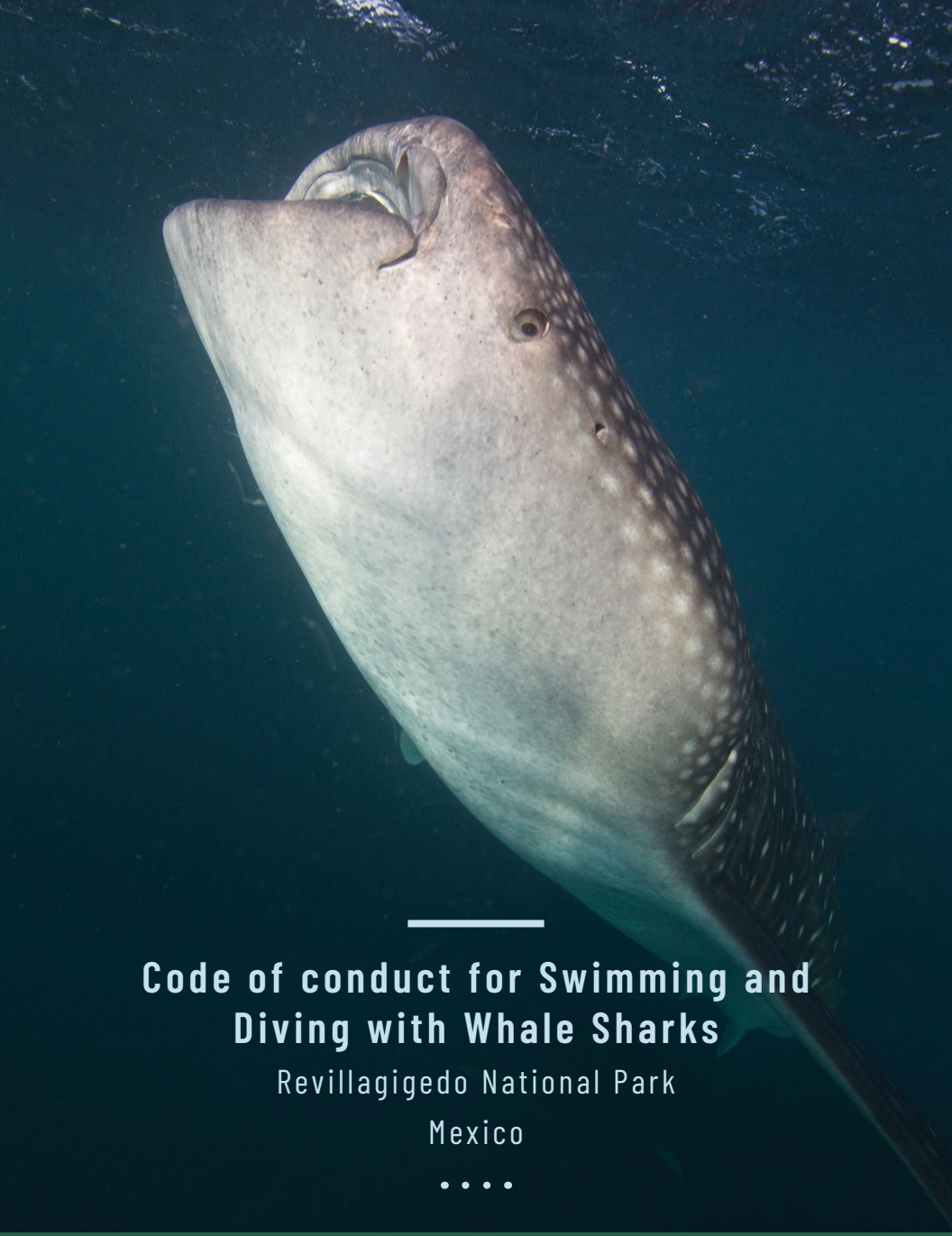

Code of conduct for Swimming and Diving with Whale Sharks

Revillagigedo National Park

Mexico

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PARQUE NACIONAL Revillagigedo

Code of conduct for Swimming and Diving with Whale Sharks

Revillagigedo National Park

Mexico

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CONSERVATION LEADERSHIP PROGRAMME

Pelagios KAKUNJÁ
ANIVERSARIO 2010 · 2020

BirdLife INTERNATIONAL

OCEAN BLUE TREE

ICF
International Community Foundation

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Table of contents

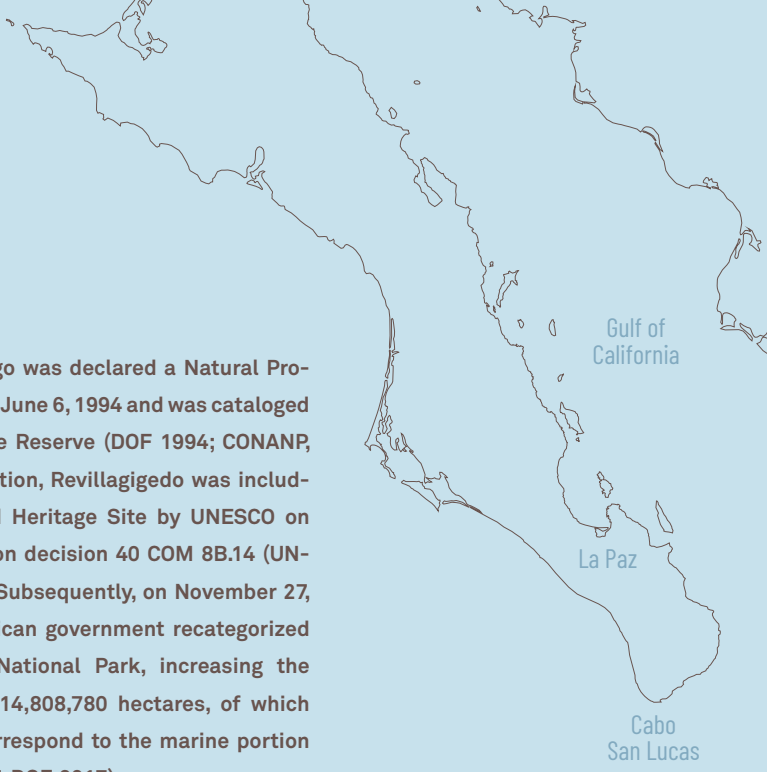
Introduction

Revillagigedo Archipelago

The Revillagigedo Archipelago, located 540 kilometers south of the Baja California peninsula in Mexico consists of a group of four volcanic and oceanic islands rising independently from the ocean floor along the Clarion Fracture Zone, some 350-650 km southwest of Baja California Sur, Mexico. The islands are, increasing in order of size: Roca Partida, San Benedicto, Clarion and Socorro (Brattstrom, 1990). This iconic dive destination has one of the largest aggregations of different species of sharks and giant mantas (*Mobula birostris*) in the world, as well as huge schools of tuna, humpback whales, and four species of sea turtles (CONANP, 2018).

Due to unique oceanographic conditions and geographic isolation, the Revillagigedo Archipelago has the presence of a wide variety of marine species that move from the Gulf of California, the Mexican Pacific, and the Indo-Pacific (Carter et al., 2020). Within the boundaries of the Park, all forms of diving related to tourism (SCUBA, snorkeling, and freediving) have dramatically increased, due to the presence of abundant marine life such as several species of sharks, whales, dolphins and particularly giant mantas, which have resulted in great popularity for divers attracted by their large size, as well as their friendly behavior, as seen in other regions around the world (O´Malley et al., 2013).

A recent study estimated that diving with giant mantas in the Park produced an economic revenue of approximately 14 million dollars during 2011, with 6 boats in operation that transported around 1,000 tourists a year (Ruiz-Sakamoto, 2015). In contrast, by 2015-2016 there were 2,940 visitors to the National Park (CONANP, 2018), and in 2019 there were approximately 4,300 divers in 10 authorized boats (personal communication Javier Alejandro González Leija, 2020). Currently, there is no specific assessment of the economic value of whale sharks in the Park.



The archipelago was declared a Natural Protected Area on June 6, 1994 and was cataloged as a Biosphere Reserve (DOF 1994; CONANP, 2004). In addition, Revillagigedo was included as a World Heritage Site by UNESCO on July 17, 2016 on decision 40 COM 8B.14 (UNESCO, 2016). Subsequently, on November 27, 2017, the Mexican government recategorized the area as National Park, increasing the protection to 14,808,780 hectares, of which 14,793,261 correspond to the marine portion (CONANP, 2017; DOF, 2017).

The marine protected area of the Revillagigedo National Park is **14,793,261 hectares**

Extent of the Revillagigedo National Park

N

Whale Shark

Biological Information

It is cataloged as **endangered species** by the IUCN Red List.

EN **Endangered**
High risk of extinction in the wild.

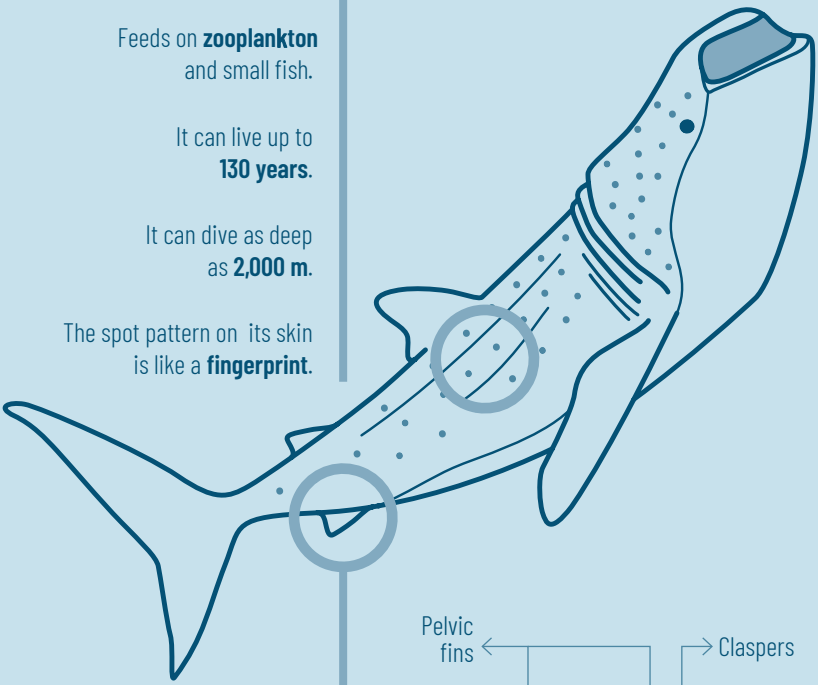
Is the largest fish in the world. It can measure up to **18 m**.

Feeds on **zooplankton** and small fish.

It can live up to **130 years**.

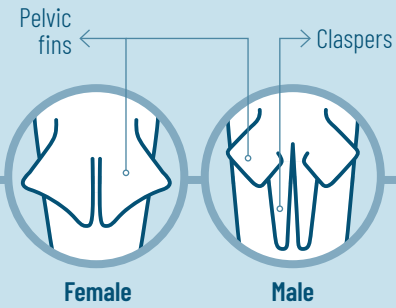
It can dive as deep as **2,000 m**.

The spot pattern on its skin is like a **fingerprint**.



The maturity size of a female is **9 m**.

It has up to **300 pups** which are **40 to 60 cm** at birth



The Whale shark (*Rhincodon typus*) is found in both coastal and oceanic habitats (Rowat and Brooks 2012). These animals are highly migratory, travelling long distances up to thousands of kilometers (Eckert and Stewart, 2001; Rowat and Gore, 2007) and appear predictably at some coastal localities in the tropics, where they find abundant zooplankton, their favorite prey (Heyman et al., 2001; Meekan et al., 2006; Ketchum et al., 2013). They have a widespread distribution and occur throughout the tropical and warm temperate regions (Compagno, 2005). Whale sharks spend most of their time in the upper 200 m depth of the pelagic zone, but it is known that they dive down to almost 2,000 m (Tyminsky et al., 2015).

Whale sharks are the largest fish of the world, with a maximum size registered of 18 meters. They feed mainly on zooplankton, using their gills as filters. The spot pattern of their skin is like a fingerprint that can be used to identify each individual. The large size of a whale shark, along with its slow growth, late maturity and long-life span, limit their population growth and make this species vulnerable to exploitation (Jones et al., 1995). According to the International Union for Conservation of Nature (IUCN) Red List, the whale shark is considered as a globally endangered species, and it is a protected species in Mexico (NOM-059, DOF, 2010). In the Gulf of California, they segregate by sex and size, with male juveniles in coastal areas and adult females in oceanic waters (Ketchum et al., 2013). In the Revillagigedo Archipelago we find both juveniles and adult females, some of them with a size over 10 meters of total length (TL).

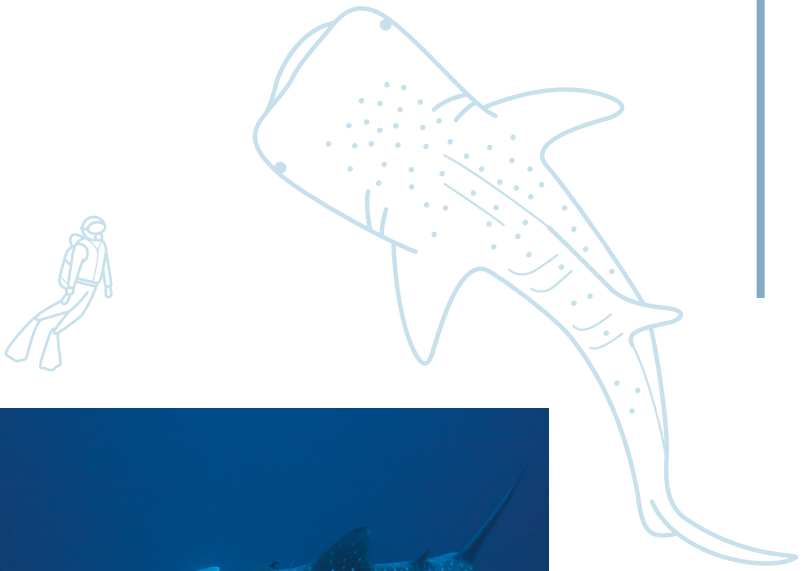
> **As a distinctive feature, males present claspers in the pelvic fins, females do not. The maturity size of females is approximately 9 m TL (Hsu et al., 2014). The only pregnant female examined, from Taiwan, was 10.6 m TL (Joung et al., 1996), and had around 300 pups in various stages of development (Joung et al., 1996). This discovery defined this species as aplacental viviparous (Schmidt et al., 2010).**

Ecotourism
with Whale Sharks

Whale sharks are used around the world as a flagship species for the marine ecotourism industry because of its charismatic nature. In the last two decades, diving with whale sharks as a tourist activity has increased from only a few sites in the 1990s to over 15 sites worldwide, which has helped to support the protection of the species on a global scale. Ecotourism can be detrimental to the species in the absence of appropriate management and unregulated tourism activities. However, potential impacts on the species from such practices can be mitigated, at least in the short term, by the compliance of well-designed interaction guidelines, as well as actively involving guides and visitors.

Therefore, this code of conduct aims to contribute to the sustainable management of this resource by preventing incorrect practices and regulating these activities in the Revillagigedo National Park (RNP) by:

1. Promoting the conservation of the ecosystems, habitats and species of the RNP.
2. Promoting good practices of recreational diving, in order to minimize negative impacts on whale sharks.
3. Improving the quality of the activity and interaction of visitors with whale sharks and their ecosystem.
4. Informing visitors about the importance to conserve the marine ecosystem and the marine species within the Park.



Legal Framework

Mexican Legislation

The following Mexican laws are related to tourism activities and recreational diving, whale shark observation and rules of the National Park:

LAWS

General Law of Wildlife

Regulates activities related to wildlife and ensure that there is a sustainable non extractive use respecting the law and its rules.

Maritime Navigation and Commerce Act (2006)

Regulates the general means of communication in water, navigation, its protection and the services provided therein, the merchant marine, as well as acts, facts and goods related to maritime trade.

General Law of Tourism (2009)

Regulates the coordination among the Federal government, States, Counties and the City of Mexico related to tourism, and it establishes the foundation for politics, planning and programming of the tourist activity throughout the country.

REGULATIONS

Nautical Tourism Regulation (2004)

Establishes the navigation protocols for all private or commercial vessels in recreational navigation.

MEXICAN REGULATORY INSTRUMENTS

NOM-059-ECOL-2001

Establishes the environmental protection of Mexico's native species of wild flora and fauna.

NOM-09-TUR-2002

Establishes the requirements to which specialized guides must be subjected to specific activities. For example, special courses, safety protocol certifications, and others.

NOM-05-TUR-2003

Establishes the minimum safety requirements to which diving operators must be subjected to guarantee the provision of the service.

NOM-059-SEMARNAT-2010

Ensures the protection of native species in Mexico and lists vulnerable species. The whale shark is classified as threatened, which means that if current pressures that affect their survival persist, this species could be at risk of extinction in the short or mid-term.

NOM-012-TUR-2016

Regulates the diving tourist services.

NOM-171-SEMARNAT-2017

Establishes the rules for the development of non-extractive activities to observe and swim with whale sharks, relative to their protection and conservation of their habitat.

MANAGEMENT PROGRAMS

Management Program of the Revillagigedo National Park (2018)

This document regulates all the activities and uses of the Park.

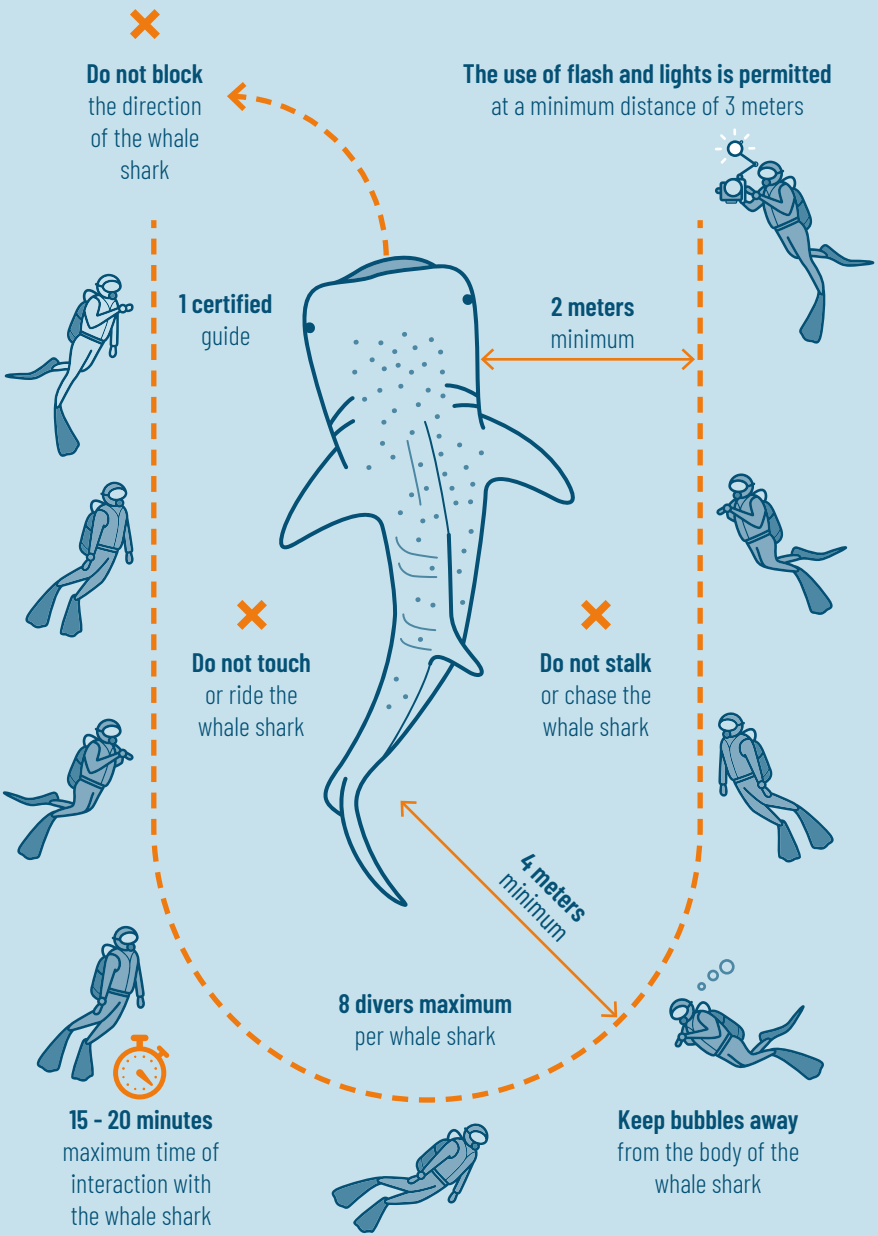
Management Plan for the conservation and non-extractive use of whale shark (*Rhincodon typus*) through the observation and swimming in La Paz Bay, B.C.S. (2019)

This is to ensure that the laws and regulations are respected in order to guarantee that whale shark interaction is a sustainable activity in La Paz Bay.

Divers

Best Practices Guide

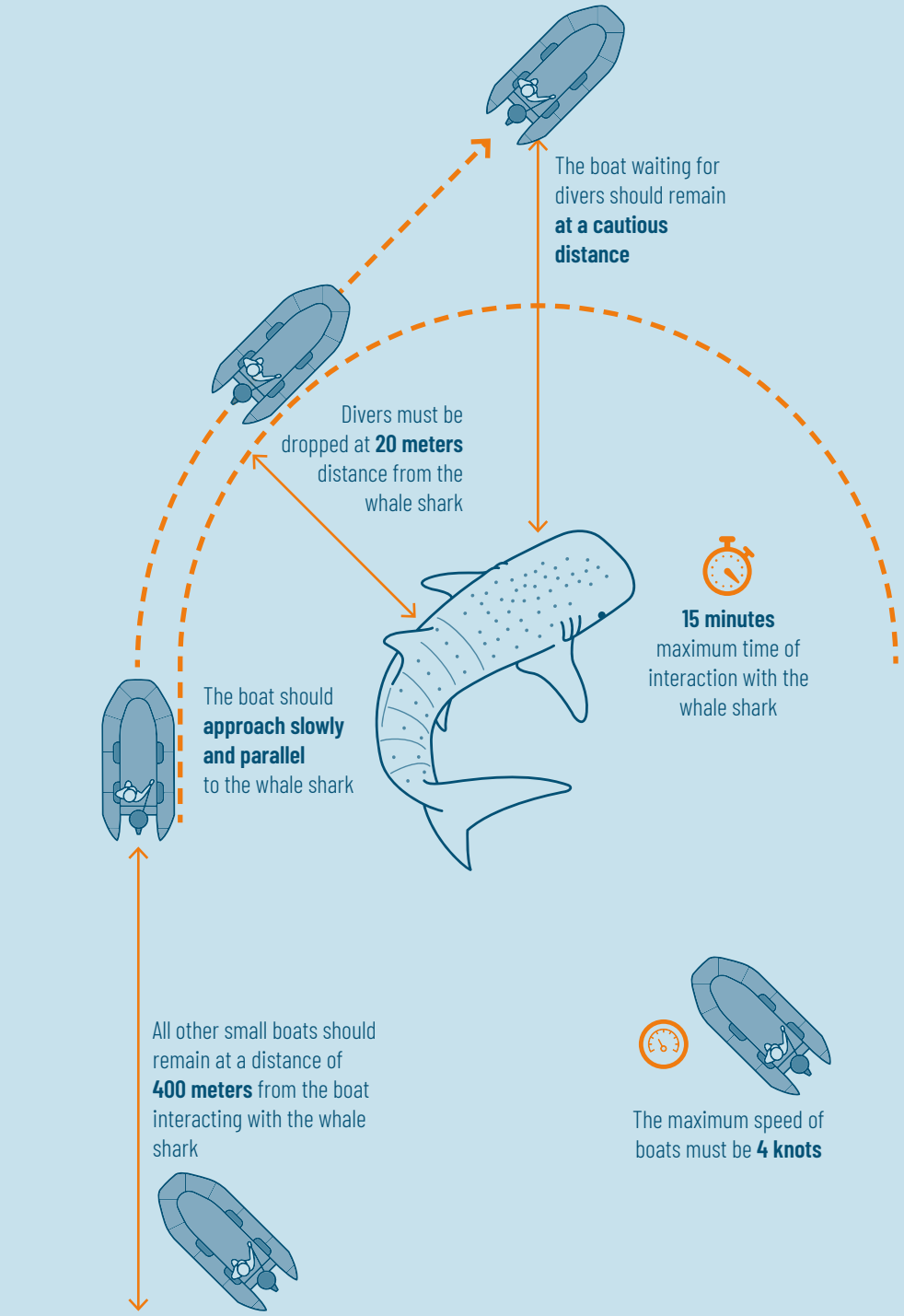
1. Diver must always maintain a distance of 2 meters or more from the whale shark and remain at least 4 meters from the tail. If the whale shark approaches, the diver must hold his/her position.
2. Do not obstruct the direction of movement of the whale shark or swim above it. It is recommended to swim along its side or behind it.
3. Do not touch or attempt to ride the whale shark in any circumstances.
4. Do not stalk or chase the whale shark under any circumstances.
5. If a whale shark is observed being cleaned by fishes, do not approach since the interaction could be interrupted.
6. Ensure that bubbles produced by SCUBA equipment are kept away from the body of the whale shark.
7. If a whale shark begins to roll over and presents its back, which is known as “banking”, it is a signal of discomfort. Immediately create more distance between you and the whale shark.
8. The use of flash and lights is permitted, unless it has a negative reaction on the whale shark but remember to stay at least 3 meters away from the shark.
9. The maximum interaction time with a whale shark, either scuba or free diving, is 15 to 20 minutes.
10. The maximum number of persons for an interaction with a whale shark is 8 divers and 1 guide.


Do not block
the direction
of the whale
shark
The use of flash and lights is permitted
at a minimum distance of 3 meters
1 certified
guide
2 meters
minimum
Do not touch
or ride the
whale shark
Do not stalk
or chase the
whale shark
4 meters
minimum
8 divers maximum
per whale shark
15 - 20 minutes
maximum time of
interaction with
the whale shark
Keep bubbles away
from the body of the
whale shark

Boats

Best Practices Guide

1. Small boats should approach slowly to the whale shark and drop divers ahead of the oncoming shark (minimum at 20 meters). The approach has to be parallel, without disturbing the shark.
2. Once divers are in the water, the small boat should always remain at a cautious speed and distance, depending on meteorological conditions.
3. All other small boats should remain at a distance of 400 meters from the boat interacting with the whale shark.
4. The maximum speed of the boat must be 4 knots and the maximum time of interaction 15 minutes.


The boat waiting for divers should remain **at a cautious distance**
Divers must be dropped at **20 meters** distance from the whale shark
15 minutes maximum time of interaction with the whale shark
The boat should **approach slowly and parallel** to the whale shark
All other small boats should remain at a distance of **400 meters** from the boat interacting with the whale shark
The maximum speed of boats must be **4 knots**

General Rules

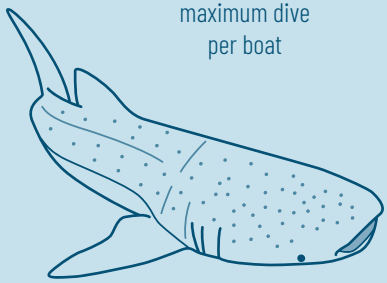
Best Practices Guide

Based on NOM-012-TUR-2016, NOM-171-SEMARNAT-2017, and the Revillagigedo National Park Management Program, the following rules are related to the interaction with whale sharks and should be considered:

1. Groups of maximum 8 divers per guide. It is obligatory that a guide is present with the group, for security purposes, and to make sure good practices are carried out.
2. If there are two or more boats, the diving activity will be rotated between them with a maximum of 60 minutes, beginning when the first group is in the water.
3. The maximum number of boats per site and the number of divers per site daily, as well as annually, is established by the carrying capacity of the Park, as indicated by the Management Program of the Park.
4. To assure safety and the experience, all divers visiting the Park must be certified by a diving institution. It is strongly recommended that divers have, at least, an advanced level of two stars.
5. It is forbidden to place descent or ascent lines or to anchor small boats. This is to avoid entanglement of both whale sharks and giant mantas.
6. The use of scuba diving surface marker buoys is not recommended in the presence of mantas and whale sharks, as they can get entangled. It is advisable to use them on the surface or in very shallow water if the diver was dragged by the current and lost the dive site or the group. At that moment it is possible to use the line from the depth so that the boat captain can find them quickly.
7. Night dives and snorkel are forbidden within the RNP.

No scuba diving surface marker buoys in the presence of giant mantas or whale sharks

60 minutes maximum dive per boat



No lines for ascending or descending

1 certified guide per group

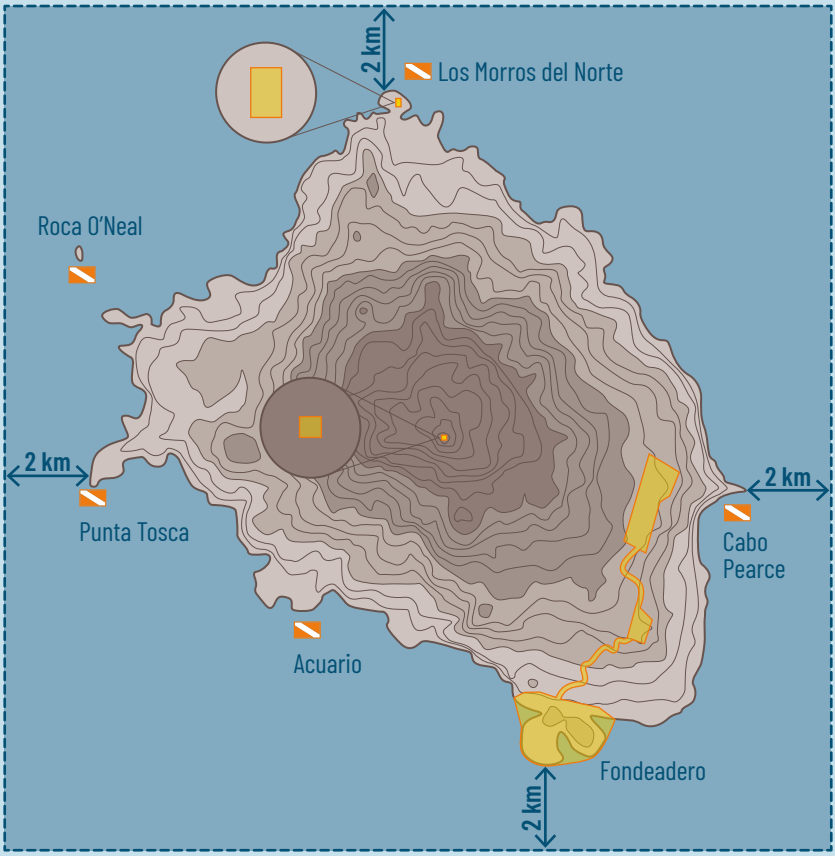
8 certified divers maximum per group

Do not anchor small boats

The carrying capacity of each site is established in the **Management Program of the Park**

Socorro Island

Diving Sites and Zoning



Site for recreational diving

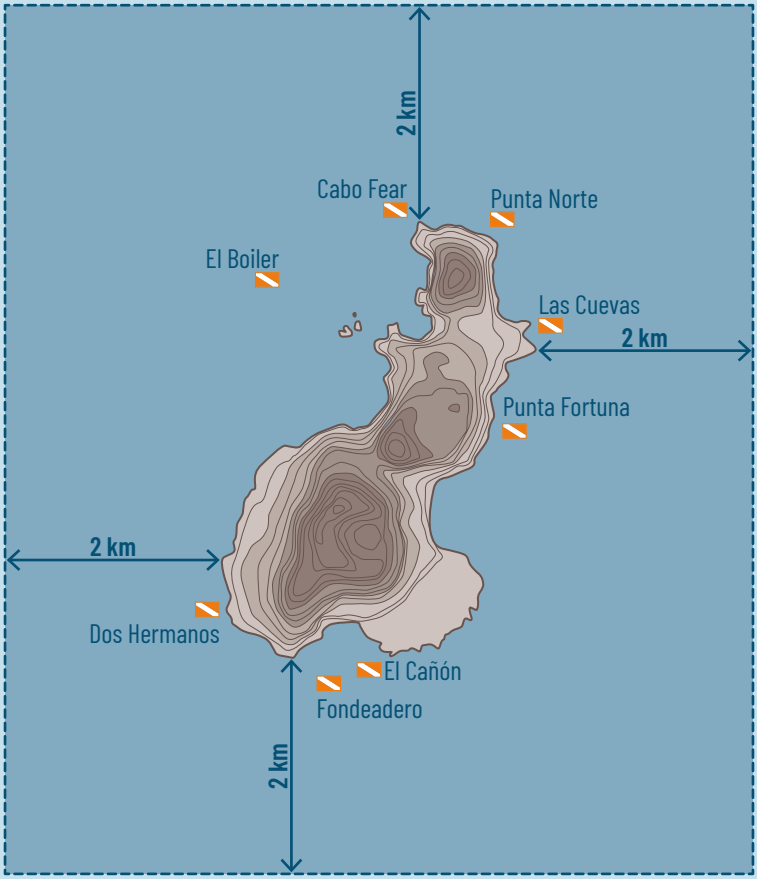
Restricted subzone for research use

Restricted subzone for research and tourism use

Buffer zone
Subzone of traditional use for the Navy Station

San Benedicto Island

Diving Sites and Zoning



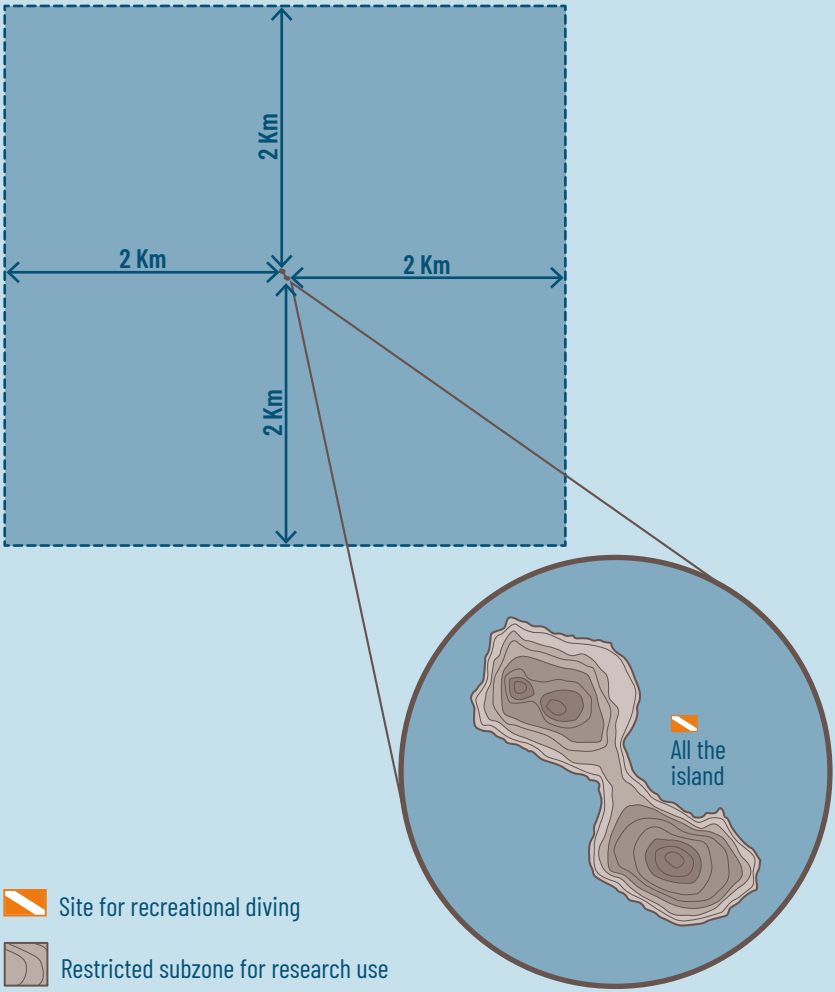
Site for recreational diving

Restricted subzone for research use

Restricted subzone for research and tourism use

Roca Partida Island

Diving Sites and Zoning



Clarion Island

Diving Sites and Zoning

Site for recreational diving

Restricted subzone for research use

Restricted subzone for research and tourism use

Buffer zone
Subzone of traditional use for the Navy Station

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Glossary

Aplacental viviparity
A mode of reproduction in animals in which embryos that develop inside eggs, hatch inside and remain in the mother's body until they are ready to born.

Ecotourism
A form of sustainable tourism directed toward threatened, natural environments, intended to support conservation efforts and observe wildlife, with minimal impact being the primary concern.

Freediving (Apnea)
It consists of the voluntary suspension of breathing in the water, while traveling a certain distance or descending to a certain depth.

Management Program of the RNP
Legal document that regulates the activities inside the Revillagigedo National Park, and it is mandatory.

Recreational Diving or SCUBA Diving
Underwater activity where a person uses an underwater breathing apparatus self-contained from the surface supply. As a general rule, the maximum depth for scuba diving is 40 m, which is within the limits of NO DECOMPRESSION (recreational diving limits).

Snorkeling
Activity of swimming in the surface using a face mask and a snorkel to breath.

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