

# Environmental Outreach for Marine Protection and Conservation

OUR OCEAN



# Foreword

This year in Valparaíso, we are organizing the second “Our Ocean” conference. Its name – “Our Ocean” – is simple, but relevant. Scientists have shown that through the great systems of sea currents, the oceans are interconnected and, in practice, they are one. This is therefore a global convocation that will highlight the need to strengthen marine protection and conservation, so that the sustainability of our planet as a whole will not be jeopardized.

Chile is a maritime country and has historically demonstrated its marine vocation. Indigenous peoples such as changos, huiliches, chonos and kawésqar made the Pacific their source of life and culture – now that strong relationship with the ocean is part of the livelihood of the people of Rapa Nui, the inhabitants of Juan Fernández and the coastal communities in Chile.

The Conference will address serious threats to the ocean; such as illegal fishing, marine pollution, acidification and its relation to climate change, but also the importance of creating more and better marine protected areas. The main objective will be to promote voluntary governmental commitments that, in the framework of subsequent “Our Ocean” conferences, will generate a virtuous circle that will allow us to account for these commitments and also provide a platform for making new announcements.

The protection and sustainable use of our ocean is the responsibility of all and it depends on each one of us to keep the ocean healthy so that it may continue to provide the important services that it gives us daily. Without a healthy ocean our own existence is at risk. For this, everyone must contribute to this task.

A handwritten signature in black ink, appearing to read 'H. Muñoz', written in a cursive style.

**Heraldo Muñoz Valenzuela**

Minister of Foreign Affairs

# Preface

Chile is bathed in the sea – from the deserts in the north to the intricate systems of fjords that characterize the country's southern regions. It also has a wide variety of environments like the ocean trenches and marine canyons near the coast, and the seamounts near the oceanic islands.

With 4,200 kilometers of coastline and eight major ocean currents, the Chilean Sea provides us with great wealth in terms of biodiversity and ecosystems, but also tourist attractions and essential services such as climate regulation.

However, these ecosystems are under constant threat, either by overexploitation of resources, pollution from multiple sources or increased water temperatures due to climate change – imperiling the existence and preservation of many of the species in our ocean.

This not only has implications for biodiversity, but it also produces effects on local economies and the food supplies of people. Risk is even greater in the most vulnerable sectors of the population.

The aim of this publication is to promote awareness of the need for adequate protection and marine conservation – a responsibility which is not only of governments, but of people as well. Each of us needs to live and promote a sustainable culture, helping to preserve the clean, healthy and lively coasts that lap our country.

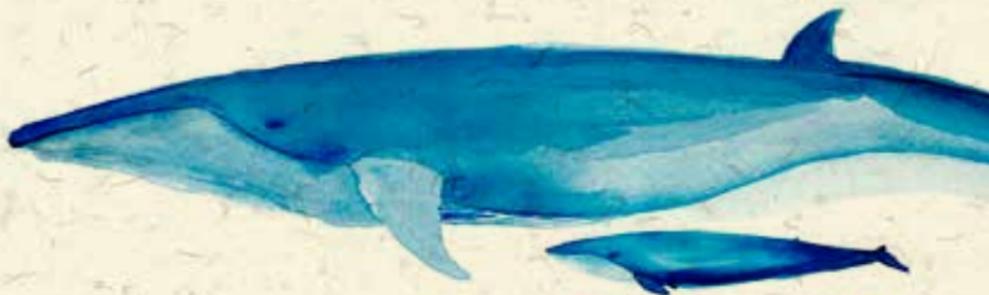
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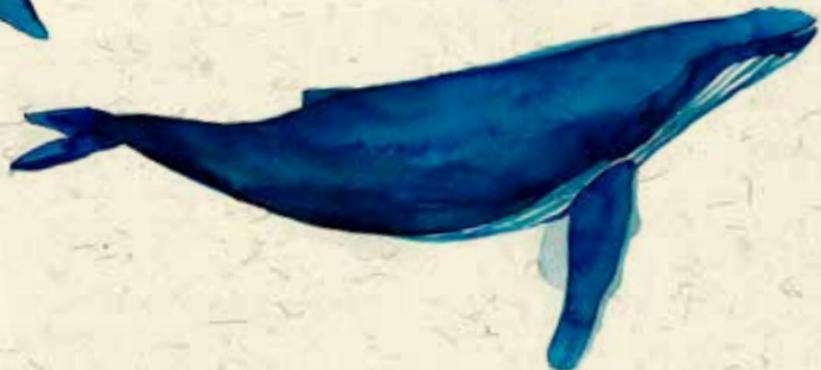
**Pablo Badenier Martínez**

Minister of the Environment

# Introduction

Since ancient times, humans have admired the beauty, strength and breadth of the ocean. It has been a source of food, transport, energy, recreation and an inspiration to millions. The ocean is home to a rich biodiversity that astonishes with its uniqueness and beauty. It provides us with a great variety of “ecosystem services” both subtle and vitally important, such as the oxygen we breathe.



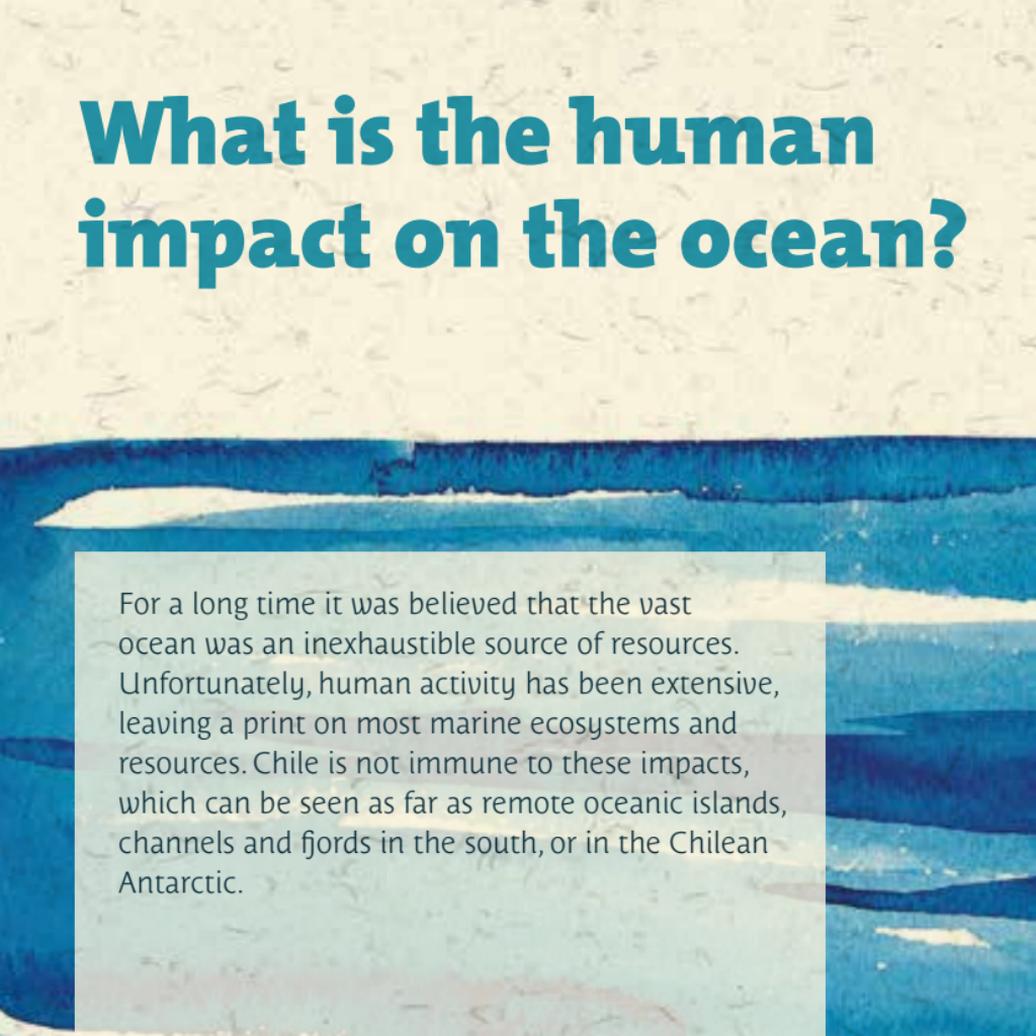


# The Chilean Sea

Most of Chile's coast is governed by the Humboldt Current which is characterized by its cold oxygen-rich flows and high productivity. In many areas, the oceanographic phenomenon of "marine upwelling," triggered by ocean winds, causes the deep, cooler, nutrient-rich water toward the ocean's surface. These nutrients create an abundance of microscopic plants or "phytoplankton" which provide food for numerous organisms, such as small fish, which become food for birds, sea lions and larger fish. This marine web is exploited by humans for fishing and other resource extraction. It is important that we look after our ocean since the surface of Chile's maritime territory covers more than three times the area of Chile's land territory.



# What is the human impact on the ocean?



For a long time it was believed that the vast ocean was an inexhaustible source of resources. Unfortunately, human activity has been extensive, leaving a print on most marine ecosystems and resources. Chile is not immune to these impacts, which can be seen as far as remote oceanic islands, channels and fjords in the south, or in the Chilean Antarctic.



# Overfishing

Chile has historically been a world leader in marine capture fisheries. Many fish and shellfish are an important part of the national economy and are vital to coastal communities that depend on them for a living. However, the overexploitation of resources has generated pressure on species to the point that many are in serious danger. Of the 15 fully exploited species studied in 2014, 6 were considered overfished and another 4 species were depleted or collapsed. Illegal and unreported fishing adds to the problem because there is no record of it and therefore, there can be no control over their operations.



# How can we help prevent the overexploitation of marine resources?

As citizens, we can take actions to prevent the overexploitation of marine resources.

- Be informed about prohibitions and the minimum sizes of fish and shellfish you buy.
- Only buy from authorized sellers.
- Educate your friends and family about responsible consumption.



# Marine pollution

One of the biggest problems facing marine species is the amount of waste that humans throw onto the beach, into rivers or directly into the sea. We see polluted water, chemical spills and heavy metals and, especially, plastic floating in the ocean. Tons of plastic are scattered across the seas – garbage that ends up in the stomachs of fish and birds, or that becomes a trap, killing many of them.

It is estimated that about 80% of this ocean waste comes from the land.



# What can we do?

The most effective way to reduce the impact of plastic is to ensure that it never reaches the ocean. For this to happen, we have to:

- Reduce our use of plastic in purchases and activities.
- Recycle the plastic that we use.
- Not throw objects like cigarette butts or plastic bags on the ground.
- Participate in campaigns to clean up beaches and rivers.



# Loss of ecosystems

The impact of human activity on the ocean has affected the ecosystems so seriously that some damage is irreversible. However, there is still time to preserve marine areas rich in biodiversity or that still have endemic or endangered species.





# What can be done?

One way to ensure the protection of ecosystems is through the creation of Marine Protected Areas, or MPAs. They are delimited areas of the ocean, representing a type of ecosystem, rich in fishery resources and biodiversity where human activity can be controlled for the purpose of conservation.





# What are the marine ecoregions or provinces?

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Marine Reserve (MR) – Natural Sanctuary (NS) – Marine Park (MP) – Marine Protected Area (MPA)

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## HUMBOLDTIAN ECOREGION

From 12°S (in Peru)  
to 25°S (south of  
Antofagasta, Chile)



It is characterized by a narrow continental shelf, and a rocky coast exposed to the wind and tides. Upwelling produces high productivity and fisheries.



Species: The predominant fish are anchovies, sardines and mackerel, as well as kelp forests and benthic invertebrates. Occasionally, species that normally live in warmer waters arrive, such as tuna and albacore.



Threats: Overexploitation of fishery resources, marine pollution.



MPAs: *Rinconada MR* and *Humedal de la Desembocadura del Río Lluta NS*.

## CENTRAL CHILE ECOREGION

From Antofagasta  
(25°S) to Navidad  
(33°26'S)



This area has elevations with medium-sized coastal terraces interrupted by some sandy beaches. The continental shelf is the narrowest of the Chilean coast and there are isolated pockets of upwelling in places.



**Species:** The predominant species are medusafish, hake, crustaceans, kelp, and sea lions and bottlenose dolphins. On the rocky sea floor, there are 'locos,' limpets, and starfish among other species.



**Threats:** Overexploitation of fishery resources, destruction of coastal habitat, marine pollution.



**MPAs:** *Isla Grande de Atacama* Multiple-Use Marine and Coastal Protected Area, *Isla Chañaral* RM, *Pájaro Niño en Algarrobo* NS, *Isla Cachagua* NS, and others.

## ARAUCANA ECOREGION

From Navidad (33°26')  
to Chiloe (41°30'S)



The Chilean Coastal Range forms extended coastal terraces. Its climate is humid and cold with more than 1,500 mm of rainfall annually.



Species: Important resources are the common hake, cuttlefish, seaweed, sardines, anchovies, and benthic resources like 'locos' and crabs, among others.



Threats: Overexploitation of fishery resources, marine pollution, erosion.



MPAs: *Lafken Mapu Lahual* Multiple-Use Marine and Coastal Protected Area, *Lobería Cobquecura* NS.

## CHILOE ECOREGION

From 41°30'S (Canal de Chacao) to 47°S (Taitao Peninsula)



It is characterized by coastal fjords, canals and archipelagos. At the height of this ecoregion, the West Wind Drift struck the continent, and separated it into two currents: one arm forms the Humboldt Current that goes north, and the Cape Horn Current that flows south.



**Species:** There is great diversity of macroalgae, as well as hake (from the south and with three fins) and conger. There is aquafarming of salmon, oysters and mussels.



**Threats:** Aquaculture waste, overfishing, introduction of exotic species (salmon).



**MPAs:** *Comau Fjord* and *Piti Palena-Añihue* Multiple-Use Marine and Coastal Protected Areas, *Choro Zapato Putemun* MR, *Ostricola Pullinque* MR, *Estero Quitralco* NS.

## CHANNELS AND FJORDS OF SOUTHERN CHILE Ecoregion

From Taitao  
Peninsula to  
Cape Horn



It is a complex geographic system of bays, canals, islands and fjords, many of which end in glaciers moving toward the ocean. There are rocky shores, sandy beaches, high cliffs and estuaries. Little is known of the biodiversity of this ecoregion.



Species: 'Calabacillo' or *Macrocystis* forests are typical of this ecoregion. Large cetaceans are also regular visitors, as are crabs, sea urchins, hake, Patagonian toothfish, and others.



Threats: Aquaculture, overexploitation.



MPAs: *Francisco Coloane* Multiple-Use Marine and Coastal Protected Area.

JUAN FERNÁNDEZ  
ISLANDS AND  
DESVENTURADAS  
ISLANDS PROVINCE OR  
ECOREGION

Juan Fernández Islands  
(33°39'13"S; 78°51'9"O)  
and Desventuradas  
Islands (26°20'32"S;  
79°53'57"O)



These oceanic islands are located 600 and 900 km from continental Chile, respectively. The Juan Fernández Islands and Desventuradas Islands constitute a single biogeographic unit.



Species: This ecoregion has many endemic unique species such as the Juan Fernández rock lobster and the fur seal, and subspecies of 'locos' and starfish. The marine ecosystems of the Desventuradas Islands are considered some of the most isolated, and therefore some of the most pristine in the world.



Threats: Illegal fishing, overfishing, erosion.



MPAs: *Juan Fernández Multiple-Use Marine and Coastal Marine Protected Area, Montes Submarinos MP, El Arenal MP, Tierra Blanca MP, Selkirk Lobería MP, El Palillo MP.*

EASTER ISLAND  
AND SALA Y GÓMEZ  
ECOREGION OR  
PROVINCE

Easter Island 27°07'10"S;  
109°21'17"O) and Sala  
y Gómez (26°28'S;  
105°28'O)



Located more than 3,500 km from the South American continent, Rapa Nui is a very different marine ecosystem from those of the mainland. It has tropical characteristics, its waters are warm and low in nutrients. Of volcanic origin, the island has coral reefs and high endemism.

Species: Many of the species are endemic, tropical and live in the coral reef. Tropical fish, lobsters, snails, algae and corals live in shallow waters. In open waters, the fish caught by the Rapa Nui are tuna, mahi-mahi and others.



Threats: Illegal fishing.



MPAs: *Easter Island Marine and Coastal* protected areas: *Coral Nui Nui, Hanga Oteo and Motu Tautara* as well as the *Motu Hiva Motiro* MP in *Sala y Gómez Island*.

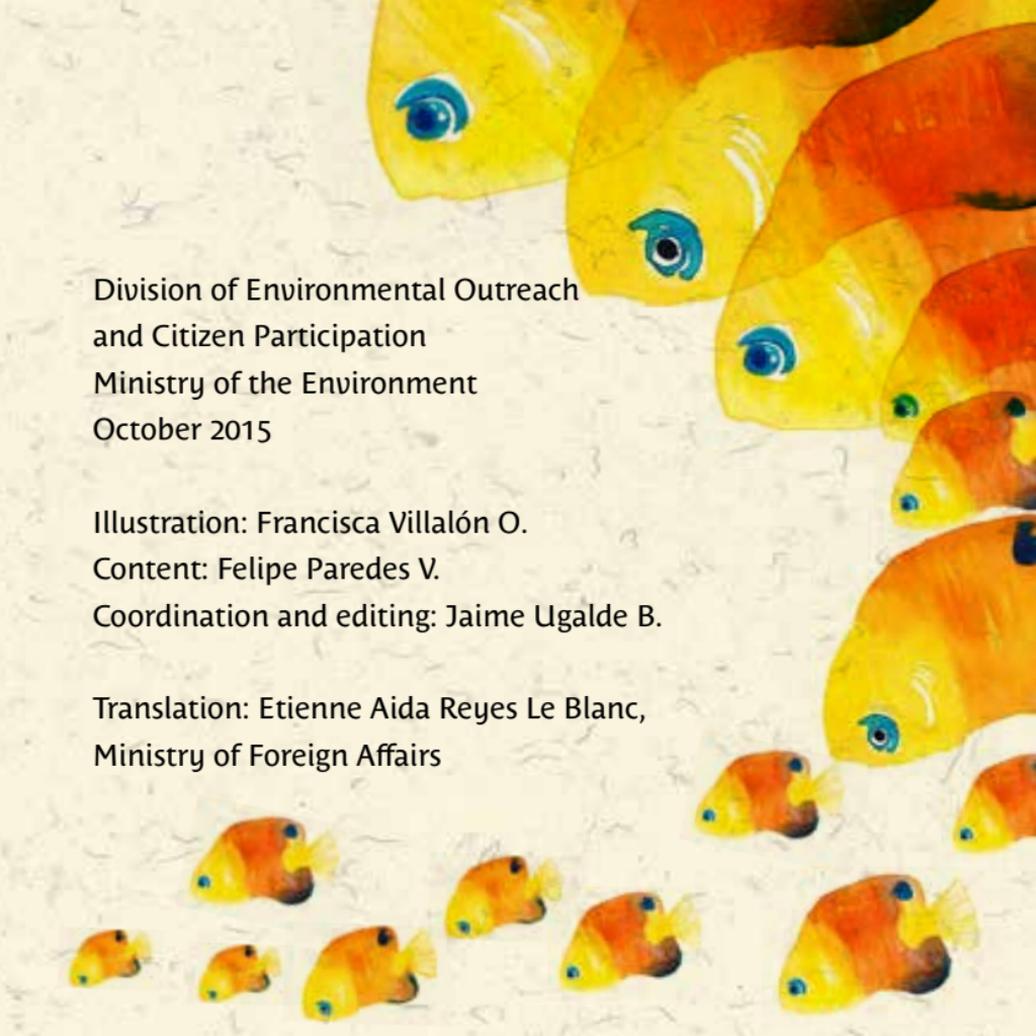
# Don't forget

An illustration of a woman in a green dress and a wide-brimmed hat dancing on a sandy beach. She has her arms raised and is smiling. The ocean is filled with many blue fish swimming. The background is a mix of green and blue, suggesting a coastal environment. The overall style is colorful and artistic.

Without the ocean, we wouldn't exist. The role it plays in the dynamics of the planet is vital. Because of the ocean, there is rain that becomes that water that we drink; rain water regulates the temperature and provides us with food. We must take care of the ocean by preventing pollution and overfishing.

*Spread the word, and talk about it with friends, schoolmates and your family.*



The background of the page is a light, textured surface, possibly paper or fabric, with faint, scattered numbers. On the right side, there is a large, vertical illustration of several large, colorful fish. These fish have a gradient of colors from yellow to orange to red, with prominent blue eyes. At the bottom of the page, there is a horizontal row of smaller, similar fish, also with blue eyes and yellow-to-orange-red color gradients.

Division of Environmental Outreach  
and Citizen Participation  
Ministry of the Environment  
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