whale Sharks and Manta rays).
 3. Deutsche Gesellschaft für Internationale Zusammenarbeit – GIZ Ecuador. Quito: Ministry of the Environment.
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This work is part of the strategic objective A of the Aichi Biodiversity Goals,¹ the Regional Program for the Conservation of Sea Turtles in the Southeast Pacific, the National Plan for the Conservation of Sea Turtles in Ecuador, and the Action Plan for the Conservation of Marine Mammals in the Southeast Pacific.

1. INTRODUCTION

Ecuador is one of the countries considered megadiverse and has around 30 species of marine mammals (dolphins, whales, and sea lions), 5 species of sea turtles, around 60 species of sharks, and more than 30 species of rays. Many of these species are affected by various natural and anthropogenic impacts, and the majority of the non-natural impacts are caused by factors such as sea traffic (collisions with vessels), pollution (hydrocarbon spill, solid waste, untreated wastewater discharge, plastic waste, noise), direct attacks and interaction with fishing gear.

To monitor these interactions, it is necessary to know the species involved, the numbers of affected individuals and the temporal and spatial extent of these occurrences. It is essential to create a response protocol for immediate attention in case of stranding and interaction with humans, with the participation of local authorities, researchers, academics, among others, that carry information from the Ecuadorian Network for Response to Stranding and Rescue of Marine Species which must be led by the Environmental Authority.

Although the causes of stranding are difficult to identify, mainly when individuals are in a state of decomposition, stranding of these species is a source of biological and ecological information on these species, since many of them are very difficult to observe at sea, and stranding offers a unique opportunity to learn about them and its registration has even allowed the registration of species that were not previously known in the country.

¹ Strategic Plan for Biodiversity 2011-2020 and the Aichi Goals.



Illustration 1. Marine Mammal Stranding

2. OBJECTIVE

Develop a response protocol to assist marine species that are stranded, focusing on cetaceans, pinnipeds, sea turtles, whale sharks and manta rays.

2.1. Specific Objectives

- Define the actions to be followed by Yilport Terminal Operations (YILPORTECU) S.A., its staff and contractors, as well as service providers, associated organizations and/or volunteer networks, to establish responsibilities in case of stranding in the docks area of the port terminal, and other stranding cases within its area of direct influence.
- Design a mechanism for proper decision-making and information dissemination during stranding attention.
- Determine the minimum technical and operational requirements for the assistance and transfer of small cetaceans, pinnipeds and/or sea turtles to the Authorized Rescue Center.

3. SCOPE

This protocol sets out specific actions for each situation that occurs in a stranding and/or sighting of stranded alive or dead cetaceans, pinnipeds, sea turtles, whale sharks or manta rays, within the area of direct influence of the operations of the port terminal and its projects in the water body of the Santa Rosa estuary (dredging).

Illustration 2. Implementation Area of the Dredging Project



4. LEGAL FRAMEWORK

- I. The Ecuadorian State is a signatory of several International and multilateral legally binding Agreements and Conventions, , related to the protection and conservation of marine biodiversity, including, but not limited to:
 - a. The Convention on the Conservation of Migratory Species of Wild Animals (CMS)
 - b. The Convention on Biological Diversity (CBD)
 - c. Together with Colombia, Peru, Chile, and Panama, Ecuador adopted the Action Plan for the Conservation of Marine Mammals of the Southeast Pacific in 1991, committing to conserve all species, subspecies, races and populations of marine mammals and their habitats in the region.
- II. Ministerial Resolution No. 196, R.O. No. 458, Article 1 of June 14, 1990 considers all species of whales present in Ecuadorian waters to be protected by the State and declares these waters their natural refuge, prohibiting any activity that threatens the life of these marine mammals.
- III. Interministerial Resolution No. 20140004 of May 30, 2014, setting out the Regulation concerning the Observation of Whales and Dolphins in Ecuadorian Waters, and includes all species of cetaceans that regularly or seasonally inhabit Ecuadorian waters.

5. OFFICERS IN CHARGE

The following are the officers in charge of the dissemination and application of this protocol:

- YILPORT TERMINAL OPERATIONS (YILPORTECU) S.A.
 - YILPORTECU Department of Industrial Safety, Occupational Health and

- Environment (HSE)
 - YILPORTECU Operations Department
 - YILPORTECU Protection Department
- Port cargo and service operators (OPC and OPSC)
- Contractors and their Subcontractors
- Marine Pilots
- Security Personnel

6. GLOSSARY

Stranding

A "stranded" or "beached" animal is an animal that is found on the shore of a body of water, either dead or alive, or in a defenseless position, unable to return by itself to its natural environment.

As for pinnipeds, the term stranding is applied only when it comes to dead, injured or entangled animals, since they are animals that can walk on land and climb rocks naturally. Live pinnipeds on the beach do not require assistance unless seriously injured.

The causes of stranding can include disoriented, injured, sick animals, stray juvenile animals or victims of human actions or natural disasters. These stranded animals can be classified by the number of individuals (individual or multiple), the number of species involved and by the physical state of the individuals.

Individual Stranding

This is the case occurring most frequently. These are stray animals found on the beaches and can be stranded alive or dead.

Massive Stranding

This happens to several animals, and generally occurs in several nearby places. This implies a massive death of marine animals and a danger to public health due to the number of decomposing animals.

Rare Stranding

In this case, we may find only remnants of animals, such as turtle shells or incomplete remnants of dolphins, or female individuals beached with their young, or stranded species that are not common in the region.

Stranding Network

In Ecuador, through Ministerial Resolution 090 of August 21, 2018, the Ecuadorian Network for Response to Stranding and Rescue of Marine Species - RERV was created, aiming at monitoring, and studying marine fauna, which for different reasons strand or appear injured on the Ecuadorian shores, providing a valuable use of biological information such as feeding, reproduction, degree of

development and pathological conditions that would be difficult or impossible to know with other methods. The RERV can also be a useful tool to know the state of conservation of fauna populations. This research will be carried out in collaboration with qualified specialists.

This Resolution is mandatory for all users of the marine-coastal zone of Ecuador mainland.

7. ACTIONS TO TAKE

7.1. STRANDING - QUICK RESPONSE

In case of sighting a stranding of any kind (individual or multiple, rare, alive or dead animals), the observer – whether a collaborator of YILPORT, a contractor company, port and service operators (OPC and OPSC) – must:

1. Notify immediately the Security personnel and/or Dock Supervisors who are on duty, who in turn will notify the YILPORT HEALTH, SAFETY AND ENVIRONMENT (HSE) Department.
2. The HSE officer in charge of receiving the report will be in charge of verifying the events on site and inform the authority through the ECU 911 emergency line. The information shall include the following:
 - a. Citizen's Name
 - b. Place of Stranding
 - c. Accessibility to the area
 - d. Type of stranded animal
 - e. Number of stranded animals
 - f. Approximate size
 - g. Sea conditions (high and low tide/waves)
 - h. Condition of the animal (alive, injured, dead)
 - i. Contact cell phone number.
3. The HSE officer in charge will call the Emergency Brigade to the place of stranding, in order to provide the necessary help and support within their reach.
4. The necessary measures shall be ordered to set a sanitary cordon in the area where the stranding is located and prevent the approach of onlookers and/or people not belonging to the HSE, until the appointed environmental authority arrives.
5. The alerting officers or their representatives shall remain at the place of stranding in order to observe the conditions of the site and notify the authority when required.

FACT CHECKING

ECU 911 shall be responsible for notifying the event to the Environmental Authority which will coordinate with other cooperating institutions such as specialists, MAP, DIRNEA, Provincial GAD, Parish Board, National Police, and others, depending on the stranding conditions.

The **Environmental Authority shall be the only governmental entity that will coordinate the attention of the stranding** with the Provincial Directors and the officers in charge of the Marine Coastal Protected Areas and/or technical offices closest to the event site, cooperating institutions and the stranding and volunteer network.

The officer in charge of attending the stranding appointed by the Environmental Authority shall coordinate the logistics to attend the event, taking into consideration the following aspects:

- Size of animal
- Number of stranded animals
- Ease of handling
- Condition of animal
- Environmental conditions
- Accessibility to the place
- Available Logistics
- Available Trained Staff
- Number of people in the area

6. Until the arrival of the RERV staff at the stranding area – and once they have arrived at the site, the HSE officer in charge shall initiate actions to:
 - Arrange the activities in which each of the members of the Emergency Brigade will participate.
 - Coordinate the setting and maintenance of the sanitary cordon with the corresponding authorities.
 - Implement normal communication channels with different actors.
 - Conduct a thorough external inspection for parasites, marks, scars, fishing nets, or any other signs that may help determine the cause of death.
 - Take a photograph of the animal, firstly complete from different angles (frontal, lateral, dorsal, ventral) and then by parts such as head (mouth and teeth), genital area, dorsal fin, tail, and emphasize with close-ups in areas that show wounds, pigmentations, parasites, or any abnormality.
 - In case the animal is alive, and evidence of human artifacts that may cause wounds (fishing nets, hooks, ropes, plastics, and others). They can be removed as long as the animal cannot move or is not a danger to personnel. The removed items shall be placed in plastic bags for submittal to the Authority.
 - Take morphometric measurements with a tape measure according to the field sheets of each species (see Annex 1. Stranding Record Forms).
7. YILPORT personnel and the Emergency Brigade in the stranding area shall join the team of the Ecuadorian Network for Response to Stranding of Marine Species, in order to

provide the necessary help and support within their powers and availability. The Authority shall be the only government entity that will coordinate the attention of the stranding and will activate its protocols.

It is the responsibility of the HSE Department of YILPORT TERMINAL OPERATIONS to help with the report of relevant information regarding their operations as required by the designated Authority.

REMEMBER

In case of large animals (larger than 5 meters), the most important thing is information collection and coordination of the final disposal with the local authorities.

The final disposal shall be ordered by the Environmental Authority which shall coordinate the support of required actors as shown in the figure below:

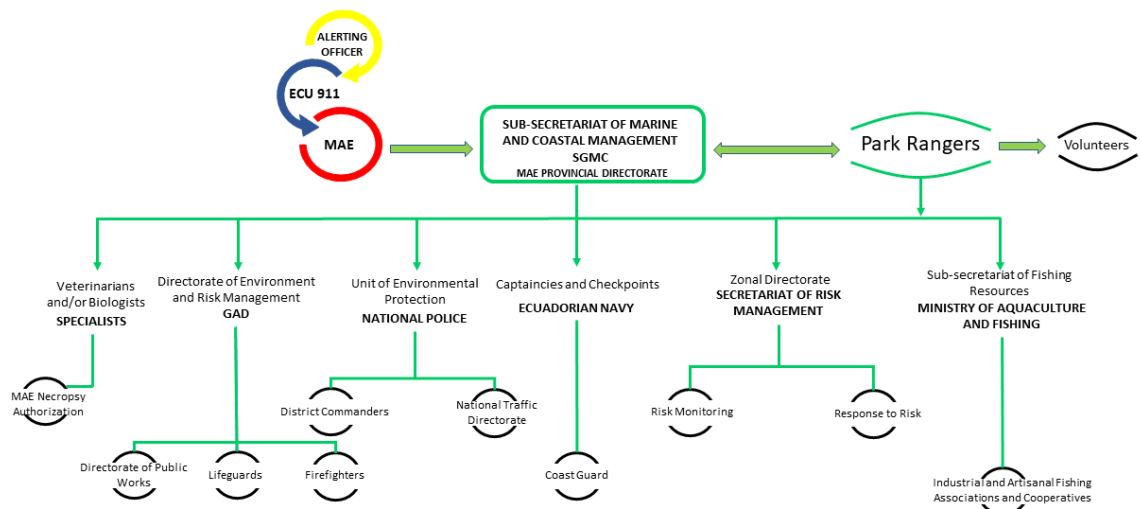


Illustration 3. Organizational Chart of Response to Marine Mammal Stranding

Depending on the conditions of the place and the diagnosis of the specialist or veterinarian, immediate release, transfer to rescue and rehabilitation centers or euthanasia shall be carried out.

In these cases, YILPORT staff shall perform the roles of ALERTING OFFICERS and VOLUNTEERS (see Illustration 1), in addition to participating together with the representatives of the Risk Management Secretariat in the identification, monitoring and response to risks.

7.2. BASIC REGULATIONS ON SAFETY AND ASEPSIS

7.2.1. It shall be the responsibility of YILPORT

The safety and asepsis regulations that encompass all pertinent health measures to prevent possible accidents and/or injuries to YILPORT personnel, or to the animal, such as trauma or the transmission of zoonotic diseases, until the officer in charge

of the competent authority arrives.

As alerting officer and volunteer, YILPORT may – depending on availability – provide the RERV team with equipment and supplies in its possession or through third parties, always under the direction of the OFFICER IN CHARGE OF STRANDING, under the supervision of the YILPORT HSE Officer in Charge.

Everything that is carried out shall be informed in a report that collects the information necessary to identify the animal or animals involved, the place and conditions of the stranding, and the actions taken to solve the stranding and other details as set out in Annex 1 of this document. This report shall be kept on file with the HSE department.

7.2.2. Responsibilities of the Competent Authority

The security teams to assist the stranding shall depend largely on the species and the stranding and/or weather conditions in the area. In the event that the stranding occurs within the marine area, the level of danger for working with the animal shall be evaluated. The officer in charge of stranding shall determine in which cases the basic materials detailed below shall be used:

- Exclusive vehicle for rescue.
- Safety tapes and cones.
- Megaphone.
- Portable reflector.
- Organizational material (technical sheets, informative material).
- Gloves (Rubber, leather, and wool).
- Safety goggles or face shields.
- Rubber boots.
- Cap, hat, sun hat.
- Rope mesh nets.
- 5-inch braided ropes, mooring sling, and Samson rope.
- Rescue material (white towels, blankets, buckets, shovels, awnings, specific transport stretchers, tarpaulins, foam or inflatable mattresses, removable pool).
- First-aid materials (Chlorhexidine, Povidone, physiological saline solution, gauze, surgical and normal gloves, moisturizing cream, gauze bandages, plasters, alcohol, analgesics, anti-inflammatories, basic antibiotics, scissors).
- Veterinary clinical material.
- Transport tanks.
- Metal cages.
- Hands-free flashlights.
- Portable generators.
- Knives and sharpeners.
- Sample containers.
- Preservatives according to samples (alcohol 95% or formaldehyde 4%).
- Quicklime.
- Water pumps and hoses.
- Communication equipment (photographic and video recording equipment).
- Shovels.
- Tires.

- Backhoe.

In addition to these materials, in the event that activities are carried out in the water, the use of:

- Immersion suit or wetsuit.
- Snorkel.
- Neoprene boots.
- Neoprene gloves.
- Surfboard/Jet ski.
- Zodiac/support boat.

In the event that the Authority establishes the need to carry out a necropsy (taking tissue samples from the dead animal), this Authority shall be responsible for the procedure. The YILPORT representative shall be able to provide support with the following implements:

- White waterproof coveralls.
- N95 type industrial masks.
- Safety goggles
- Steel-Toe Rubber Boots

Everything that is carried out shall be informed in a report that collects the information necessary to identify the animal or animals involved, the place and conditions of the stranding, and the actions taken to solve the stranding and other details as set out in Annex 1 of this document. This report shall be kept on file with the HSE department.

ANNEX 1. TECHNICAL REPORT ON STRANDING

Report on Stranding Attention No. 0000-Year

Date: dd/mm/yy

By: (Include full name and position of the officer writing the report)

BACKGROUND

- a. Name and identification of the citizen who gives the alert
- b. Place of Stranding: (Include photograph)
- c. Accessibility to the area
- d. Type and number of stranded animals
- e. Approximate size (in meters)
- f. Sea conditions (high and low tide/waves)
- g. Environmental conditions
- h. Condition of animal (alive, injured, dead, visible wounds, remains of human artifacts: hooks, nets, ropes, others)
- i. Time of report to YILPORT staff
- j. Time of report to ECU 911
- k. Name of the RERV representative or OFFICER IN CHARGE OF STRANDING
- l. Arrival time of the RERV representative

DESCRIPTION OF THE AREA

Describe the place where the animal was found (sketch map), and also include the UTM 17S coordinates of the stranding spot.

RESOURCES USED

Details of human resources (in man hours) and materials and equipment that are owned by YILPORT and exclusively used for the sanitary cordon and rescue or final disposal, depending on the decision taken.

ACTIONS TAKEN

Details of the actions taken by YILPORT personnel and its contractors, whether actions arranged by the YILPORT chain of command, the Emergency Brigade, and the Officer in Charge of Stranding as appointed by the RERV.

The detail must include the chain of command, the personnel involved, the actions taken, and the results obtained.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions shall be described based on the conditions observed in the animal and events that occurred during the event.

PHOTOGRAPHS

Signature of Officer in Charge

Please include the name and signature of those who participate in the preparation of this Report, and of the HSE officer in charge who validates it.

ANNEXES TO THE REPORT

A copy of the respective Stranding Report issued by the RERV OFFICER IN CHARGE OF STRANDING, as appropriate, shall be attached to this report.

END OF DOCUMENT