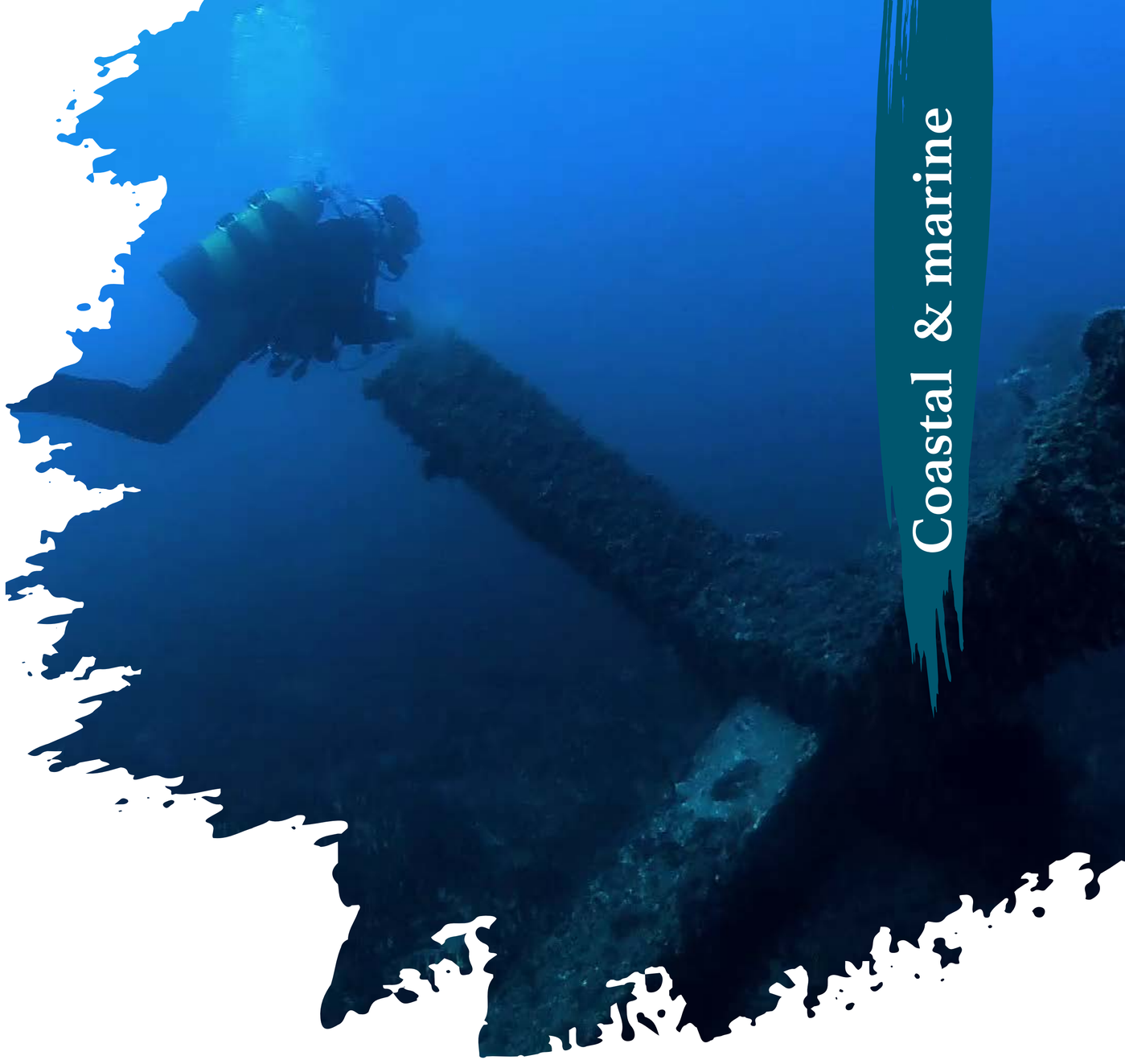
Mediterranean ecosystem

Restoration sites



Coastal & marine

Artificial reefs and reserves to enhance fishing in France

The Côte Bleue Marine Park is located in the south east of France on the Mediterranean coast. The Park benefits from high biodiversity on its coasts, with two well developed main habitats of major ecological interest: (i) the *Posidonia oceanica* meadows, the largest seagrass bed of the area (1050 ha) at the scale of the department of Bouches-du-rhône, and the latest up to the Spanish border; (ii) coralligenous reefs, a biotic construction host a rich biodiversity (222 ha).

The coastal and marine ecosystems are typically Mediterranean and host a highly diverse fauna (e.g. 251 species of fishes) and flora. Biogeographic conditions are unique. An upwelling system and nutrients of the Rhone river contribute to a high productivity and richness of exploited resources and fisheries.

Goals

The artificial reefs are “active restoration” tools intended to improve and promote small-scale coastal fishing and limit excessive harvesting of resources from trawlers, to reduce damage to the *Posidonia* meadow and to encourage small-scale net fishing, much more selective and therefore more respectful to the resource.

General information

FRANCE

Organisation
Côte Bleue Marine Park (PMCB)

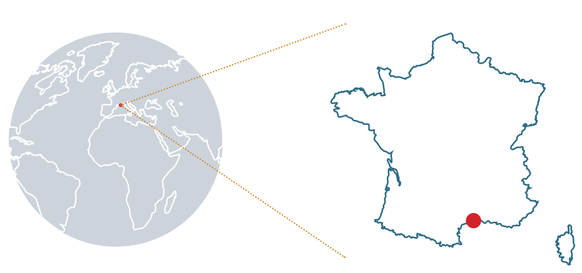
Type of organisation
Local or subnational government, including field extension services

Other community or local level interest group: Artisanal small scale fishers

Contact person
Eric Charbonnel
charbonnel.eric@parcmarincotebleue.fr

Website
https://parcmarincotebleue.fr/

Site location



Latitude
43°20’05.4”N

Longitude
5°10’22.2”E

Implementation area
295 ha

Restoration started
1983

Scan the code for full description

Coastal & marine

Type of restoration intervention

- Natural regeneration
- Assisted natural regeneration
- Two integral marine reserves of 295 ha.
- Artificial reefs (5.000m³), i.e. production and protection artificial reefs (concrete cubes deployed in chaotic heaps, alveolar reefs, breeze blocks, anti-trawling reefs),

Main drivers of degradation

- Infrastructure and industrial development and urbanization
- Demographic
- Economic
- Science, knowledge and technology
- Others: Harmful fishing practices such as bottom trawling allowed beyond 3 nautical miles (approx. 5,5 Km).

What is the practice about

- Artificial reefs used to ensure the sustainability of fish populations
- Two integral reserves and the artificial reefs used as a complementary tool, foster and protect an active artisanal fishing sector which produces 60 tons of fish per year on the coastal band
- Increase in number of species x 1,3, fish abundance x 3 and fish biomass of target species x 6
- In the Couronne's reserve, experimental fishing operations conducted every 3 years show a spectacular increase of yields, multiplicated by 7 times (from 1.1 kg/100 m of net in 1995 before the reserve creation to 7.1 kg/100 of net in 2019).
- The mean weight of a fish is multiplied per 2.6 (111 g in 1995, 287 g in 2019).

Achievements and impact

- No-take reserves showed a greater number of species, more and bigger and the return of rare/scarce species like groupers and brown meagre
- The biomass exportation is effective, with a clear spill over effect (fishing yields CPUE are multiplicated x 2.5 on the borders of the two reserves than in the rest of the park).
- Perceptions of stakeholders concerning no-take reserves showed very positive results
- Concerning artificial reefs, the total estimated biomass went from 2.2 kg in 1995 to 100.7 kg in 2004. The number of species present in the reserve went from 7 in 1995 to 29 in 2004.
- The artificial reefs produced variable yields depending on their shape and design, from 0.15 to 0.35 kg/m³ outside reserves to 0.89 up to 3kg/m³ inside reserves.

Scan the code for more information about Mediterranean Ecosystem Restoration sites

UNITED NATIONS DECADE ON ECOSYSTEM RESTORATION 2021-2030

Interreg Mediterranean BIODIVERSITY PROTECTION

UNIVERSIDAD DE MÁLAGA ETC UMA MedCités MedCities CPMR INTERMEDITERRANEAN COMMISSION UN environment United Nations Environment Programme MAP Mediterranean Action Plan Barcelona Convention Plan Bleu Latte CREATIVE Montenegro Ministry of Ecology Spatial Planning and Urbanism MARINE INSTITUTE INSTITUT ZA MORE