

# BEAT+ Integrated classification of biodiversity condition in Europe's seas, May 2020

The BEAT+ tool builds on the EEA assessment tools developed and applied in the context of assessing the degree of contamination (CHASE+), eutrophication (HEAT+) and biodiversity (BEAT+) in Europe's seas. BEAT+ makes use of the same data sets and threshold values used in these assessments but recombines these in a new framework that addresses 'biodiversity condition'.

BEAT+ has been designed to provide an assessment of the spatial variability of a range of biodiversity components by combining existing biodiversity indicators. The tool integrates data from normalised indicators to identify worst case status measures for different biodiversity components. The results are then linked to a standard gridE based Spatial Assessment Unit (SAU) which is used both for biodiversity and for pressures assessments (Andersen et al., 2014). These grid-based SAUs not only allow alignment of indicators for biodiversity and for pressures but provide a means for combining large assessment areas (e.g. for wideranging species) with point data collected from biological surveys e.g. WFD monitoring.

BEAT+ tool works by calculating a Biological Quality Ratio (BQR) which is an aggregated score of indicator outcomes within a grid square. To allow objective comparison, the indicator outcomes are normalised to a scale of 0 to 1, with five status classes at equal intervals on that scale (from Bad starting at 0, Poor at 0.2, Medium at 0.4, Good at 0.6 and High at 0.8). By this means, indicators based on different biological criteria can be aggregated in a consistent way.

This metadata refers to dataset providing the results of classification of biodiversity status using the BEAT+ tool. The status is evaluated in five classes, where High and Good are recognised as 'non-problem areas' and Moderate, Poor and Bad are recognised as 'problem areas'. The dataset covers:

- BQR Assessment of all marine mammals combined (mainly focused on coastal and relatively stable inshore populations of seals, dolphins and porpoises)
- BQR Assessment of seabirds and wading birds
- BQR Assessment of commercial fish (as these have agreed targets defined on biomass and fishing mortality)
- BQR Assessment of pelagic habitats
- BQR Assessment of benthic habitats
- BQR Assessment of worst-performing biodiversity groups

- An overall synthesis of the Biological Quality Ratios (BQR) values (showing which are the worst -lowest- BQR values in each assessment grid cell. The 'worst' value is used here to identify the biological group most at risk, rather than averaging over all groups to avoid over--emphasis on groups with more intensive monitoring).

As reference, please consult the ETC/ICM Report 3/2019: Biodiversity in Europe's seas: https://www.eionet.europa.eu/etcs/etc-icm/products/biodiversity-in-europes-seas. The indicator BEAT+ Integrated Assessment Worst Case BQR has been used in the EEA report 17/2019 "Marine Messages II": https://www.eea.europa.eu/publications/marine-messages-2.

## Simple

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	European Environment Agency		sdi@eea. europa.eu	<u>http://www.</u> <u>eea.</u> europa.eu	Point of contact
	European Environment Agency		sdi@eea. europa.eu		Custodian
Maintenance and update frequency	Not planned				
GEMET - INSPIRE themes, version 1.0	Oceanographic geographical features     Sea regions				
Keywords					

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Keywords	
GEMET	<ul> <li>coastal water</li> <li>marine pollution</li> <li>water</li> <li>marine monitoring</li> <li>marine antisement</li> </ul>
	<ul> <li>marine environment</li> <li>sea</li> <li>marine ecosystem</li> <li>sea water</li> <li>deep sea</li> </ul>
Continents, countries, sea regions of the world.	<ul> <li>Norwegian Sea</li> <li>North Sea</li> <li>Mediterranean Sea, Eastern Basin</li> <li>Bay of Biscay</li> <li>English Channel</li> <li>Baltic Sea</li> <li>Barents Sea</li> <li>Celtic Sea</li> <li>Adriatic Sea</li> <li>Black Sea</li> <li>Ionian Sea</li> <li>Kattegat</li> <li>Mediterranean Sea, Western Basin</li> <li>Tyrrhenian Sea</li> <li>North Atlantic Ocean</li> <li>Met Timmer O</li> </ul>
	Aegean Sea     European
EEA topics	• Water
EEA Management Plan	• 2019 1.6.2
Access constraints	Other restrictions
Other constraints	no limitations to public access
Use constraints	Other restrictions
Other constraints	EEA standard re-use policy: unless otherwise indicated, re-use of content on the EEA website for commercial or non-commercial purposes is permitted free of charge, provided that the source is acknowledged ( <u>http://www.eea.europa.eu/legal/copyright</u> ). Copyright holder: European Environment Agency (EEA).
Spatial representation type	Vector
Distance	20 km

Distance	100 km
Language of dataset	English
Topic category	Environment

N S E W
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Begin date	2011-01-01		
End date	2016-12-31		
Coordinate reference system identifier	EPSG:4258		
Distribution format	• SHP ( )		
OnLine resource	Protocol	Linkage	Name
	EEA:FOLDERPATH	https://sdi.eea.europa.eu/webdav/datastore/public /eea_v_4258_20_km_beat_p_2011-2016_v01_r00/	
	WWW:URL	https://sdi.eea.europa.eu/data/70064384-f3b7-49ad-b137- bdf31af82158	Direct download
	OGC:WMS	https://water.discomap.eea.europa.eu/arcgis/services/Marine /BEAT_assessment/MapServer/WMSServer? request=GetCapabilities&service=WMS	
	ESRI:REST	https://water.discomap.eea.europa.eu/arcgis/rest/services /Marine/BEAT_assessment/MapServer	
Hierarchy level	Dataset		

### Conformance result

Title	Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services
Date (Publication)	2010-12-08
Explanation	See the referenced specification
Statement	The BEAT+ tool itself is anchored in earlier versions of the tool developed and tested by Helcom (2010a) and the EUfunded Devotes project (Uusitalo et al., 2016; Nygård et al., 2018). The indicators used for assessing biodiversity conditions across Europe' seas range

from planktonic organisms over benthic communities to fish, seabirds, reptiles and marine mammals — and each indicator is represented by two numerical values, a figure representing biodiversity and a figure representing agreed target values (e.g. from Helcom, the OSPAR Commission, maximum sustainable yield (MSY).

As reference, please consult the ETC/ICM Report 3/2019: Biodiversity in Europe's seas: https://www.eionet.europa.eu/etcs/etc-icm /products/biodiversity-in-europes-seas. The indicator BEAT+ Integrated Assessment Worst Case BQR has been used in the EEA report 17/2019 "Marine Messages II": https://www.eea.europa.eu/publications/marine-messages- 2.

Source	• EEA marine assessment grid, Jan. 2017

#### Metadata

File identifier	70064384-f3b7-49ad-b137-bdf31af82158 XML			
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Hierarchy level	Dataset			
Date stamp	2022-02-02T07:46:12.591Z			
Metadata standard name	ISO 19115/19139			
Metadata standard version	1.0			
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	European Environment Agency		sdi@eea. europa.eu	Point of contact

**Overviews** 



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