







INNOVATIVE EXPLOITATION OF ADRIATIC REFS IN ORDER TO STRENGTHEN BLUE ECONOMY

Natural and artificial reefs are priceless elements for the scientific community and key resources for Blue Growth. By mapping and monitoring Adriatic reefs and involving relevant stakeholders, Adrireef aims to provide guidelines and a code of conduct illustrating sustainable exploitation models of marine reefs.

The Adriatic sea counts a large number of marine ecosystems suitable for the Blue Economy purposes. Monitoring and studying natural and artificial reefs is essential to collect information both for the protection of the environment and for the development of sustainable activities with a positive social and economic impact.

The following are the project case studies with their features and highlights. A true resource of amazing biodiversity and a spectacular destination. Enjoy the Adriatic reefs!























PAGURO WRECK

TYPE: Artificial reef **COUNTRY:** Italy **REGION:** Emilia Romagna **LOCATION:** Ravenna **DEPTH:** 10-31 [m] MIN. DIST. FROM COASTLINE: 20 [Km] SURROUNDING SEABED: Mud REEFTYPOLOGY: Sunken jack-up drilling rig + additional decommissioned structures EXPLOITATION: Recreational scuba diving, scientific research POSSIBLE EXPLOITATION: Recreational scuba diving, scientific research, ocean lite-

racy, virtual tourism

REEF CATEGORY

Sunken jackup drilling rig + Additional iron structures

GENERAL INFORMATION

The Paguro wreck is a special destination for the many scuba divers who wish to admire the various forms of life it hosts. Its story, however, is based on a tragic event. On 28th September 1965, the drilling platform was positioned 11 nm offshore Ravenna, on a high pressure methane field. A gas eruption caused the walls of the well to collapse and the next day the platform sank into the sea. Since then the wreck has gradually become the ideal habitat for many specimens of flora and fauna and in 2012 it became the first marine site of community interest in Emilia-Romagna. This underwater world is home of numerous animal species: mussels, oysters, starfish and fish typical of the rocky seabed, otherwise difficult to observe along the sandy coasts of this Adriatic region.



RESPONSIBLE AUTHORITIES REGIONE EMILIA-ROMAGNA

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PLIĆ LAGNJIĆI

TYPE OF REEFNatural reef with a shipwreck

GENERAL INFORMATION

The Dugi Otok island boasts both small rocks and the haunting presence of the Michelle shipwreck. Ideal for beginners, the shipwreck's bottom is just 8m deep and the crystal-clear water allows a perfect view. Small and mid-size pelagic fishes swim around. Common two-banded seabreams, Mediterranean moray eels and juvenile dusky groupers live inside the shipwreck. The reef coralligenous walls are a magic scenery. Gorgonias are a perfect balcony for Red scorpion fish or lobsters. Snails, sponges, sea stars and crabs abound there too. Inside cracks and caves big groupers live along with Mediterranean moray eels. Bluefin tunas, amberjacks and blue fish are a common visit too. Crystal-clear water, rich life density, low currents and tides make Lagnjici reef an ideal place for vacation or scientific research.



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P.TO RECANATI P.TO POTENZA PICENA



TYPE: Artificial reef
COUNTRY: Italy
REGION: Marche
LOCATION: Porto Recanati
DEPTH: 12-15 [m]

MIN. DIST. FROM COASTLINE: 4.63 [Km]
SURROUNDING SEABED: Sand, mud

REEF TYPOLOGY: Specifically designed modules

EXPLOITATION: No activities allowed

POSSIBLE EXPLOITATION: Recreational fishing and/or professional small-scale

fishery, recreational scuba diving and mussel harvesting

TYPE OF REEF Artificial reef

GENERAL INFORMATION

The artificial reef, made of concrete pyramids and poles, represents an oasis of hard substrates inhabited by a rich fauna of macroinvertebrates and fish typical of both soft and rocky bottoms. The presence of demersal reef-dwelling and partially reef-dwelling species (e.g., sparids, blennies, scorpionfish) absent or rare in the surrounding soft bottom habitat, as well as of sponges, nudibranchs and bryozoans makes the AR very attractive for divers and other users.

Mussels settled on the hard substrates are of excellent quality and could be recognized with a quality brand. The ecosystem functions and services provided by the AR (maintenance of marine life, food provisioning, supporting of coastal communities) lead to an improvement of the local economy according to the principles of the Blue Growth.



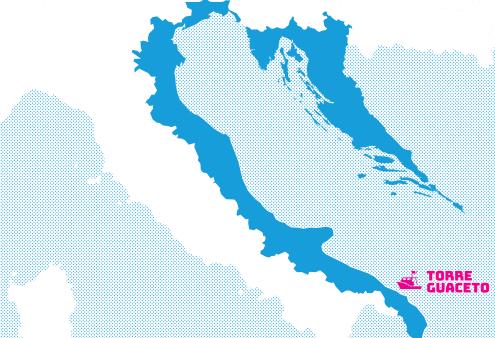
RESPONSIBLE AUTHORITIES CNR-IRBIM, ANCONA

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TORRE GUACETO MARINE PROTECTED AREA



TYPE: Natural reef
COUNTRY: Italy
REGION: Puglia
LOCATION: Torre Guaceto
DEPTH: 25 [m]
MIN. DIST. FROM COASTLINE: 2 [Km]

SUAROUNDING SEABED: Sand, Mud

REEF TYPOLOGY: Bank-type coralligenous biogenic reefs

EXPLOITATION: Snorkeling, scientific research

POSSIBLE EXPLOITATION: Recreational scuba diving, snorkeling, scientific research, ocean literacy

ACTIVITIES



GENERAL INFORMATION

The Marine Protected Area of Torre Guaceto has always promoted sustainable use. In fact, in collaboration with some local associations, numerous activities are proposed, both at sea (snorkeling, sailing and surfing) and along the coast (trekking, bike rides). The Marine Protected Area is accessible thanks to snorkeling routes and, in the future, also with diving routes. The sea's reserve has numerous hot-spot habitats such as an extensive P.oceanica meadow at low depths and rocky bottoms at different depths characterized by the bank-type coralligenous biogenic reefs with a lot of in lairs and kenyon. These environments host numerous species giving to the MPA a high level of biodiversity. Diving along the case study natural reef's, it is possible to discover Axinella genus' sponge forest and encounter some big predatory fish, such as Greater Amberjack, Dentex, Leerfish, etc ...



RESPONSIBLE AUTHORITIES
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TREZZA SAN PIETRO



TYPE: Natural Reef
COUNTRY: Italy
REGION: Friuli-Venezia Giulia
LOCATION: Grado

DEPTH: 15-16 [m]

MIN. DIST. FROM COASTLINE: 8,7 [Km]
SURROUNDING SEABED: Sand, detritic

REEF TYPOLOGY: Ledges, patch reef

EXPLOITATION: Recreational scuba diving, artisanal fishery, scientific research **POSSIBLE EXPLOITATION:** Recreational fishing and professional small-scale fishery

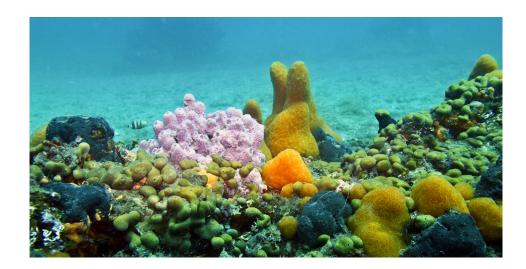
should be managed; free diving, scientific research and ocean literacy should be promoted

TYPE OF REEF Natural reef

GENERAL INFORMATION

Fishermen believed that the remains of ancient submerged cities were hidden off the coasts of Grado, Caorle and Chioggia. In reality these are rock formations that rise from the surrounding seabed and break up the monotony of sandy and muddy bottoms. They represent authentic oases of biodiversity because they offer shelter, protection and substrate to cling on for many organisms.

The complex morphology of the outcrops creates a great variety of micro-environments that allow the development of a peculiar flora and fauna. However, the calcareous and porous nature of the rocks makes these habitats fragile and susceptible to the action of anchors or trawling fishing gears as well as areas where plastic debris is likely to become entangled and accumulate.



RESPONSIBLE AUTHORITIESREGIONE FRIULI VENEZIA GIULIA, SERVIZIO BIODIVERSITÀ

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PLIĆ SEGET

TYPE: Natural Reef **COUNTRY:** Croatia **REGION:** Split-Dalmatia **LOCATION:** Island Vis **DEPTH:** 80 [m] MIN. DIST. FROM COASTLINE: 3,33 [Km] **SURROUNDING SEABED: Rocks** REEF TYPOLOGY: High profile reef

EXPLOITATION: Recreational scuba diving, recreational and professional fishing

POSSIBLE EXPLOITATION: Recreational scuba diving, ocean literacy

TYPE OF REEF Natural reef

GENERAL INFORMATION

The island of Vis is the most protruding Croatian island, famous spot for divers, nature lovers, sailors and history buffs. Plić Seget belongs to the Geopark Vis archipelago, a member of UNESCO's Global Geoparks Network.

"Plić" Seget was chosen for his incredible beauty and vivid biodiversity. Although the site lies quite in depth, professional divers can enjoy this spectacular coral and hidden spot. Nearby you can enjoy other undiscovered gems or world-famous sites such as the Blue cave or different sunken ships from the Roman times.



RESPONSIBLE AUTHORITIES INSTITUT RUÐER BOŠKOVIĆ

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PLIĆINA KONJSKO

REEF TYPOLOGY: Low profile reef

and ocean literacy

EXPLOITATION: Touristic boat trips, recreational scuba diving, fishing

POSSIBLE EXPLOITATION: Recreational scuba diving, snorkeling, scientific research



TYPE OF REEF Natural reef

GENERAL INFORMATION

The Natural reef (NR) Plićina Konjsko is located in the northern part of the Adriatic Sea close to the north-eastern shore of Krk island on the western side of Vinodol Channel, 2.4 km offshore Crikvenica and about 150 m the shoreline of the nearest small tourist town of Šilo. Reef Konjsko lies between Rt Konjska and Rt Šilo on the Krk island. Reef Konjsko is a shoal that drops with a vertical wall to the bottom from the depth of 7 to 18 m, 200 m from the mainland. The top of the reef is located at a depth of 5,5 m and at a depth between 7 and 9 m there is a rocky plateau.

The area is extremely shallow and in the wider area it does not exceed 18 m. Biodiversity and sea quality are the main reasons of its attractiveness. Generally, the North Adriatic coast represents one of the very popular tourist destinations in Croatia.



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ERDF:

€ 2.392.605,50

TOTAL BUDGET:

€ 2.814.830,00

LEAD PARTNER:



PROJECT PARTNERS:











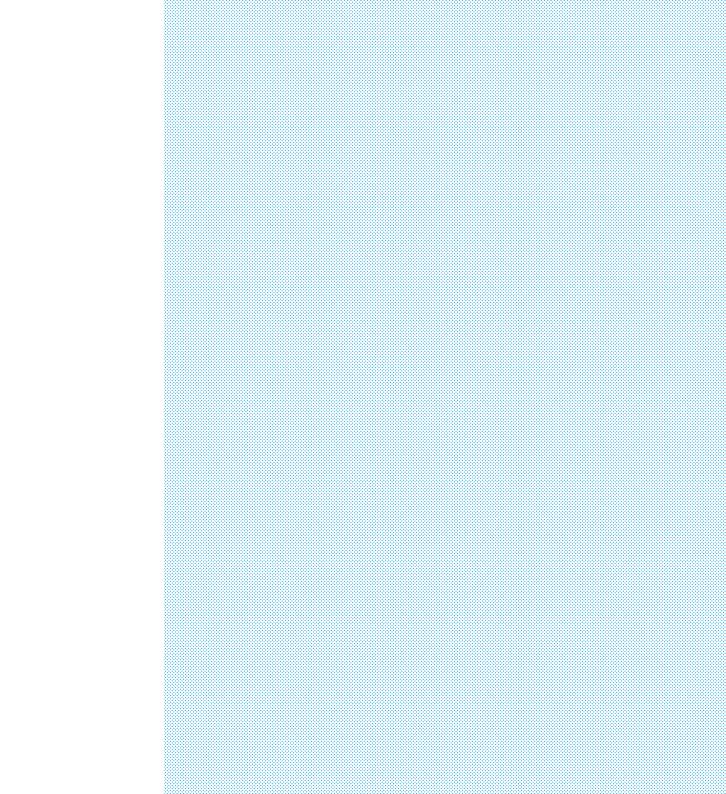












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