Status of the marine environment in Albania

ADRIATIC

Marine and coastal areas in Albania

~6000 km²
of marine waters

including 12%
of internal waters

~480 inhabitants
per km² of marine waters

543 km
of total coastline

5.3 inhabitants
per km of coastline

11 coastal cities
cover 16% of Albania's surface area

hosting 27%
of its population

Territorial sea of Albania

Velipoje
Shengjin
Durres
Adriatic Sea
Albania
Vlore
Orikum
Himare
Sarande
Ksamil

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■ Good Environmental Status (GES) Assessment for Albania

The GES assessment of the marine and coastal environment in Albania was conducted adopting the Integrated Monitoring and Assessment Programme (IMAP) and related criteria. This is the first attempt to assess GES in Albania, which implies an integrated approach focused on different Ecological Objectives:

EO1 – Biodiversity
EO2 – Non-Indigenous Species
EO5 – Eutrophication
EO7 – Hydrography
EO8 – Coastal ecosystems and landscapes
EO9 – Contaminants
EO10 – Marine Litter

The main findings of this assessment suggest that, at the time being, it is not possible to estimate GES for most of the Ecological Objectives and their indicators, due mainly to lack of or insufficient data (especially regarding long-term data series) and in baseline knowledge.

Legend

GES ACHIEVED	
GES NOT ACHIEVED	
NOT POSSIBLE TO ASSESS	

Table in the next page: GES Assessment for Albania (2020)

Status of the marine environment in Albania

Indicator	Assessment		
EO1 – Benthic Habitats	Posidonia meadows	Photophilic algae	Coralligen assemblages
Benthic habitat extent	[grey]	[grey]	[grey]
Benthic habitat condition	[grey]	[grey]	[grey]
EO1 – Pelagic habitat condition	Phytoplankton	Zooplankton	
Pelagic habitat condition	[grey]	[grey]	
EO1 – Species Marine mammals (cetaceans)	*Tursiops truncatus*	*Stenella coerueloalba*	
Species distributional range	[grey]	[grey]	
Population abundance	[grey]	[grey]	
Population demographic characteristics	[grey]	[grey]	
EO1 – Species Marine turtles	*Caretta caretta*		
Species distributional range	[grey]		
Population abundance	[grey]		
Population demographic characteristics	[grey]		
EO1 – Species Seabirds	Wintering species	Breeding species	
Species distributional range	[grey]	[grey]	
Population abundance	[grey]	[grey]	
Population demographic characteristics	[grey]	[grey]	
EO2 – Non-Indigenous Species — Trends in the abundance of introduced species, notably in risk areas	[grey]		
EO5 – Eutrophication — Concentration of key nutrients	[grey]		
Chlorophyll-a	[grey]		
EO7 – Hydrography — Location and extent of the habitats impacted directly by hydrographical alterations	[grey]		
EO8 – Coastal ecosystems and landscapes — Length of coastline subject to physical disturbance due to the influence of human-made structures	[grey]		
EO9 – Contaminants — Concentration of key harmful contaminants measured in the relevant matrix	[red]		
Level of pollution effects of key contaminants where a cause and effect relationship has been established	[grey]		
Occurrence, origin (where possible), and extent of acute pollution events (e.g. slicks from oil, oil products and hazardous substances) and their impact on biota affected by this pollution	[green]		
Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels in commonly consumed seafood	[grey]		
Percentage of intestinal enterococci concentration measurements within established standards	[green]		
EO10 – Marine Litter — Trends in the amount of litter washed ashore and/or deposited on coastlines (CI22)	[red]		
Trends in the amount of litter in the water column including microplastics and on the seafloor (CI23)	[grey]		

■ Status of marine habitats and species

The status of marine biodiversity in Albania (EO1) could not be fully assessed, due to limited or lack of data. However, the present attempt to assess GES has provided some important preliminary insights into the status of benthic and pelagic habitats in Albania's marine area.

GES for habitats and species could not be fully assessed

Habitats

GES assessment is focused on three selected benthic habitat types and one pelagic habitat.

Benthic

Out of the most relevant species in **photophilic algae communities**, *Cystoseira amentacea* was found to be well-distributed on the western and northern sides of the Karaburuni Peninsula and on the western part of Sazani Island. However, the possibility of assessing its distribution and other trends needed before being able to estimate GES, has been hindered by the lack of longterm data series. Available data are limited to only few descriptive studies of existing and proposed marine protected areas.

The baseline data on **coralligenous assemblages** are scarce, and the complete distribution of this habitat in Albania is still unknown. The only scientific survey aimed at studying and mapping coralligenous assemblages was carried out in 2016 at the National Marine Park of Karaburun-Sazan. Other available data is sporadic, as it derives from studies that did not specifically focus on coralligenous habitats, and did not follow any standardized approach.

Posidonia meadows cover about 0.48 km^2 of shallow Albanian coastal areas. Large but isolated Posidonia meadows are present along the Adriatic coast, forming beds around Rodoni Cape, Porto Romano and Vlora Bay. However, in general Posidonia meadows in the Adriatic are very damaged and are almost non-existent from Velipoja to the Rodoni Cape, and from Durrës to Vlora. On the other hand, healthy and continuous meadows are found nearly everywhere along the Ionian coastline. Existing trends and changes in distribution and composition cannot be gauged because of the unavailability of time series and data.

Pelagic
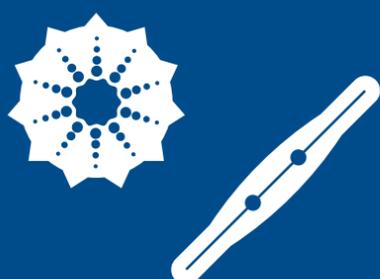
Studies of **phytoplankton** in marine waters are very limited. However, it has been observed, in the whole southern Adriatic Sea, that phytoplankton is dominated by the nanoplanktonic component, which is mostly represented by phytoflagellates < 10 μm, typical of oligotrophic systems. Very few studies have included zooplankton as well.

■ Status of marine habitats and species

Species

GES assessment is focused on marine mammal, marine turtle and seabird species.

Based on the combined results of the first two aerial surveys of the **bottlenose dolphin**, carried out in the summers of 2010 and 2013, the relative density estimated in both Albanian territorial waters (0.023 specimen/km^2) and the Albanian continental shelf margin (0.031/km^2) is slightly below the relative density found in the southern Adriatic (0.032/km^2). In Albania, information is lacking on the population demographics of bottlenose dolphin, and in particular on the incidental mortality rate.

The relative density of the **loggerhead turtle** in the southern Adriatic is below the Adriatic average, with 0.114 specimen/km^2, while the measured relative density in Albanian waters is even lower, particularly in Albanian territorial waters (0.041/ km^2). The first empirical evidence of nesting activity was recorded in 2017. Although no nesting was recorded afterwards, a number of beaches were identified as potential nesting sites.

True **seabird species** have not been reported to breed in Albania, where they are recorded only during migration and winter periods (especially *Calonectris diomedea*, *Puffinus yelkouan*, *Phalacrocorax aristotelis*, and *Larus audouinii*). Some seabird species partly dependent upon the marine environment during their life cycle, breed in Albania, notably *Larus genei* and *Sterna albifrons*. In general, the existing and available data are insufficient to assess GES.

■ Coastal ecosystems and landscapes

Coastal ecosystems and landscapes (EO8) are increasingly altered by the construction of human-made structures. According to the initial analysis undertaken in the scope of the GEF Adriatic project, at least 14.47% of the coastal length of Albania is artificial.
The coastal areas most hit by artificial structures in Albania are: (i) in the North – the area around Shëngjin in Lezhë County; (ii) in the Central part – the area around Durrës, and beaches to the north and south of Durrës; and (iii) in the Southern part – the area surrounding Vlora Bay.

At least 14%
of the Albanian coast is urbanised

■ Pressures in marine waters

The level of pressures in marine waters (EO2, EO7, EO9, EO10) were assessed only partially because of insufficient data. Based on the existing data, there are some significant signs of pressures regarding contaminants (EO9) and marine litter (EO10).

Pressures could only be partially assessed

One of the ever-growing pressures to biodiversity at present are **non-indigenous species** (NIS), assessed under EO2, with emphasis on invasive alien species. A preliminary list of NIS in Albanian waters includes 35 species, with predominant groups being molluscs (12), macroalgae (9) and fish (7). The majority of NIS was recorded in the last 20 years. Despite these records, available data is still not sufficient to assess GES. The setting of thresholds, necessary to define GES, requires good and active transboundary cooperation.

Regarding changes in **hydrography** (EO7) recent general climatology research for the entire Adriatic, carried out by analysing a large amount of data (from 1911 to 2009) on temperature, salinity and dissolved oxygen, shows that the deepest part of the southern Adriatic has become much saltier and warmer. In Albania, it was not possible to assess GES due to the lack of systematic data on hydrographic conditions, and the absence of thresholds set at Mediterranean and Adriatic Sea levels. More observational studies regarding hydrographic dynamics on the continental shelf are needed, since they could be crucial in determining GES for Albanian sea with regard to hydrography.

The initial assessment of **pollution** (EO9) shows significant concentrations of mercury and organochlorinated compounds in some of the assessed areas on the northern and central coast of Albania, as well as in Vlora Bay, in the southern part. To support this there is monitoring research from one-off screening datasets obtained from the seawater matrix, showing high levels of these substances which clearly indicate persistent inputs of contaminants from nearby agricultural and urbanised areas and ports. In the Bay of Durrës, Porto Romano is an area of rising concern, as these preliminary screening datasets indicate high toxicological levels in sediment samples of PCBs and pesticides. It's important to note that this information is taken from local monitoring initiatives, and the comparability between data collected by different studies of this kind cannot be validated in full. On the other hand, GES has been achieved regarding the occurrence, origin and extent of acute pollution events; and for intestinal enterococci concentration measurements within established standards.

Marine litter (EO10) is one of the most serious threats to the marine and coastal environment. Based on the available data and adopted thresholds, it can be concluded that GES for marine beach litter in Albania has not been achieved. Significant amounts of seafloor litter have also been observed, but due to a scarcity of data on which regional baseline and threshold values could be based and agreed on, GES for seafloor litter could not be estimated. There is currently no data regarding floating litter in Albania and hence it was not possible to assess GES.

■ Final remarks

In order to fully implement IMAP in Albania in the future and be able to fully assess and achieve GES, it is important to improve the **legislative framework and knowledge base**, supported by human, institutional and financial capacity. Finally, it is necessary to have good and continuous **transboundary cooperation** with other Adriatic countries, in order to understand and achieve Good Environmental Status.