

# **EUROPEAN SYMPOSIUM ON MPAs AS A TOOL FOR FISHERIES MANAGEMENT & ECOSYSTEM CONSERVATION**

Emerging science and interdisciplinary  
approaches



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**ABSTRACTS**





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## The Marine Reserve of La Graciosa Island and the Islets of North Lanzarote

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The *Marine Reserve of La Graciosa and Islets of North Lanzarote*, created in 1995, is the first Canary Island marine reserve and the most extensive marine area in Europe, with 70,700 ha. The area encompasses various forms of protection: *Nature Park*, *Integrated Reserve*, *Special Protection Areas for Birds (SPAB)* and *Sites of Community Importance (SCI)*.

The Reserve bathes a section of the northern shoreline of the island of Lanzarote and what is known as the *Archipiélago Chinijo* (La Graciosa, Alegranza, Montaña Clara, Roque del Oeste and Roque del Este). This cluster of islets is located on the same insular platform, so that the majority of the sea floors have depths of less than 200 m. The great extent of its undersea platform, which differentiates the marine reserve in the context of the Canary Islands, favours a larger settlement of benthic species.

The location of the marine reserve, close to the African coast, determines the cold nature of its waters, which propitiate the presence of warm water species, rare or absent in the rest of the Canary Islands, amongst which we may single out the hake (*Merluccius merluccius*), a fished species that represents 10.5% of recorded catches and occupies second place in the volume of catches, behind the parrotfish (*Sparisoma cretense*), which represents 25% of the total.

Management of the reserve: zoning, uses, means and projects

The *Roque del Este Integrated Reserve* lies in a one-mile-radius circle centred on the islet of Roque and no activity is permitted in it, except scientific studies subject to authorization.

Professional fisheries are permitted outside this area with hook and line tackle and traditional gear directed at the salema and migratory pelagic species, but only in the case of registered vessels.

Diving and sport fishing are also permitted with authorisation, except in certain areas.

Material means: 19 m and 1000 HP vessel, auxiliary rubber dinghy, Visitor Centre, Land Rover, five sets of diving equipment, a compressor, two cameras, a watertight case, night-vision binoculars, georeferenced camera, ROV.

Human means: a coordinating biologist and 6 crew members of the fishery protection vessel.

Projects: scientific follow-up of the reserve effect, Reserve mapping campaign with an oceanographic vessel, promotion of activities complementary to fishing and a programme of publicizing Canary Island fishing and marine reserves at educational institutions.





# ISLA GRACIOSA E ISLOTES DEL NORTE DE LANZAROTE

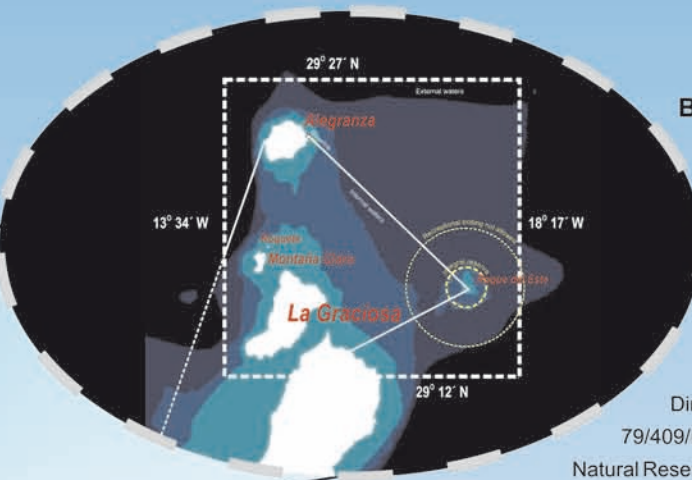
## MARINE RESERVE CANARY ISLANDS - SPAIN

SECRETARÍA GENERAL DEL MAR ~ SGM



### AIMS

The mission of the Marine Reserve is to protect and enhance fisheries to maintain sustainable fisheries, enabling artisanal fishermen in the area to preserve their traditional way of life.



### BOUNDARIES

The Marine Reserve borders with the northern coast of the Island of Lanzarote, the Massif or "Riscos de Famara" and the waters of the Chinijo Archipelago, whose small islands and rocks are: La Graciosa, Alegranza, Montaña Clara, Roque del Oeste (Roque del Infierno or Roquete) and Roque del Este, nearly 1,000 km of coastal line.

Besides, the Marine Reserve is supported and protected by the Directives Habitats (Directive 92/43/EEC), and Birds (Directive 79/409/EEC) and within the Canary Islands' Network of Protected Natural Reserves:

Special Protection Area for Birds (SPA)  
Site of Community Importance (SCI) Chinijo Archipelago  
Site of Community Importance (SCI) Sebadales de la Graciosa  
Site of Community Importance (SCI) Los Islotes  
Nature Reserve of the Chinijo Archipelago

### CREATION

The first Marine Reserve at the Canary Islands, was designated in 1995 by Order 19<sup>th</sup> May 1995 and Decree 62/1995, 24<sup>th</sup> March 1995. With its 70,700 ha, it is the largest European Marine Reserve.

### GENERAL FEATURES

The coasts of the Marine Reserve border three traditional fishing population centres: Órzola, north of Lanzarote, and Caleta de Sebo and Pedro Barba in La Graciosa. Pedro Barba was abandoned by fishermen years ago and their houses were bought by holidaymakers.

The group of small islands is located on the Canary Island platform, an area much larger than the Canarian Archipelago. The depth of their sea beds is less than 200 metres. The terrestrial and submarine geomorphology is of an exceptional value, made out of mainly rocky and rugged sea beds, with numerous caves, crevices and tunnels.

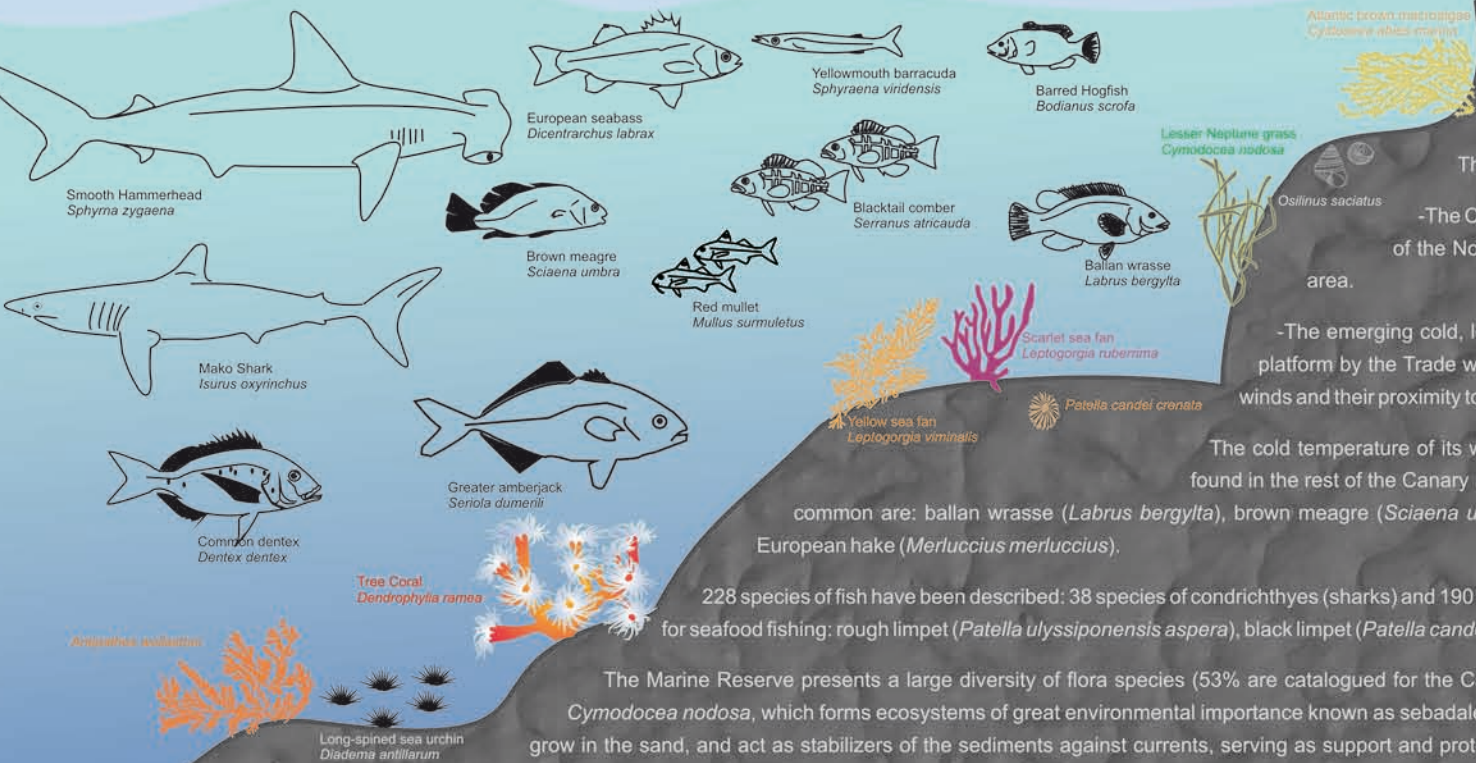
The main oceanographic parameters defining the Marine Reserve waters are:

- The Canary Current: an ocean current which branches off from the cold-water Gulf Current of the North Atlantic Current, which a lower temperature than it would be expected for that area.
- The emerging cold, low-salinity waters: rich in nutrients, and produced by the upwelling off the African platform by the Trade winds. Seasonal variations on these parameters depend on the strength of the sea winds and their proximity to the African continent.

The cold temperature of its waters, favours the presence of Atlantic-Mediterranean species which are seldom found in the rest of the Canary Islands where the water temperature is warmer in the west. Among these the most common are: ballan wrasse (*Labrus bergylla*), brown meagre (*Sciaena umbra*), European seabass (*Dicentrarchus labrax*), gilthead (*Sparus auratus*) and European hake (*Merluccius merluccius*).

228 species of fish have been described: 38 species of condichthyes (sharks) and 190 species of bony fish. There is a rich diversity of invertebrates, with an optimum quality for seafood fishing: rough limpet (*Patella ulyssiponensis aspera*), black limpet (*Patella candei crenata*), and the *Ossilinus trappei*, an endemic specie of the Canary Islands.

The Marine Reserve presents a large diversity of flora species (53% are catalogued for the Canary Islands), 304 species of macroalgae, and the marine seed producing plant *Cymodocea nodosa*, which forms ecosystems of great environmental importance known as sebadales (meadows). These grasslands of phanerogams are very important because they grow in the sand, and act as stabilizers of the sediments against currents, serving as support and protection of a rich invertebrate community and species of fish, such as: black bream (*Spondylusoma cantharus*), red mullet (*Mullus surmuletus*), parrot fish (*Sparysoma cretense*), pandora (*Pagellus erithrinus*), annular bream (*Diplodus annularis*), whose fry and juveniles grow in the meadows. These ecosystems, protected by European legislation, are abundant in the Reserve: in El Río (between the islands of Lanzarote and La Graciosa), and in Veril de Alegranza (south of the island).



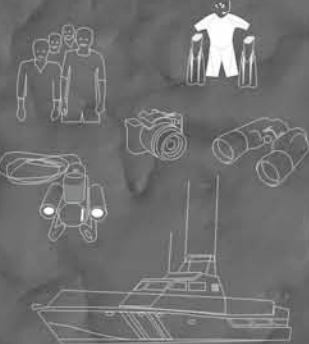
### REGULATED ACTIVITIES\*

	Boat	Boat	Boat	Boat	Boat	Boat	Boat	Boat
Integral reserve	✓	✓	✓	✓	✓	✓	✓	✓
External waters	✓	✓	✓	✓	✓	✓	✓	✓
Internal waters	✓	✓	✓	✓	✓	✓	✓	✓

### RESOURCES

Surveillance:  
1 Coordinator, crew and fisheries rangers (6), "Isia de Nubes" vessel, visitor center, diving equipment, Bauer compressor, night vision devices, photographic cameras (2), ROV GPS video camera...

Information:  
Brochures, posters, DVD, book on the Marine Reserve.



### CHALLENGES

- Increasing fishermen awareness on the importance of Marine Reserves.
- Increasing stakeholders education in, about and for the marine environment.
- Keeping poachers out of the Marine Reserve.
- Balancing good scuba diving and artisanal fisheries.
- Reducing the threats and impacts of human-induced effects.
- Ensuring better flow of data and information to the managers.
- Tackling the threat of invasive non-native species.
- Spill waters enforcement.

### RESULTS

- Recovery of exploited stocks and fishery enhancement.
- Protection of the marine biodiversity.
- Marine laboratories for scientific follow up and research.
- Public awareness of the need and benefit of Marine Reserves.
- Good diving practice compatible with resource protection.

Ministerial Order of 19<sup>th</sup> May 1995 (BOE no. 131, of 2<sup>nd</sup> June 1995) and Decree 62/1995, of 24<sup>th</sup> March 1995 (BOE no. 51, of 26<sup>th</sup> April 1995); Decree 162/2000 of 24<sup>th</sup> July 2000 (BOC no. 100, of 7<sup>th</sup> August 2000); Order 20th January 1999 (BOE no. 131, of 5<sup>th</sup> February 2000); Order 17<sup>th</sup> March 1999 (BOC no. 61 of 16<sup>th</sup> May 1999).