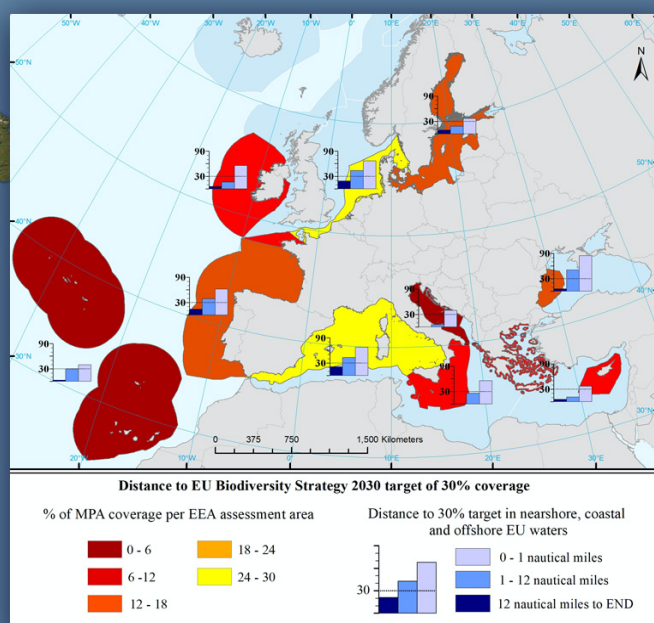


Spatial Analysis of Marine Protected Area Networks in Europe's Seas III



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Contents

Authors and acknowledgements	4
List of acronyms	5
Executive summary	6
1 Introduction	7
1.1 Aims and scope of the report	7
2 Data sets and methodology	8
2.1 Dataset	8
2.2 Definition of MPA assessment areas	9
2.3 Creation of buffer zones and correction of the coastline	12
2.4 Calculation of reference surface area values	12
2.5 Preparation of the shapefiles belonging to the different networks and analysis	14
3 Results	15
3.1 Natura 2000 network	15
3.2 Naturally Designated Sites	20
3.3 MPA networks established under the Regional Sea Conventions	21
3.4 European MPA networks	24
3.4.1 MPA representativity	30
4 References	39

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List of acronyms

ABNJ	Areas Beyond National Jurisdiction
CBD	Convention on Biological Diversity
CDDA	Common Database on Designated Areas
CDR	Central Data Repository
DG ENV	Directorate General for Environment of the European Commission
EEA	European Environment Agency
EEZ	Economic Exclusive Zone established under UNCLOS framework
EPZ	Ecological Protection Zone established under UNCLOS framework
ETC / ICM	European Topic Centre on Inland and Coastal Marine Waters
EU	European Union
EU BS 2030	EU Biodiversity Strategy 2030
GES	Good Environmental Status
GIS	Geographical Information System
HELCOM	Baltic Marine Environment Protection Commission - Helsinki Commission
MPA	Marine Protected Area
MS	Member State
MSFD	Marine Strategy Framework Directive
N2K	Natura 2000
NM	Nautical Miles
OECMs	Other Effective Area-based Conservation Measures
OSPAR	Convention for the protection of the marine environment of the north-east Atlantic
SPA/RAC	Specially Protected Areas Regional Activity Centre
RSC	Regional Sea Convention
SAC	Special Area of Conservation
SCI	Site of Community Importance
SPA	Special Protection Area
SPAMI	Specially Protected Area of Mediterranean Importance
UNCLOS	United Nations Convention on the Law of the Sea

Executive summary

This technical report presents an overview of the spatial distribution of marine protected areas (MPAs) in Europe's seas established as of 2019 (excluding overseas territories). It represents an updated rerun and advancement of the spatial statistics and of the coherence analysis run by the European Topic Centre on inland, coastal, and marine waters (ETC/ICM) on MPA reported data in 2012 and 2016. As such it provides insight on the observed changes in European MPAs established in the three-year period 2017–2019. The MPA networks considered in the analysis are those established under the framework of the EU nature directives, National designations, and the Regional Sea Conventions as reported in the respective official spatial and tabular databases. The MPA assessment areas are defined by regions and sub-regions referred to in Marine Strategy Framework Directive reporting mechanisms. The statistics are reported in terms of surface area (km²) and relative percentage cover as well as percentage overlap between different networks.

This volume contains the general MPA statistics and gives an update of EU MPA coverage following the UK exit from the EU. MPA networks now cover approximately 12 % of Europe's seas and thus set a 2020 baseline for achieving the 30 % coverage target as defined by the EU Biodiversity Strategy to 2030. As such, it also shows that EU managed to reach 10 % cover of its seas by marine protected areas by 2020 as agreed for Aichi target 11 and SDG 14.5.

The previous reports are available here

[‘Spatial analysis of marine protected area networks in Europe's seas, 2012’](#)

and here

[‘Spatial Analysis of Marine Protected Area Networks in Europe's Seas II, Volume A, 2017’](#).

1 Introduction

1.1 Aims and scope of the report

This report presents information on the spatial statistics of Marine Protected Areas (MPAs) in Europe's seas, established as of 2019 (excluding overseas territories). It represents ETC/ICM's third temporal reiteration of MPA coverage statistics after those run on MPA data reported by Member States (MSs) in 2012 and 2016, described in previous MPA assessment reports (EEA, 2015a; Agnesi et al., 2017b).

The networks of MPAs taken into account in the analysis are those established under the framework of the EU nature Directives, national designations and Regional Sea Conventions (RSCs) selected and elaborated through the methodologies described in the ETC/ICM Technical Reports on marine protected area networks (Agnesi et al., 2017a and b; EEA, 2015a). Updated MPA coverage data is provided for each MPA network component (Natura 2000, Common Database on Designated Areas – CDDA – and RSC marine sites) and for the MPA network overall. The coverage data is described with respect to the extent of Europe's regional seas and subregions, distance belts from the coast, modelled biological depth zones, and broad seabed habitat coverage.

The report also describes aspects such as the degree of overlap between the three MPA network components and information on the coverage trends observed when comparing end of 2016 against end of 2019 MPA reported data. Coverage trends hereon described as occurring in the last three-year period therefore regard changes incurred in the period 2017–2019. It is important to note, however, that a comparison of the coverage trends observed in the three years' period 2017–2019 cannot be described for the overall North East Atlantic Ocean region, for the Greater North Sea including the Kattegat and English Channel and the Celtic Sea subregions, and the overall European seas, in light of the EU-27 scenario emerging from the exit of the United Kingdom from the EU. In fact, unlike preceding ETC/ICM MPA statistical reports, this report refers exclusively to the MPAs of the twenty-seven MSs belonging to the European Union as of February 2020, hereon referred to as EU-27¹.

The coverage trend of MPAs established as of 2019 in European seas will contribute to the assessment of progress to reach commitments in the recently adopted EU Biodiversity Strategy for 2030 (EU BS 2030)². The Strategy sets, amongst other commitments, the goal to improve and expand the network of protected areas on land and at sea, moving from the 10 % protected area coverage enshrined in the CBD Aichi 11 target, to a 30 % coverage of which one third, i.e. 10 % of the marine area, should be strictly protected and cover areas of high biodiversity value. The Strategy calls for a truly coherent trans-European nature network, therefore these coverage targets should be met across all European seas, which could be broken down at sub-regional, basin and finer scale level. The MPAs should be designated directly by Member States (MS) as Natura 2000 sites or national protection scheme designations. All protected areas (Natura 2000 and additional ones) should have clearly defined conservation objectives and measures and should be effectively managed. The Strategy foresees specific Commission/EEA guidance to MS on specific aspects such as the definition of strict protection, appropriate management planning and the degree to which other effective area-based conservation measures (OECMs) can contribute to the EU BS 2030 protection targets³. Since the Commission intends to assess the progress made in establishing new protected areas by 2024, and since the EEA Roadmap for MPAs foresees a fourth reiteration of MPA coverage statistics in 2023, the present MPA coverage report represents the baseline from which to measure the progress towards the 30 %/10 % spatial coverage to be reached between 2020 and 2030.

¹ https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:EU_enlargements

² <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX:52020DC0380>

³ This report does not take into consideration OECMs since there is no EU forum for reporting on OECMs that can allow to discern sites that fit within the requirements spelled out by the EU BS 2030 and since there is, at present, no pan-European position on which sites would potentially contribute to the EU BS 2030 targets.

2 Data sets and methodology

This Chapter contains information on the data sets and methodologies used to define the base shapefiles (MPA assessment areas divided according to regions and sub-regions and buffer distance belts) and the different MPA networks considered for the MPA analysis and reiteration of statistics of European MPAs. It also defines the data and methods used to define the surface area extension of marine waters of EU MSs, on the basis of data reported by EU MSs under the Marine Strategy Framework Directive (MSFD) in 2013 and afterwards.

2.1 Dataset

An overview of the datasets used to support the analysis is provided in Table 2.1. The baseline information analysed in the report is based on MPA data reported at the end of 2019. All the datasets used for the analysis were set to the coordinate system LAEA 52N 10E – ETRS 89 (Lambert Azimuthal Equal Area as projection and European Terrestrial Reference System 1989 as the geodetic reference system) in accordance with European guidelines (INSPIRE, 2014; EEA, 2008; Annoni et al., 2001) using version 10.3 of ArcGIS (ESRI inc.). The Geographical Information System (GIS) analyses that were run in order to compile the statistical tables and for producing the maps were automated and processed mainly using Python scripts.

Table 2.1 Geographical Information System (GIS) and tabular data sets used for the layout preparation and for the analysis

Key: EEA: European Environment Agency; MSFD: Marine Strategy Framework Directive, MPA: Marine Protected Areas, OSPAR: Oslo-Paris Convention; CDDA: Common Database on Designated Areas; SPAMI: Specially Protected Area of Mediterranean Importance

Description of data layer	Name of the database version	Version date/download	Source; Link to Source; Obtained from
Assessment areas and units			
EEA coastline for analysis	EEA_Coastline_20170228	28/02/2017	EEA: https://www.eea.europa.eu/data-and-maps/data/eea-coastline-for-analysis-2
Europe's seas	EuropeSeas	2018-12-11	EEA: https://www.eea.europa.eu/data-and-maps/data/europe-seas
Extension of Member State Declared Marine Waters	MarineWaters_LAEA	27/02/2020	EEA CWS;S:\Common workspace\Marine\WISE_marine\country_profiles\MarineWaters_LAEA.shp
EU MSFD Marine Regions and Sub-regions	MSFD_Marine_Subregion_Watercolumn_EEA_LAEA_20200602	02/06/2020	EEA CWS: S:\Common workspace\Marine\MPAs\AssessmentAreas\MPA2020\Gis\MPA_2020.gdb ⁴
EMODnet broadscale seabed habitat map for Europe (EUSeaMap)	R20170615_EUSeaMap2016.zip	06/15/2017	http://www.emodnet-seabedhabitats.eu/default.aspx?page=1953

⁴ This layer was created by TC Vode (based on MarineWaters_LAEA) and other reference datasets as explained in the “Definition of MPA assessment areas” section of the report.

Table 2.1 Cont.

Description of data layer	Name of the database version	Version date/ download	Source; Link to Source; Obtained from
Designation types			
Natura 2000 tabular database	PublicNatura2000End2019.mdb	06/18/ 2020	EEA; https://www.eea.europa.eu/data-and-maps/data/natura-11
Natura 2000 shapefile	Natura2000_end2019_epsg3035.shp	06/04/2020	EEA; https://www.eea.europa.eu/data-and-maps/data/natura-11
OSPAR Convention MPAs shapefile	Ospar_polygon_wdpa_simplified.shp	End of 2019	Downloaded on request the version containing data up to 2019; http://carto.mpa.ospar.org/fr/1/ospar.map
Helsinki Convention MPA (BSPA) shapefile	HELCOM_MPA.sshp		Directly downloadable from the metadata section: metadata.helcom.fi/geonetwork/srv/eng/catalog.search#/metadata/d27df8c0-de86-4d13-a06d-35a8f50b16fa
Barcelona Convention MPA (SPAMI) shapefiles	SPAMIs_wgs84_2020	End 2019	https://data.medchm.net/en/map/279/1/100/0
CDDA tabular database	CDDA_v18.mdb	March 2020	EEA; https://www.eea.europa.eu/data-and-maps/data/nationally-designated-areas-national-cdda-15
CDDA shapefile	CDDA_v18_Shapefile.zip	March 2020	https://www.eea.europa.eu/data-and-maps/data/nationally-designated-areas-national-cdda-15#tab-gis-data

2.2 Definition of MPA assessment areas

The spatial extent of the MPA assessment areas considered in the present report includes the marine waters surrounding the EU-27 countries whose outer limit is defined by the 200 NM (nautical miles) boundary from the coast (possibly coinciding with formally recognized Economic Exclusive Zone – EEZ- or Ecologic Protection Zone – EPZ – boundaries), or the equidistance (in cases of opposite neighbouring EU countries), or by the presence of a boundary defined by an agreed treaty. Since no formal boundary of this map exists, the boundary of the maritime area submitted by EU MSs under the MSFD Articles 8, 9 and 10 to the Eionet Central Data Repository (CDR) was used. This spatial layer allows to define the boundary of the MPA assessment areas and represents the surface area that for the scope of this work is considered to be the EU portion of European seas. The spatial layer used refers to the water column and seabed surfaces claimed by EU-27 MS as last updated in April 2020. This specific dataset was further harmonised through sequential steps and the integration of other reference layers involving: (1) the removal of national boundaries provided through MSFD reporting, (2) the definition of boundaries between marine regions and sub-regions, as described in Article 4 of the MSFD through the merging of boundaries contained in the “Europe’s seas” dataset⁵ with the EU maritime area boundaries, and (3) the topological harmonisation of the sea/land interface of all resulting EU marine regions and sub-regions using the latest version of the “EEA coastline for analysis”⁶ spatial dataset (gaps and overlaps were removed).

⁵ Europe Seas layer available at: <https://www.eea.europa.eu/data-and-maps/data/europe-seas>

⁶ EEA coastline for analysis available at: <https://www.eea.europa.eu/data-and-maps/data/eea-coastline-for-analysis-2>

It is worthwhile remembering that the EEA Europe's seas shapefile defines the extent of marine waters surrounding the European continent and that it does not distinguish between the EU and non-EU waters. These waters span across four geographic regions some of which contain sub-regions: The Northeast Atlantic Ocean (containing eight geographic sub-regions, four of which encircle EU countries), the Baltic Sea, the Mediterranean Sea (composed by four sub-regions, each of which surround EU countries) and the Black Sea. Moreover, the Northeast Atlantic Ocean region is characterised by a westernmost sector which, unlike the eight geographic sub-regions, does not have a regional identity and is delimited to the west by the 42° W⁷. The boundaries identified within these four regions are oftentimes described with the name "European Regional Seas" and used to describe the extent of marine seas surrounding only EU countries or of European continental countries extending beyond the EU (i.e. White sea, Barents, Iceland sea, Norwegian sea). In order to guarantee correct implementation of Art. 4 of the MSFD, which requires that the geometric delineation of the MSFD marine regions and sub-regions be defined, the boundaries of the marine regions and sub-regions contained in the spatial layer "Europe's Seas" was agreed by EU MSs in the MSFD Committee in November 2016 and has been through a Commission inter-service consultation with all DG's led by DG ENV (ETC/ICM, 2017). This shapefile contains the geographical boundaries defining the limit between the MSFD marine regions (i.e. Baltic, North East Atlantic Ocean, Mediterranean, Black Sea) and, where relevant, the sub-regions (i.e. in the Mediterranean sea: the Western Mediterranean, Ionian Sea and Central Mediterranean Sea, Adriatic Sea, Aegean-Levantine Sea) as interpreted within the implementation framework of the MSFD.

The EU maritime area boundaries were created in a specific shapefile produced by ETC/ICM for EEA. These boundaries take stock of the MSFD related MS claims on the water column and subsoil and they define the marine spatial areas for which EU MSs have claimed their commitment to define and guarantee Good Environmental Status (GES) through monitoring programs and specific programs of measures. In so doing MSs have declared their responsibility, to manage the three-dimensional nature of these water volumes (sea column and seabed) from a comprehensive ecological perspective with respect to MSFD implementation. Considering that the principle EU-level policy driver underpinning the assessment of MPA networks is embedded in the context of the MSFD Art.13.4, it appears relatively straightforward that the declared MS maritime area boundaries be used to define the MPA assessment areas. These areas were therefore used for the purpose of the present report. The MPA assessment areas reported in the spatial statistics report are referred to throughout the report based on the names of the different marine regions/sub-regions in which they lie.

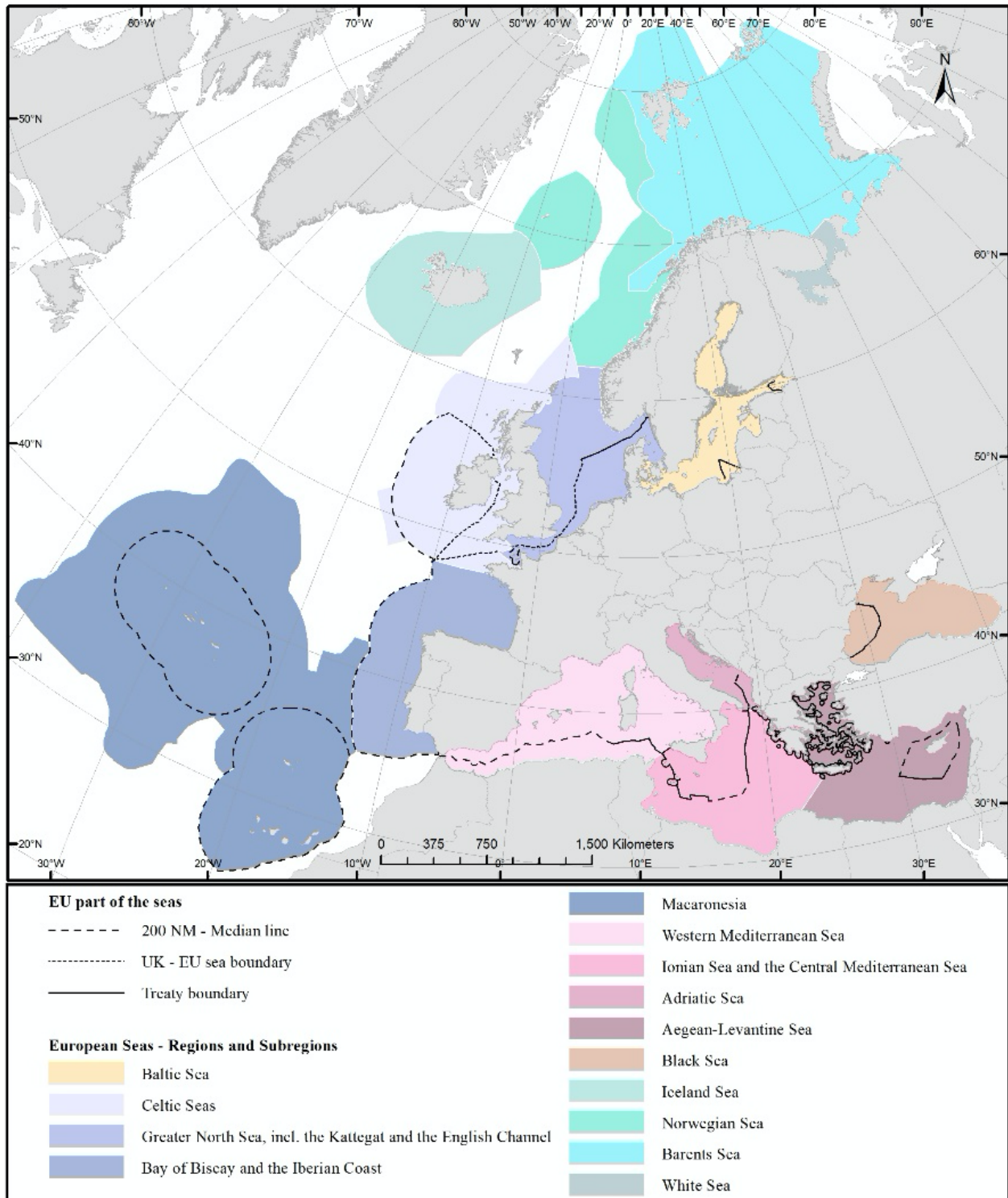
The MPA regional assessment areas do not include the extended continental shelf beyond 200 NM where some MSs have advanced seabed /subsoil claims. It also does not extend beyond the 6 NM territorial water extension claimed by Greece. Readers should therefore be aware that the report does not contain information on MPAs lying in areas beyond national jurisdiction (ABNJs). In so doing the report informs on the protection effort offered by MPA establishment in marine waters where MSs exercise (or should exercise, based on the surface areas claimed for GES-evaluation through MSFD national reports) full rights over the management of activities conducted in the water column and subsoil, in other words, areas where ecosystem management is feasible. Since the polygons used to define the MPA assessment areas stem from MSFD- related MS spatial claims it is expected that any possible jurisdictional limitations regarding MS MPA establishment in these areas be resolved in the immediate to near term through the appropriate legal provisions. The maps and tables provided in this report and resulting from the evaluation of the available datasets are not intended to influence or question any ongoing negotiations occurring in UNCLOS or jurisdictional issues regarding maritime boundaries pertaining to EU MSs or to non-EU countries.

The extent of European seas, including the coasts of EU and third countries is shown in Map 2.1. The EU-27 MPA assessment areas are defined according to the above mentioned regional/sub-regional boundaries and as agreed within the framework of MSFD implementation. It is to be noted that the boundaries used in this report only reflect assessment boundaries related to MSFD and GES and do not represent the official maritime boundaries of EU MSs.

⁷ https://www.eea.europa.eu/publications/report_2002_0524_154909/regional-seas-around-europe/nea_ocean.pdf/view

Map 2.1: EEA EU-27 Marine Protected Area assessment area delimited by the regional seas surrounding Europe and identified according to the region/sub-region boundaries defined for the European Seas.

Key: NM: nautical miles



2.3 Creation of buffer zones and correction of the coastline

The most recent version of the EEA coastline⁸, published at a scale of 1:100,000, was used as a base layer to generate seaward buffer distance belts (hereafter referred to as buffer zones) of the following sizes:

- a) 0–1 NM;
- b) 1–12 NM;
- c) 12 NM to the end of the MPA assessment zone.

The buffer zones were subsequently overlaid with the MPA assessment area shapefile. Each marine region/sub-region shapefile was consequently split into three components, hereon individually referred to with the terms: nearshore (0–1 NM), territorial (1–12 NM) and offshore (12 NM to the end of the MPA assessment zone). The buffer zones are constructed and used so as to describe the pattern of protection effort exerted from a nearshore to offshore perspective.

It is important to note that since the EEA coastline layer has not been updated since the previous ETC/ICM MPA statistics assessment (Agnesi et al., 2017b), the results of the present assessment (2020) are not biased by changes in the EEA coastline occurring after 2017.

2.4 Calculation of reference surface area values

The total surface area (in km²) of each MPA assessment area region and sub-region (EU part of the sea in the table below) was calculated so as to inform on the single extent of each component with respect to the broader extension of the European regional seas. The surface area extent of the nearshore, territorial and offshore zones is also reported. These figures are used in order to compute the proportion of sea area occupied by MPAs. It should be noted that some of the EU regional sea areas are different to those documented in the 2017 MPA statistics due to the redefinition of some of the MSFD marine region/sub-region extensions and boundaries. Results of the spatial extents of each marine component are listed in table 2.2. Names of regions are indicated with cells in light grey background and bold type and sub-regions are indicated with cells in a white background and normal text.

With respect to the previous MPA statistics (Agnesi et al. 2017b), the overall EU MPA assessment area has experienced a noticeable surface area reduction as a consequence of the shift from an EU-28 to EU-27 MS configuration. In this configuration, the North East Atlantic Ocean assessment region is smaller by 701,382 km² with respect to its surface area extension prior to 2019. The spatial shift specifically is within the Celtic Sea and Greater North Sea Kattegat and English Channel sub-regions. It is also worth noting that the MPA assessment area of the Western Mediterranean considered in the present statistics is 304 km² smaller than that computed in the previous report (Agnesi et al. 2017b). This difference is largely due to the exclusion of the Spanish territory in the province of the enclave of Melilla (north African coast) from the reported MSFD Spanish maritime water claim.

⁸ EEA coastline for analysis available at: <https://www.eea.europa.eu/data-and-maps/data/eea-coastline-for-analysis-2>

Table 2.2 Surface area (km²) of Europe’s seas regions and sub-regions, EU-27 section of the sea and area of nearshore (0–1 nautical mile), territorial (1–12 nautical miles) and offshore (beyond 12 nautical miles to the edge of EU waters).

Key: MSFD: Marine Strategy Framework Directive

European Regional Seas and sub-regions (<i>sensu</i> MSFD)	Sea surface area (km ²)	EU part of sea (km ²)	Near shore zone	Territorial zone	Offshore zone
Baltic Sea	392,215	368,694	51,008	151,438	166,247
North East Atlantic Ocean	6,399,390	3,381,337	34,376	222,698	3,124,262
Celtic Sea ^(a)	974,385	494,709	8,922	40,902	444,885
Greater North Sea incl. Kattegat & English Channel	654,179	226,260	13,037	61,767	151,455
Bay of Biscay and the Iberian Coast	803,349	803,205	8,428	57,552	737,224
Macaronesia	3,967,476	1,857,163	3,989	62,477	1,790,698
Mediterranean Sea	2,516,652	1,224,297	54,167	331,455	838,675
Western Mediterranean Sea	846,003	659,585	15,654	145,170	498,761
Ionian Sea and Central Mediterranean Sea	773,032	254,476	8,317	49,912	196,247
Adriatic Sea	139,784	119,851	10,473	48,446	60,931
Aegean-Levantine Sea	757,833	190,386	19,722	87,927	82,736
Black Sea	473,894	64,415	1,273	9,852	53,290
Total	9,782,150	5,038,743	140,825	715,444	4,182,474

(a) Celtic Sea – overlapping submissions of 148,994 km² to UNCLOS from UK and Kingdom of Denmark (not included in the sea surface area calculation above)

2.5 Preparation of the shapefiles belonging to the different networks and analysis

The methodology and the procedure used for selecting the marine Natura 2000 and CDDA sites from the 2019 tabular and spatial data, and the RSC MPA shapefiles are the same as those outlined under Section 2.6 of the EEA (2015) report and in Agnesi et. (2017b), with the exception that the databases used are the updated ones indicated in table 2.1. The MPA assessment areas layer was used to select only those sites falling within the region/sub-region of the MPA assessment area.

The spatial statistics were carried out in ArcGIS; the procedures were automated by a series procedure developed in Python language. The basis of the analysis is the same as that defined in the previous run, however the scripts were readjusted when needed. The estimated and extracted statistical information from the spatial databases were the number of sites and total surface area, which allow us to estimate coverage. All parameters were extracted and reported according to each buffer zone and biological zones per marine region/sub-region. The reasoning behind the analysis is the same of that developed and described in previous documents (EEA, 2015a; Agnesi et al., 2017b); however, it is worthwhile remembering the following aspects:

- Some protected areas may have a spatial extension that overlaps across the boundaries of the buffer zones from the coast or of the modelled biological zones. Counts of the total number or total area of sites calculated and indicated per buffer zone from the coast or biological zone refer to any site or part of any given site lying within a distance belt from the coast or within a given biological zone. The grand total number of sites/surface areas indicated in the respective tables for each buffer zone or biological zone may therefore contain sites whose spatial extension spans across more than one buffer zone / biological zone.
- The total area coverage (in km²) accurately represents the spatial extent of a network, considering the areas of overlap between overlapping sites as a unique value, so as to prevent duplication of surface area counts for such areas.
- The percentage of surface area is calculated with respect to the surface area measurement of the MPA assessment area region/sub-region provided in Table 2.2.
- The representativity of the overall MPA network is described by measuring the network's capacity to reach:
 - the 30 % coverage target at regional/sub-regional, buffer zone, and biological zone levels.
 - the 20/60 % target at the revised broad habitats level (as defined in Agnesi et al., 2017a).
 - the percentage of protected coverage increase, observed in the three-year period, of the biological depth zone and revised broad habitats is visualized in the tables using the following thresholds: > 3 % increase (☺); increase between 0 and 3 % (☹); no increase (⊖). Where applicable, a green or red background is used to indicate target threshold achievement or non-achievement.

3 Results

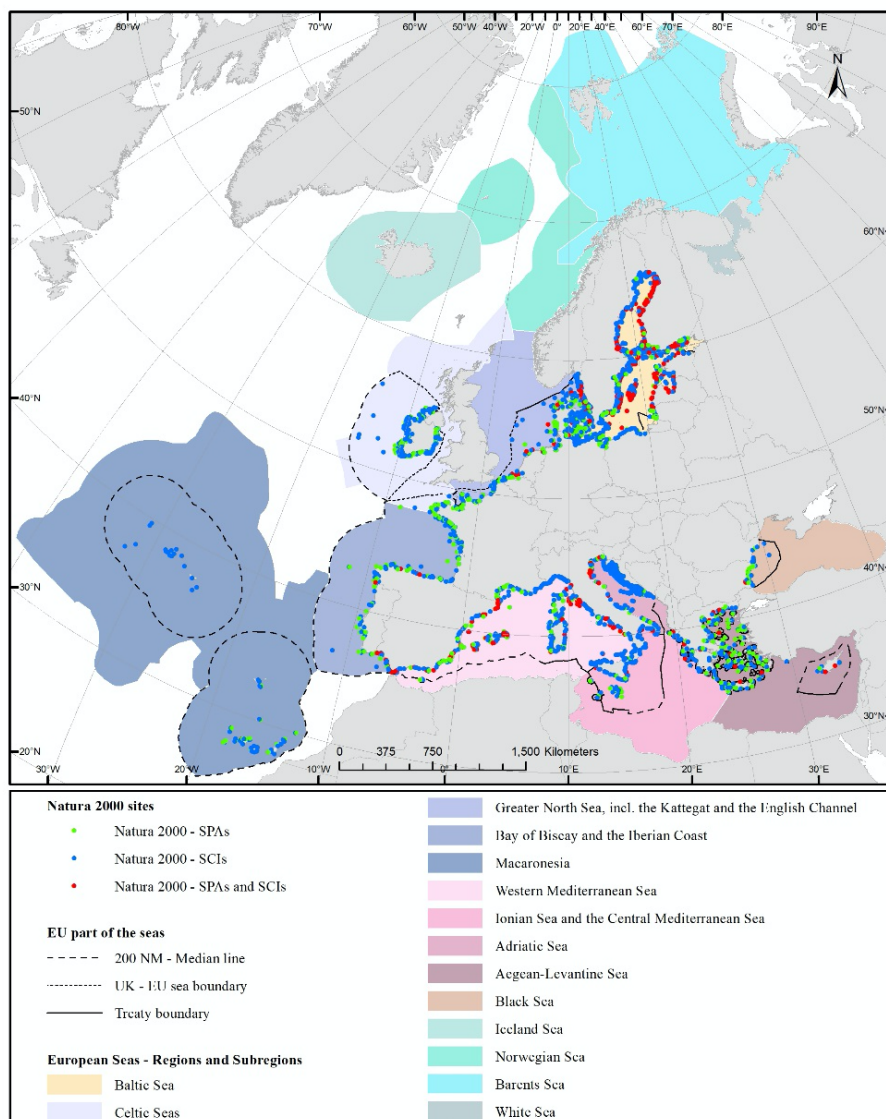
In this section of the report, we present the surface area coverage and relative percentage coverage of MPA networks across EU regions for Natura 2000 sites, RSC Sites and National designations individually and collectively – presenting information in each case on percentage and surface area coverage of MPAs across buffer zones from the coast. The analysis of all sites belonging to the different networks as a whole also contemplates the biological depth zones and the coverage of revised broad habitats (Agnesi et al., 2017a).

3.1 Natura 2000 network

The overall distribution of marine Natura 2000 sites throughout Europe is represented in Map 3.1. Sites are graphically reported as Sites of Community Importance (SCIs), Special Protection Areas (SPAs) and SCIs combined with SPAs (typology C). Given the large scale of the map sites appear as points regardless of the site size.

Map 3.1: EU-27 Natura 2000 areas (Sites of Community Importance -SCIs- and Special Protection Areas – SPAs-) in European marine regions

Key: NM: nautical miles



An overview of the total number, area coverage and percentage cover of marine Natura 2000 sites per MPA region/sub-region is presented in Table 3.1 together with the number and area of SCIs and SPAs and their percentage area overlap.

The total number refers to the spatially distinct sites present in a given area, so as to avoid duplicating the count of sites that lie exactly over one another (as in the case of site category C, which represents an SCI and an SPA overlapping exactly). The total number of SCIs and SPAs refers to the site polygons defined by the selection procedure as marine SCIs or as marine SPAs; the sum of these two will therefore always be higher than the total number of Natura 2000 sites indicated in the first column of the table for any given region/sub-region.

The total area coverage (in km²) represents the actual spatial extent of both networks combined (SPAs and SCIs), considering the areas of overlap between SPAs and SCIs as a unique value, in order to prevent duplication of surface area counts for such areas. The total area of the respective SCIs and of the SPAs was obtained by measuring the extent of any polygon with SCI or SPA attributes, regardless of whether a polygon overlapped a polygon belonging to another category. Because of this, the sum of the total area of SCIs and that of SPAs is always bigger than the calculated total area covered by the Natura 2000 network. The percentage of overlap is obtained by calculating the surface area overlap of SCIs and SPAs with respect to the total coverage of the Natura 2000 network. The number of increased or decreased sites with respect to the previous end 2016 reported data is reported with a +/- sign in the column adjacent to the total number of sites reported for in 2019. NA (Not Applicable) is inserted in all the trend cases where the exit of the UK from the EU has annulled the possibility to compare the net gain increase with respect to the MPA status observed in the previous triennium.

As mentioned in the previous section, the MS extension of declared marine waters submitted by Spain (shapefile MarineWaters_LAEA from which the extension of the western Mediterranean Sea assessment area was derived) does not contain the Spanish territory situated in the North African enclave of Melilla. Unlike previous ETC/ICM MPA reports, the relative Spanish Natura 2000 sites established in this area are therefore not computed in the present statistics. It is worthwhile to note that, in this case, the ensuing affected Natura 2000 surface area values do not influence the overall Western Mediterranean relative percentage of protected area in a significant way with respect to previous estimates⁹.

⁹ The excluded marine Spanish Natura 2000 sites are: ES6300001 - Islas Chafarinas
ES6320001 - Zona marítimo terrestre de los acantilados de Aguadú

Table 3.1 Total number, surface area, percentage cover, increases in numbers and surface areas and percentage overlap of EU-27 marine Natura 2000 sites (Sites of Community Importance – SCIs/Special Areas of Conservation – SACs, Special Protection Areas – SPAs) in European marine regions

Key: N2K: Natura 2000; NA: not applicable

MPA assessment area regions / sub-regions	Total n° of N2K sites	Trend Total n° of N2K sites	N° of SCIs	N° of SPAs	Area covered by N2K (km ²)	% covered by N2K	% increase since 2016	Area of SCIs (km ²)	Area of SPAs (km ²)	% of overlap
Baltic Sea	950	+94	829	314	57,070	15.5	0.5	46,228	49,141	67.1
North East Atlantic Ocean	837	NA	559	322	264,463	7.8	NA	217,774	173,259	47.9
Celtic Sea	286	NA	173	113	37,722	7.6	NA	37,234	28,165	73.4
Greater North Sea incl. Kattegat & English Channel	285	NA	207	109	61,038	27.0	NA	50,966	39,875	48.8
Bay of Biscay and the Iberian Coast	204	+3	130	86	132,294	16.5	6.5	99,940	93,516	46.2
Macaronesia	73	+4	56	18	33,409	1.8	0.8	29,634	11,702	23.7
Mediterranean Sea	1,224	+55	999	346	109,031	8.9	3.9	73,368	64,332	26.3
Western Mediterranean Sea	533	+9	433	175	61,164	9.3	2.3	37,715	43,287	32.4
Ionian Sea and Central Mediterranean Sea	173	+18	143	47	19,215	7.6	4.6	12,406	9,315	13.0
Adriatic Sea	344	-17	317	44	6,897	5.8	0.8	6,486	2,106	24.6
Aegean-Levantine Sea	188	+51	114	86	21,755	11.4	8.4	16,760	9,625	21.3
Black Sea	44	0	29	18	9,192	14.3	0.3	8,672	2,185	18.1
Total	3,054	NA	2415	1000	439,755	8.7	NA	346,041	288,917	79.7

Table 3.1 indicates that:

- The overall Natura 2000 coverage across European seas represents 8.7 % of European waters but so far the ETC has not calculated the percentage increase gained from the establishment of new sites since 2016, due to the shift from an EU-28 to EU-27 scenario occurring during the last three-year period.
- The highest increase in total number of established Natura 2000 sites during the period end 2016-2019 occurs in the Baltic region followed by the Aegean-Levantine Sea sub-region.
- The only region/sub-region with no additional Natura 2000 site designations between the end of 2016 and 2019 has been the Black Sea.
- The regions influenced by a noticeable increase in percentage coverage of Natura 2000 sites are the Aegean-Levantine Sea and the Bay of Biscay and the Iberian Coast, which now have respectively 11.4 % and 16.5 % of Natura 2000 site percentage coverage. This suggests that the new designation process observed through the increase in site numbers has consisted in the establishment of relatively large sites. On the other hand, the increase in the number of new sites established in the Baltic Sea has led to a very minimal protected surface area increase suggesting the newly observed sites regard very small marine surface areas.
- The Greater North Sea including the Kattegat and the English Channel is the sub-region with the highest percentage of Natura 2000 cover, which reaches 27 % at the end of 2019.
- The Macaronesian sub-region is the region with the lowest percentage of Natura 2000 cover. It was 1.8 % in 2019. It may be because of the very deep water habitats that are not well covered by the Habitats Directive.
- The lower number of marine sites observed in the Adriatic Sea (-17), with respect to the end of the 2016 estimate, is likely driven by more than one factor. Geographic shifts in reported coastal marine N2K site spatial data reduces the overall count when these shifts lead to the position of the sites on land rather than in the MPA assessment area. Changes in tabular site information involving the removal of previously reported marine features (whether they be voluntarily introduced through the reporting or resulting from entry errors) can also lead to a lower number of overall identified marine sites. However, the lower number of identified marine sites involves marginal surface areas and the overall marine surface area coverage of the network, when compared between 2016 and 2019, is increasing.

The surface area and percentage cover of the Natura 2000 sites per EU region/sub-region, at varying distances from the coast (nearshore, territorial and offshore waters), is shown in Table 3.2.

Table 3.2 Surface area, percentage cover and percentage of increase since 2016 of EU-27 Natura 2000 (N2K) sites in nearshore, coastal and offshore waters in European marine regions and sub-regions

Key: MPA: Marine Protected Areas; NA: not applicable

MPA assessment area regions / sub-regions	Nearshore zone covered by N2			Territorial zone covered by N2K			Offshore zone covered by N2K		
	Area (km ²)	% coverage	% increase since 2016	Area (km ²)	% coverage	% increase since 2016	Area (km ²)	% coverage	% increase since 2016
Baltic Sea	16,331	32.0	0.3	25,660	16.9	0.5	15,079	9.1	0.0
North East Atlantic Ocean	19,569	56.9	NA	70,476	31.6	NA	174,419	5.6	NA
Celtic Sea	4,805	53.9	NA	5,001	12.2	NA	27,916	6.3	NA
Greater North Sea incl. Kattegat & English Channel	8,392	64.4	NA	25,359	41.1	NA	27,287	18.0	NA
Bay of Biscay and the Iberian Coast	5,122	60.8	1.3	22,152	38.5	4.0	105,021	14.2	6.9
Macaronesia	1,250	31.3	0.2	17,964	28.8	9.8	14,195	0.8	0.0
Mediterranean Sea	24,215	44.7	13.4	55,248	16.7	5.8	29,567	3.5	2.6
Western Mediterranean Sea	8,386	53.6	0.7	29,833	20.6	0.3	22,946	4.6	3.2
Ionian Sea and Central Mediterranean Sea	4,527	54.4	25.2	13,019	26.1	20.1	1,669	0.9	0.2
Adriatic Sea	4,104	39.2	2.3	2,783	5.7	0.2	10	0.0	0.0
Aegean-Levantine Sea	7,198	36.5	22.4	9,613	10.9	8.6	4,943	6.0	6.0
Black Sea	1,076	84.5	0.0	5,039	51.1	0.0	3,077	5.8	0.0
Total	61,190	43.5	NA	156,423	21.9	NA	222,141	5.3	NA

Table 3.2 indicates that:

- The highest network coverage is observed in the coastal waters where the network always exceeds 30 % in all regions /sub-regions. The network seldom surpasses the 30 % coverage in the territorial water distance belts with the exception of the Greater North Sea inc. Kattegat, English Channel, the Bay of Biscay and Iberian Coast.
- The percent coverage increase per region/sub-region and per buffer zone in the three-year period cannot be fully assessed in the North East Atlantic Ocean due to the recent departure of the UK from the EU; however, a discreet increase is observed in portions of some of its sub-regions: the Macaronesian territorial waters (+9.8 %) and the offshore waters of the Bay of Biscay and the Iberian Coast (+6.9 %).
- The highest percentage increases in the triennium are observed in the Mediterranean Sea, specifically in the coastal and territorial waters of the Ionian Sea and Central Mediterranean Sea (respectively +25.2 % and +20.1 %) and the coastal waters of the Aegean-Levantine Sea (+22.4 %).

3.2 Naturally Designated Sites

Information on the total number of sites and total surface area coverage of the marine nationally designated sites (NDS), established in each of the MPA assessment area regions and sub-regions, is presented in Table 3.3. The percentage of increase refers to the period ending 2016–2019 for surface area computations not affected by the UK exit from the EU. The percentage NDSs network overlapping the marine Natura 2000 network was also calculated for each MPA assessment marine region.

Table 3.3 Surface area and percentage cover of EU-27 marine Nationally Designated Sites (NDSs) in Marine Protected Area (MPA) assessment areas, and percentage overlap with the EU Natura 2000 (N2K) network

MPA assessment area regions and sub-regions	Total no. of sites	Area covered (km ²)	% covered by NDSs	% area increase since 2016	% of nearshore zone covered by NDSs	% of territorial zone covered by NDSs	% of offshore zone covered by NDSs	% area overlap with N2K
Baltic Sea	1513	25,427	6.9	0.3	19.9	8.5	1.5	88.3
North East Atlantic Ocean	431	84,905	2.5	NA	25.1	8.9	1.8	53.8
Celtic Sea	16	3,385	0.7	NA	5.1	5.8	0.1	36.9
Greater North Sea incl. Kattegat & English Channel	275	35,701	15.8	NA	43.2	19.7	11.8	92.9
Bay of Biscay and the Iberian Coast	81	10,152	1.3	0.0	23.0	6.8	0.6	96.3
Macaronesia	60	35,668	1.9	0.0	15.4	2.2	1.9	4.1
Mediterranean Sea	222	9,3621	7.6	3.7	12.7	9.7	6.9	27.8
Western Mediterranean Sea	111	85,201	12.9	6.5	28.3	19.2	10.6	21.2
Ionian Sea and Central Mediterranean Sea	38	5,405	2.1	0.1	13.3	5.3	0.8	94.9
Adriatic Sea	42	737	0.6	-0.3	6.5	0.1	2.7	90.6
Aegean-Levantine Sea	31	2,277	1.2	0.0	3.4	1.8	2.0	94.2
Black Sea	5	83	0.1	0.0	1.2	0.7	3.1	100.0
Total	2,171	204,036	4.0	NA	18.2	9.1	2.8	46.2

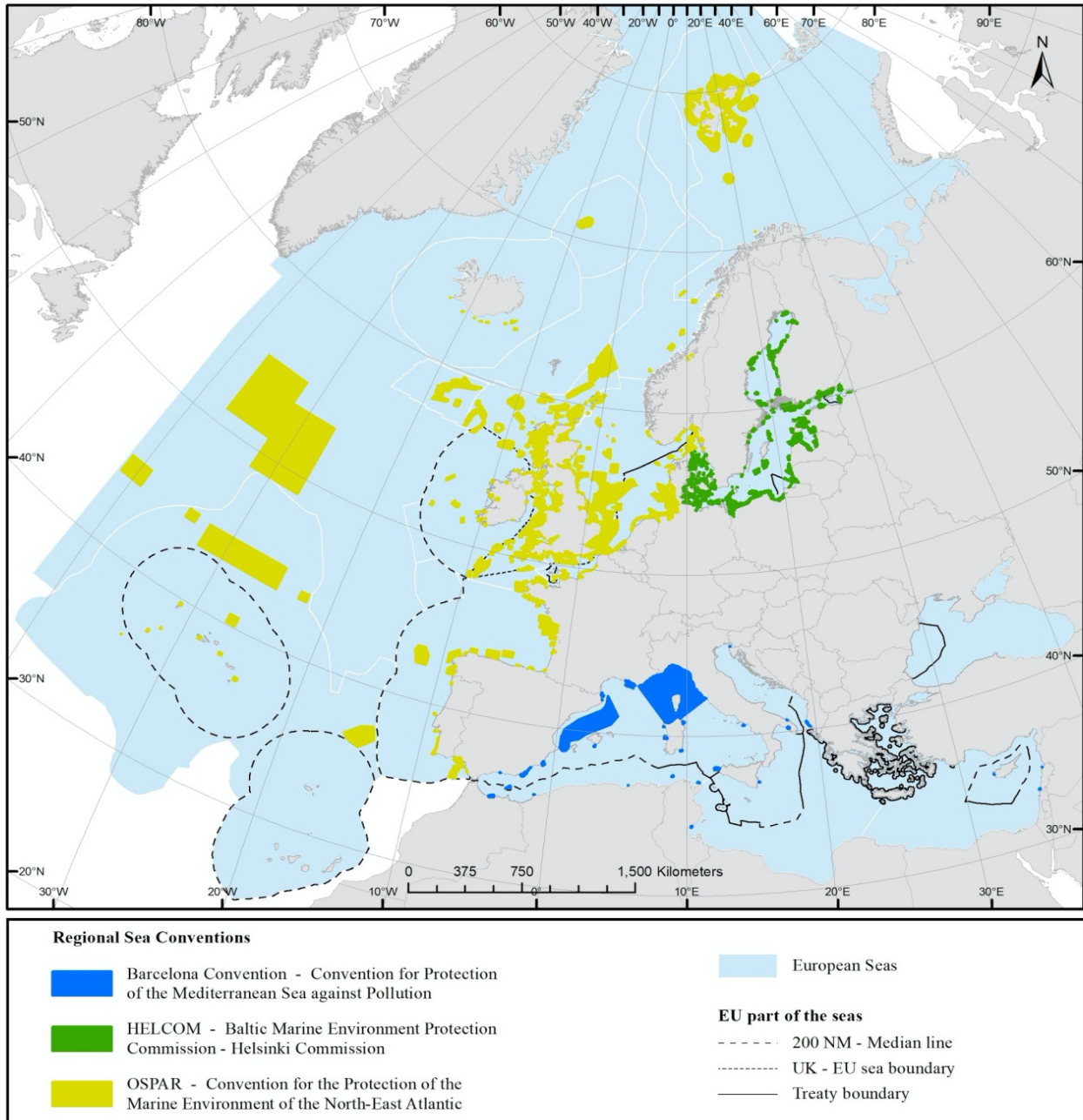
Table 3.3 indicates that:

- NDSs have highest coverage in the Greater North Sea incl. Kattegat and English Channel (15.9 %) and the Western Mediterranean Sea (12.9 %) but have lower percentage cover in other regions/sub-regions.
- At the end of 2019 NDS cover in overall European seas was 4 %. The highest increase in NDS % cover observed between the end of 2016-2019 was in the Western Mediterranean Sea with a 6.5 % surface area increase.
- The majority of NDSs are located in the coastal zone and their coverage steadily decreases towards offshore.
- Almost half of the overall NDS area is also designated as Natura 2000 – from a regional perspective, the highest percentage area overlap between the two networks is observed in the Black Sea followed, by the Bay of Biscay and the Iberian Coast, the Ionian Sea and Central Mediterranean Sea, the Aegean-Levantine Sea, the Greater North Sea incl. Kattegat & English Channel, the Adriatic Sea and the Baltic Sea.

3.3 MPA networks established under the Regional Sea Conventions

The distribution of MPAs established under RSCs within and outside the MPA assessment area regions into the wider area of Europe’s seas is represented in Map 3.2.

Map 3.2: Marine Protected Areas (MPAs) established under the Regional Seas Conventions, within and outside MPA assessment areas. Key: NM: nautical miles.



The total surface area of the RSC site polygons, considering those lying within the regional/ sub-regional boundaries of Europe’s seas and those lying in the MPA assessment area regions (considered as being the EU maritime waters of Europe’s seas) is reported in Table 3.4. The total surface area of the RSC site polygons overall in Europe’s seas is close to 1,005,129 km². This very large figure is influenced by the wide extension of the OSPAR area into the entire North East Atlantic Ocean area (a geographic area spanning 15,402,728 km²), considered part of Europe’s seas. However, when considering the EU-27 maritime waters which compose the MPA assessment area regions, the RSC network extends over 237,384 km².

The percentage of surface area extent of each RSC network was calculated with respect to the surface area measurement of the European Seas and EU-27 MPA assessment regions. HELCOM and Barcelona convention MPAs cover a higher percentage of MPA assessment regions (11.7 and 11.2 %, respectively) as opposed to the OSPAR sites which cover 3 % of the North East Atlantic Ocean MPA assessment area.

It is worthwhile noting that the OSPAR and HELCOM conventions both cover the Kattegat area of the Greater North Sea, Kattegat and English Channel sub-region (see map 3.3). Consequently, the surface area value of the RSC network in this portion of the MPA assessment area regions contains a surface area of overlap between the OSPAR and HELCOM network. The surface area of the HELCOM MPAs that lie in the Kattegat is 5,717 km², 92.4 % of this surface area overlaps with OSPAR sites.

The percentage of RSC networks overlapping the Natura 2000 network was also calculated for each MPA assessment region. When comparing the degree of percentage overlap of sites recognized under RSCs with marine Natura 2000 sites, there is a remarkable high percentage overlap of HELCOM and OSPAR sites with Natura 2000 sites established in the MPA assessment areas, suggesting there is a high overlap of biological features for which both network sites (RSC and Natura 2000) can be established. In the Mediterranean Sea, however, RSC sites overlap less with the Natura 2000 network. This may be due to differences in the conservation features driving the establishment of each protected network typology or the regional designation processes. The differences in percentage overlap (high versus lower overlap) may also be due to regional differences in approach in recognising sites established under the Habitats Directive, as sites qualifying as protected areas under RSC processes. In the OSPAR and HELCOM area both the RSCs and the Habitats Directive requires the protection of similar features. There is less overlap between the Habitats Directive and the features required to be protected by the Barcelona Convention.

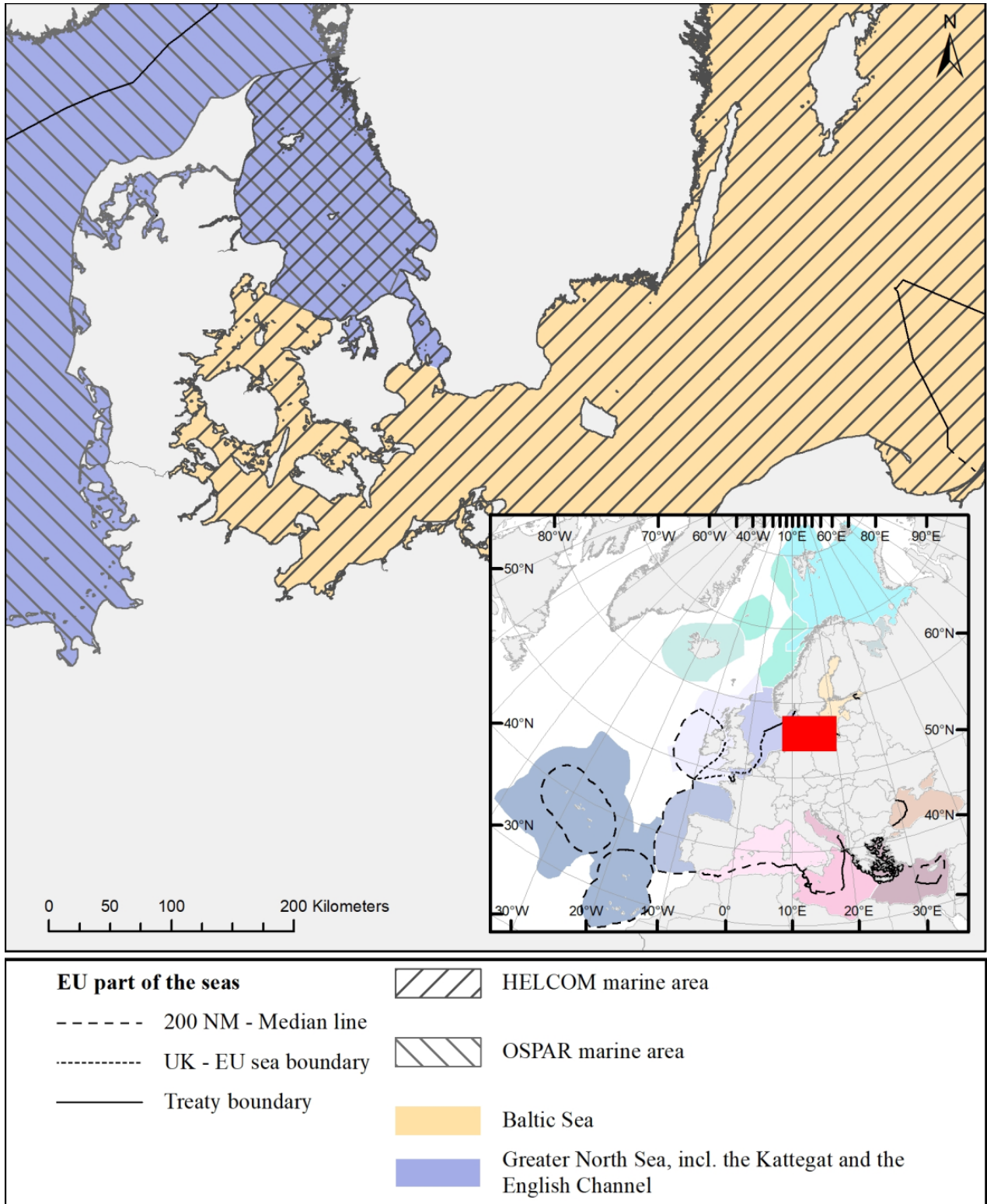
Table 3.4 Total surface area, percentage cover of Regional Seas Convention (RSC) sites in European regional seas and Marine Protected Area (MPA) assessment area regions, and overlap with EU Natura 2000 (N2K) network

RSC name	Regional Sea	Area of RSC network in European Seas	Area of RSC network in MPA assessment area regions	% cover of RSC network in European Sea	% cover of RSC networks in MPA assessment area regions	RSC network % overlap with N2K in MPA assessment area regions
HELCOM	Baltic Sea	44,225*	43,310*	11.3	11.7	94.0
OSPAR	North East Atlantic Ocean	867,028	99,927	5.6	3.0	92.1
Barcelona	Mediterranean Sea	138,101	137,457	5.5	11.2	14.6

Note: * excluding Kattegat area: the MPA surface area in the European seas is 49,027 km²

Map 3.3: Area of HELCOM and OSPAR overlap

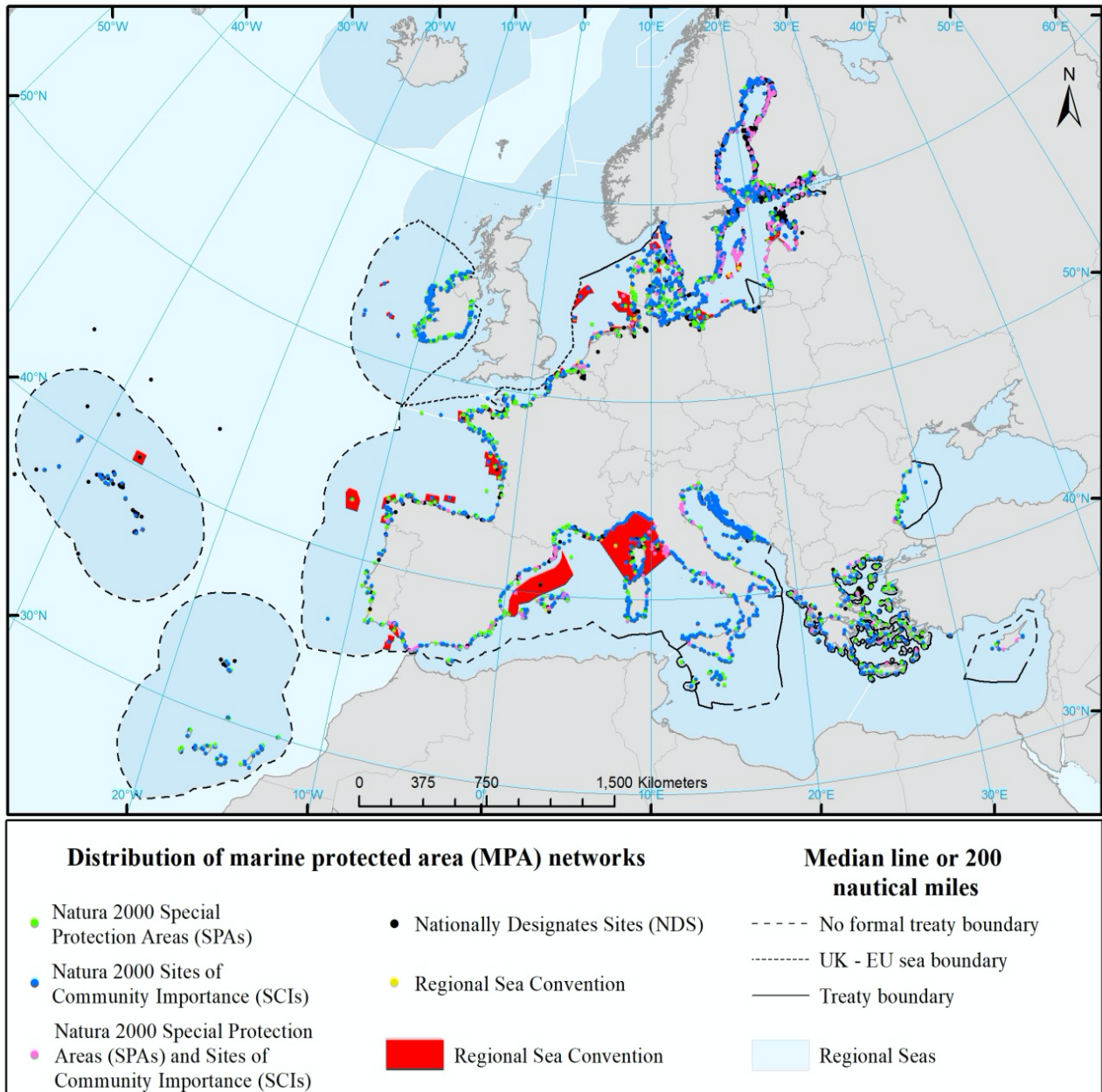
Key: NM: nautical miles



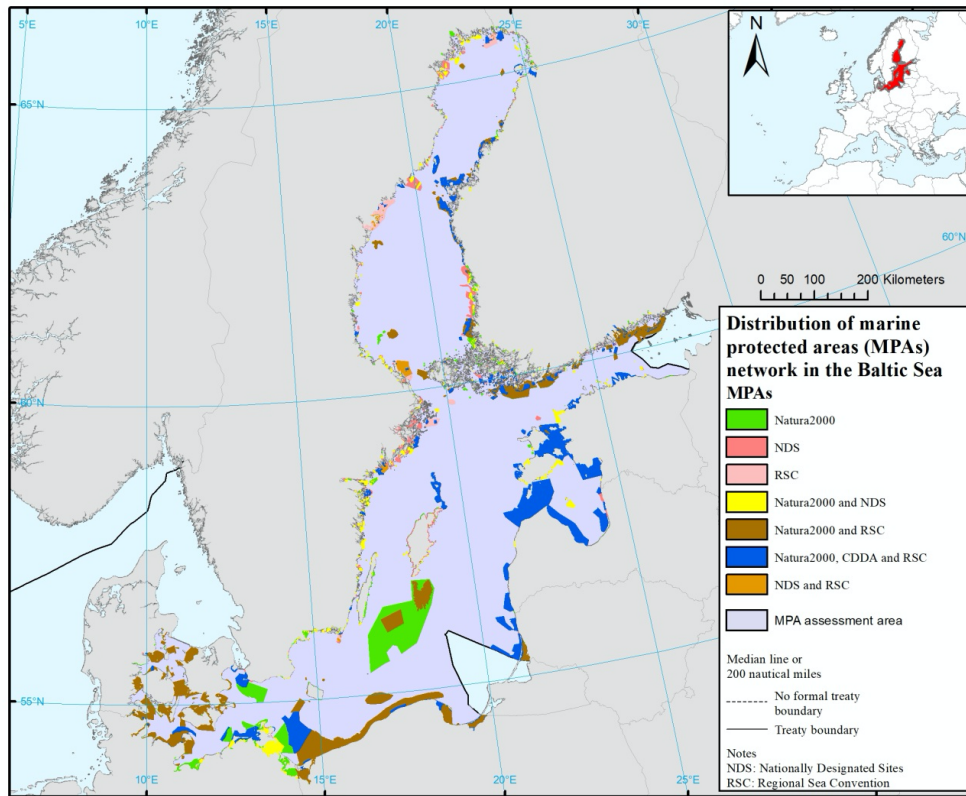
3.4 European MPA networks

In this section, the MPAs established in the context of all the different considered networks (Natura 2000, NDS and RSC) are considered as a unique network and are hereafter referred to as MPAs. The distribution of these MPAs is presented in Map 3.4; but, to facilitate viewing, regional and sub-regional maps are reported subsequently in maps 3.4a to 3.4j. The latter also allows to portray the overlap between sites of the three different networks. Considering the large scale of the map, small sites are portrayed as points whereas larger sites are conveyed through polygons that better portray the site extension and shape.

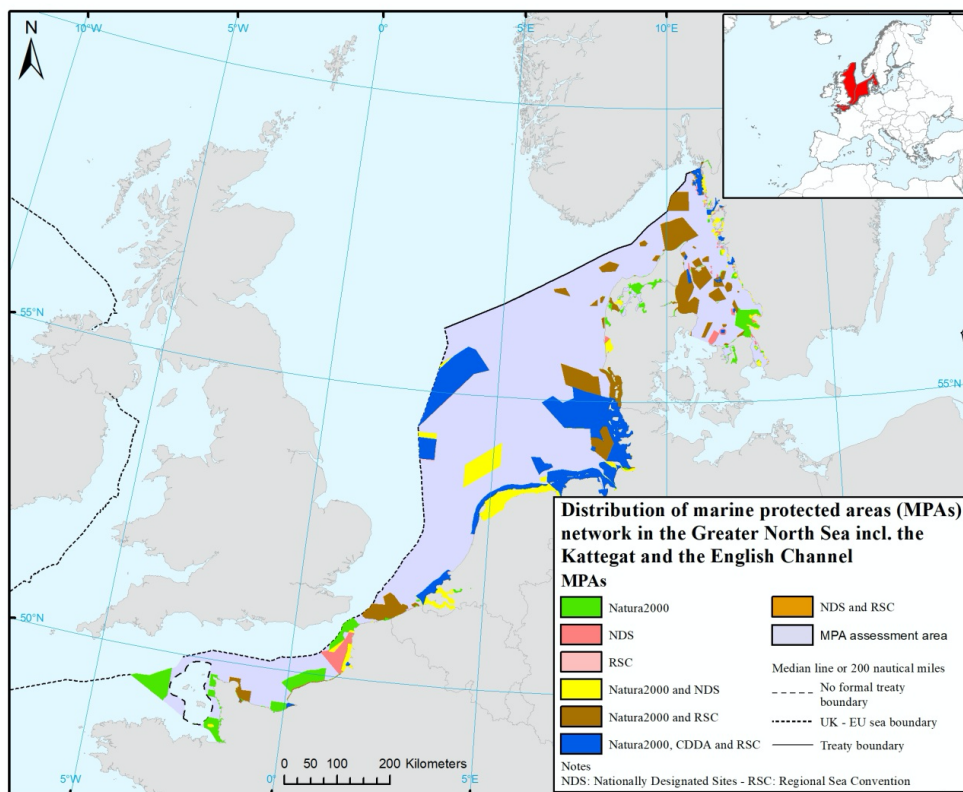
Map 3.4: Distribution of Marine Protected Area (MPA) networks in MPA assessment areas of the European regional seas



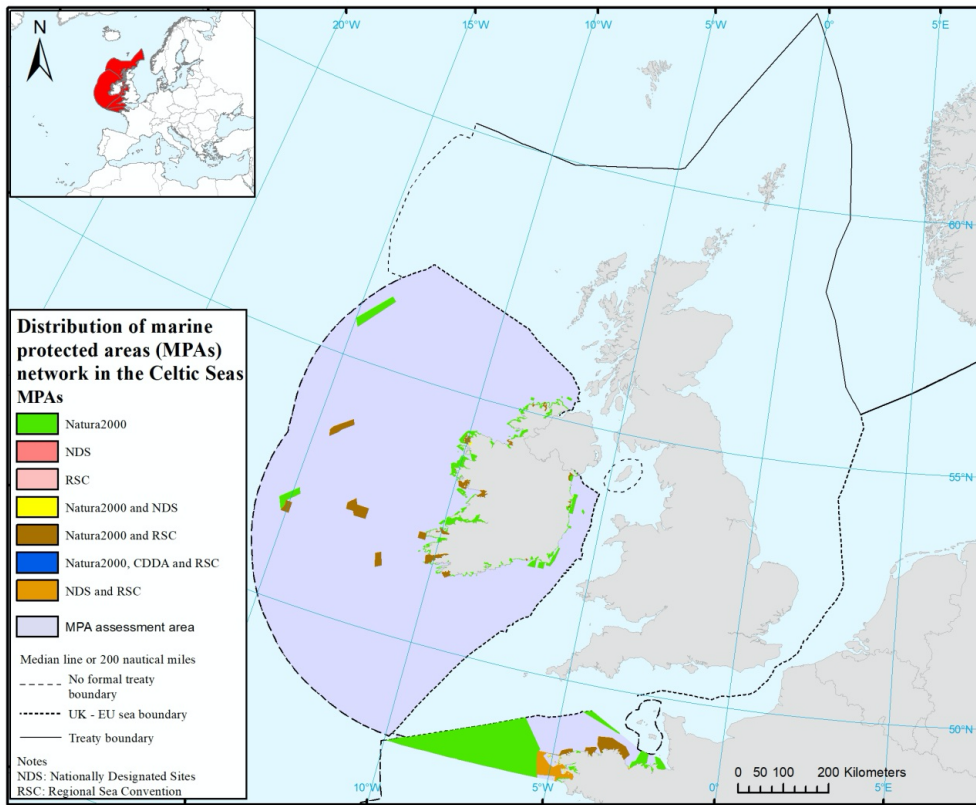
Map 3.4a: Distribution of Marine Protected Area (MPA) networks in the Baltic Sea marine region



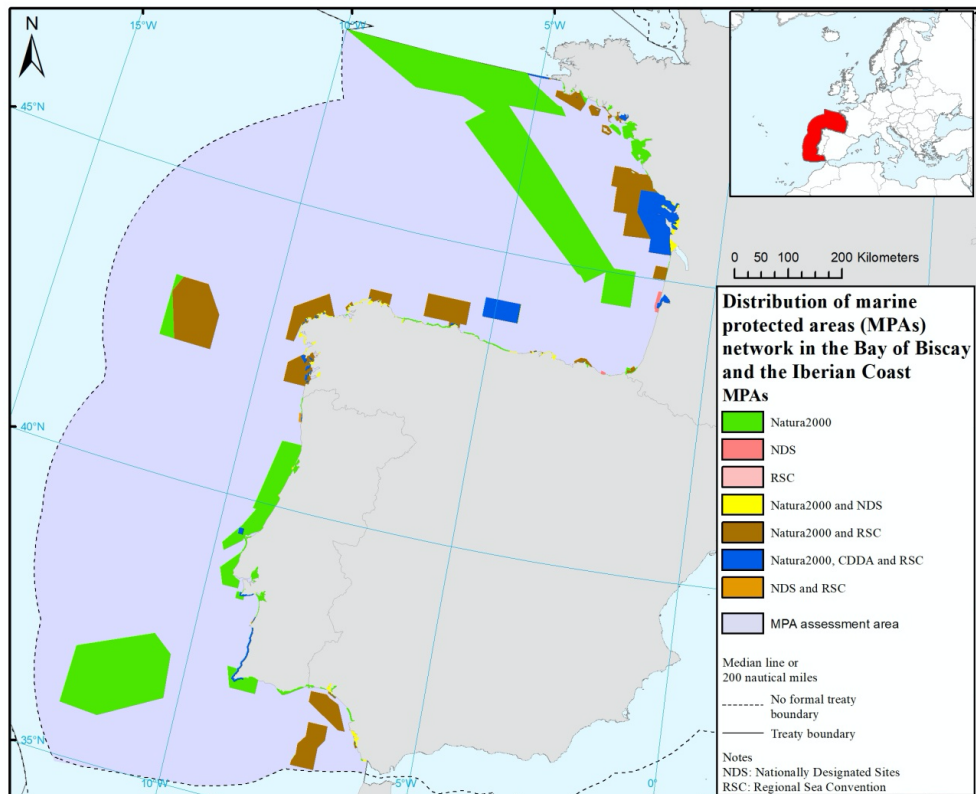
Map 34.b: Distribution of Marine Protected Area (MPA) networks in the Greater North Sea including the Kattegat and English Channel marine sub-region



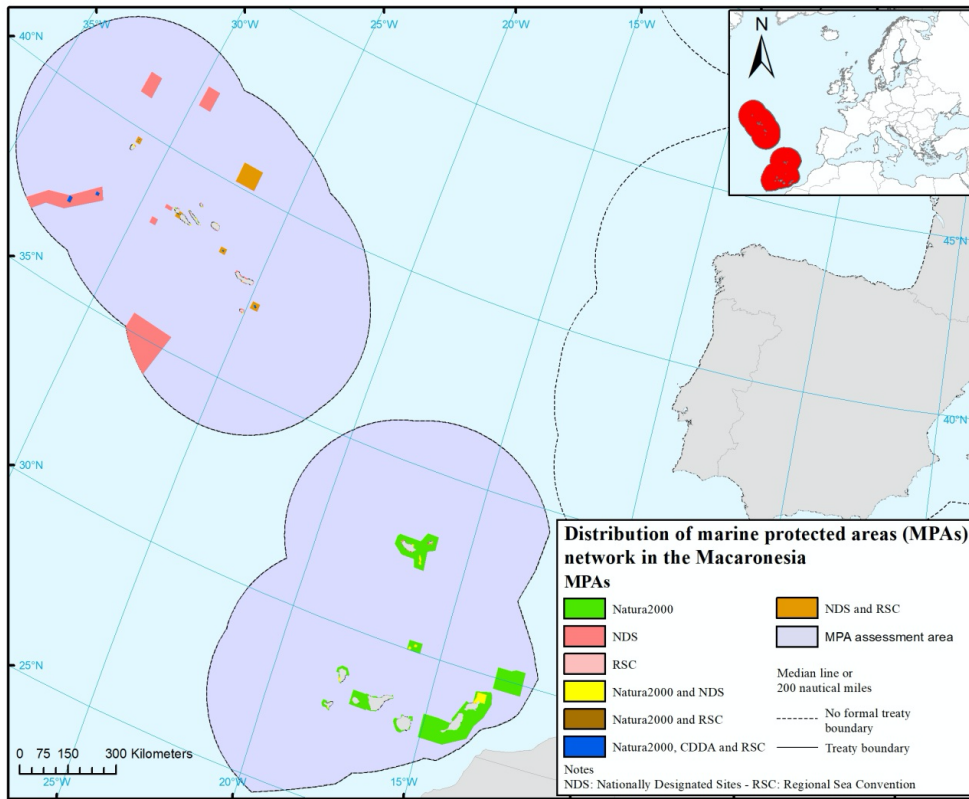
Map 3.4c: Distribution of Marine Protected Area (MPA) networks in the Celtic Sea sub-region



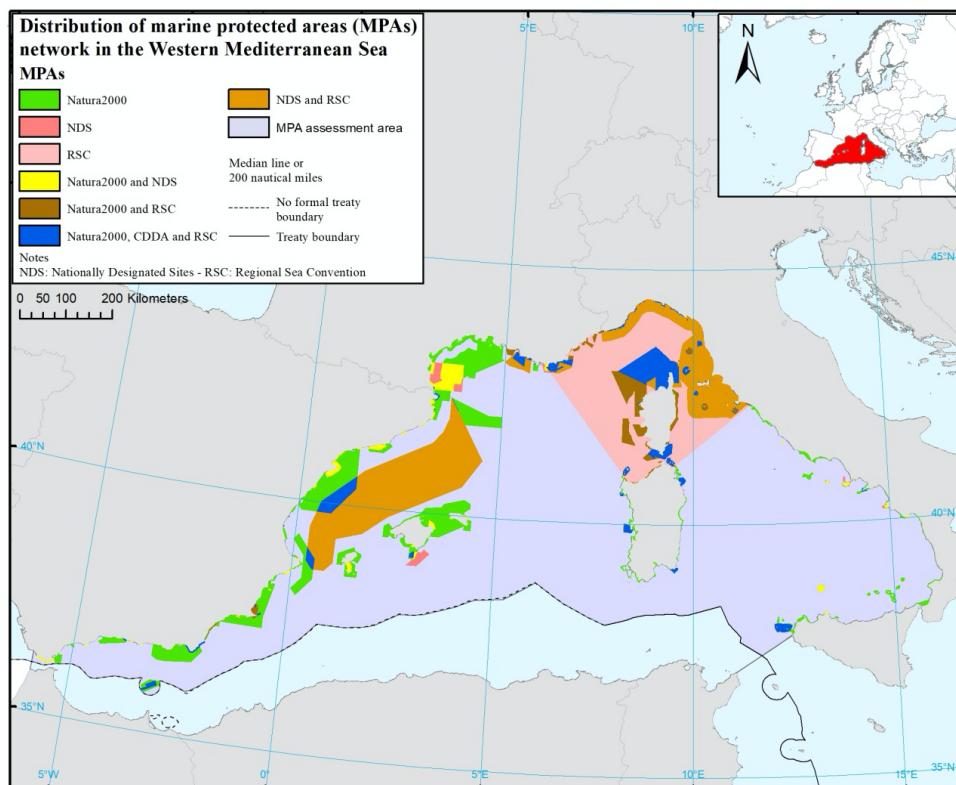
Map 3.4d: Distribution of Marine Protected Area (MPA) networks in the Bay of Biscay and the Iberian Coast sub-region



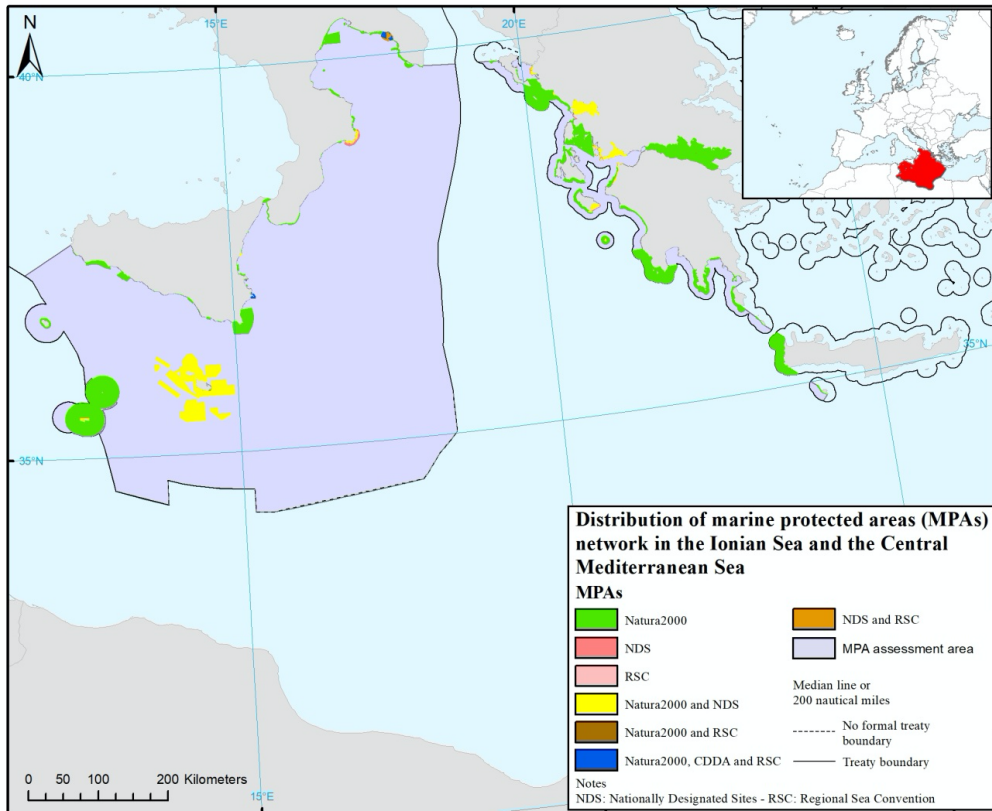
Map 3.4e: Distribution of Marine Protected Area (MPA) networks in the Macaronesia sub-region



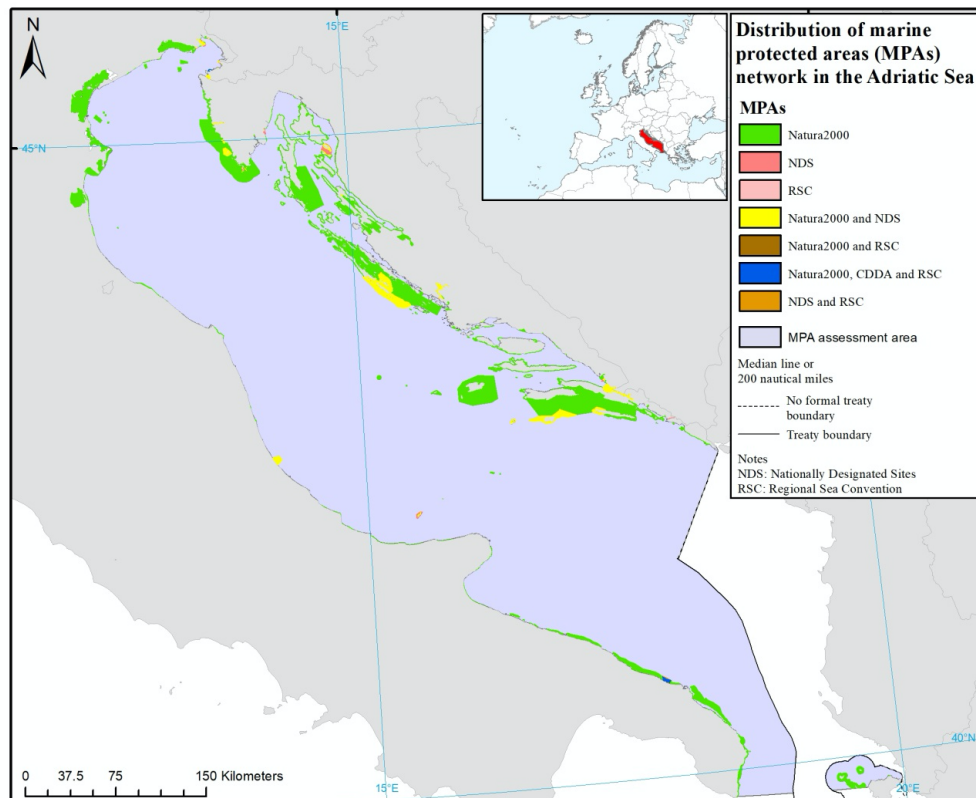
Map 3.4f: Distribution of Marine Protected Area (MPA) networks in the Western Mediterranean Sea sub-region



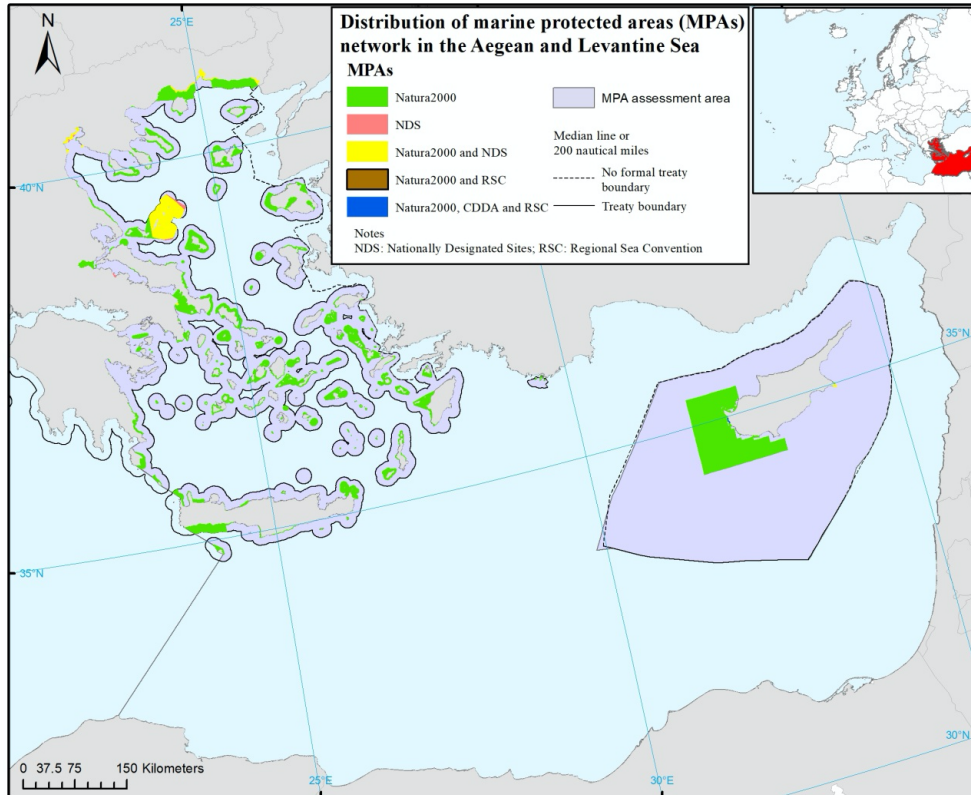
Map 3.4g: Distribution of Marine Protected Area (MPA) networks in the Ionian Sea and the Central Mediterranean Sea sub-region



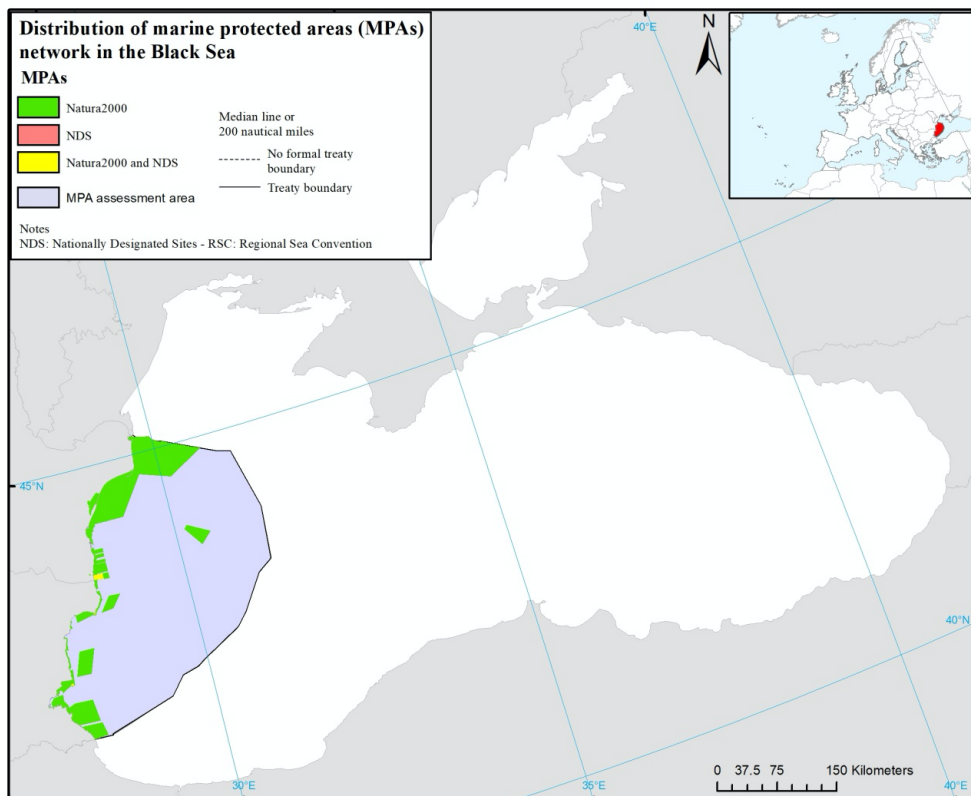
Map 3.4h: Distribution of Marine Protected Area (MPA) networks in the Adriatic Sea sub-region



Map 3.4i: Distribution of Marine Protected Area (MPA) networks in the Aegean and Levantine Sea sub-region



Map 3.4j: Distribution of Marine Protected Area (MPA) networks in the Black Sea sub-region



3.4.1 MPA representativity

Table 3.5 provides statistics on the spatial extent of all the MPA networks combined, considering the eventual areas of MPA overlap between networks as a unique value so as to avoid duplication of surface area counts for such areas. The percent surface area coverage for the entire network is calculated with respect to the surface extent of the MPA assessment area regions/sub-regions. The percent increase refers to that observed during the three-year period while the percent overlap indicates how much of the overall network extension is affected by the overlap of two or more networks. 'NA' is assigned when the comparison between the estimates of the statistics referring to the end of 2016 and 2019, is not feasible due to the change in assessment area extension following the UK exit from the EU.

One of the commitments introduced by the EU BS 2030 are the spatial targets of 30 %/10 % cover of MPAs in European seas. The tables and figures presented in this section are therefore commented with respect to this new objective while the Aichi 11 coverage target, derived from previous global CBD target and described in previous MPA spatial statistics is no longer the object of analysis.

Table 3.5 Surface area, percentage cover and percentage of increase of EU-27 Marine Protected Areas (MPAs) in MPA assessment area regions and sub-regions (Natura 2000, Nationally Designated Sites – NDSs – and Regional Seas Convention – RSC – sites)

MPA assessment area regions and sub-regions	Area covered by MPAs (km ²)	% covered by MPAs	% increase	Total no. of sites	% area overlap of MPA networks
Baltic Sea	61,927	16.8	+0.3	2,598	12.2
North East Atlantic Ocean	304,006	9.0	NA	1,440	36.3
Celtic Sea	39,861	8.1	NA	330	23.6
Greater North Sea incl. Kattegat & English Channel	63,741	28.2	NA	659	81.7
Bay of Biscay and the Iberian Coast	132,745	16.5	+6.7	325	31.7
Macaronesia	67,658	3.6	+0.3	140	10.0
Mediterranean Sea	228,980	18.7	+7.0	1,476	42.7
Western Mediterranean Sea	180,635	27.4	+7.8	668	49.6
Ionian Sea and Central Mediterranean Sea	19,492	7.7	+4.6	213	26.8
Adriatic Sea	6,967	5.8	0.0	389	9.7
Aegean-Levantine Sea	21,886	11.5	+8.9	220	9.8
Black Sea	9,192	14.3	0.0	49	0.9
Total	604,104	12.0	NA	5,559	35.7

Table 3.5 indicates that:

- The lower number of sites observed in the Western Mediterranean Sea and Ionian Sea and Central Mediterranean Sea, with respect to the end of 2016 data, does not influence the MPA surface area which has increased respectively by 7.8 % and 4.6 % in these subregions in the 3-year period. This is likely due to the establishment of fewer, but large new sites from Malta, Spain and France.

- Amongst the regional seas, the highest MPA coverage is reached in the Mediterranean (18.7 %) followed by the Baltic and Black Seas. The Mediterranean Sea is the region with the highest observed surface area increase trend of the last three years (+7 %). From a sub-regional point of view, the Aegean-Levantine Sea, Western Mediterranean and Bay of Biscay and Iberian Coast are the areas with highest surface increases in the last three years (respectively 8.9 %, 7.8 % and 6.7 %).
- It is worth mentioning that the overall MPA coverage in European seas is 12 % and has not changed much since the last statistical update at the end of 2016. This is mostly due to the fact that the loss of MPA cover in European seas resulting from the UK exit from the EU has been compensated by a proportionally similar protected surface area following the EU27 designation of new and often large sites.

The surface area cover of the combined network per distance belt from the coast, in each of the MPA assessment area regions and sub-regions, is shown in Table 3.6. The percent increase columns indicate the increase observed in coverage during the three-year period.

Table 3.6 Surface area, percentage cover and percentage increase (2017–2019) of EU-27 Marine Protected Areas (MPAs) in nearshore, coastal, and offshore waters in European marine regions and sub-regions

Key: NM: nautical miles

MPA assessment area regions and sub-regions	Area (km ²) of 0-1 NM zone covered by MPAs	Area (km ²) of 1-12 NM zone covered by MPAs	Area (km ²) of 12 NM – END zone covered by MPAs	% of nearshore zone covered by MPAs	% increase	% of territorial zone covered by MPAs	% increase	% of offshore zone covered by MPAs	% increase
Baltic Sea	19,112	27,725	15,090	37	1	18	1	9	0
North East Atlantic Ocean	20,502	74,503	209,001	60	NA	33	NA	7	NA
Celtic Sea	4,953	6,542	28,366	56	NA	16	NA	6	NA
Greater North Sea incl. Kattegat & English Channel	8,704	27,004	28,033	67	NA	44	NA	19	NA
Bay of Biscay and the Iberian Coast	5,242	22,404	105,099	62	1	39	4	14	7
Macaronesia	1,602	18,554	47,502	40	1	30	10	3	0
Mediterranean Sea	26,751	88,648	113,581	49	13	27	6	14	7
Western Mediterranean Sea	10,718	62,958	106,959	68	1	43	1	21	10
Ionian Sea and Central Mediterranean Sea	4,648	13,176	1,669	56	23	26	20	1	0
Adriatic Sea	4,167	2,790	10	40	2	6	0	0	0
Aegean-Levantine Sea	7,218	9,725	4,943	37	22	11	9	6	6
Black Sea	1,076	5,039	3,077	85	0	51	0	6	0
Total	67,440	195,915	340,749	48	4	27	3	8	1

Table 3.6 indicates that:

- The MPA network has expanded in all buffer zones with overall percentage increases of 4 % for the nearshore, 3 % for the territorial and 1 % for the offshore zones of the European seas, despite the reduction in the number of sites linked to the UK exit from the EU.
- MPA coverage in the nearshore waters surpasses the EU Biodiversity Strategy 30 % area coverage threshold in all four regional seas and their sub-regions.
- The territorial waters of the Black Sea and North East Atlantic Ocean surpass the 30 % threshold, although the Celtic Sea sub-region is still under this threshold. In the Mediterranean Sea territorial waters, currently under threshold, there has been significant overall surface area increase (+6 %) with the highest contributing surface area increase observed in the Ionian Sea and Central Mediterranean Sea (+20 %).
- No European region/sub-region is close to the EU BS2030 coverage target in the offshore waters, although discreet protected surface area increases have occurred in the Western Mediterranean Sea, the Bay of Biscay and Iberian Coast and the Aegean - Levantine Sea (respectively +10 %, +7 %, +6 %), during the last three years.

Table 3.7 illustrates the percentage cover resulting from sites established only under a single MPA network type, and the percentage cover resulting from the overlap of sites designated under two or more network designations. The objective of this table is to indicate the degree of complementarity of each network type with respect to the overall MPA coverage resulting in each region and sub-region. Overall MPA coverage is the result of site establishment under more than one network.

Table 3.7 EU 27 Marine Protected Area (MPA) percentage, surface area coverage and the contribution of relative network percentage cover and percentage overlap in MPA assessment area regions/sub-regions.

Key: N2K: Natura 2000; CDDA: Common Database on Designated Areas; RSC: Regional Seas Conventions

MPA assessment area regions and sub-regions	% surface area cover all MPAs	% N2K contribution	% CDDA contribution	% RSC contribution	% shared network contribution
Baltic Sea	16.8	21.0	3.6	3.0	72.4
North East Atlantic Ocean	9.0	53.2	10.4	0.1	36.3
Celtic Sea	8.1	76.3	0.0	0.0	23.6
Greater North Sea incl. Kattegat & English Channel	28.2	14.2	3.9	0.3	81.7
Bay of Biscay and the Iberian Coast	16.5	68.0	0.2	0.1	31.7
Macaronesia	3.6	47.2	42.7	0.0	10.0
Mediterranean Sea	18.7	33.4	1.1	22.9	42.7
Western Mediterranean Sea	27.4	20.2	1.2	29.0	49.6
Ionian Sea and Central Mediterranean Sea	7.7	72.3	0.9	0.0	26.8
Adriatic Sea	5.8	89.4	0.9	0.0	9.7
Aegean-Levantine Sea	11.5	89.6	0.6	NA	9.8
Black Sea	14.3	99.1	0.0	NA	0.9
Total	12.0	43.1	6.0	9.0	41.9

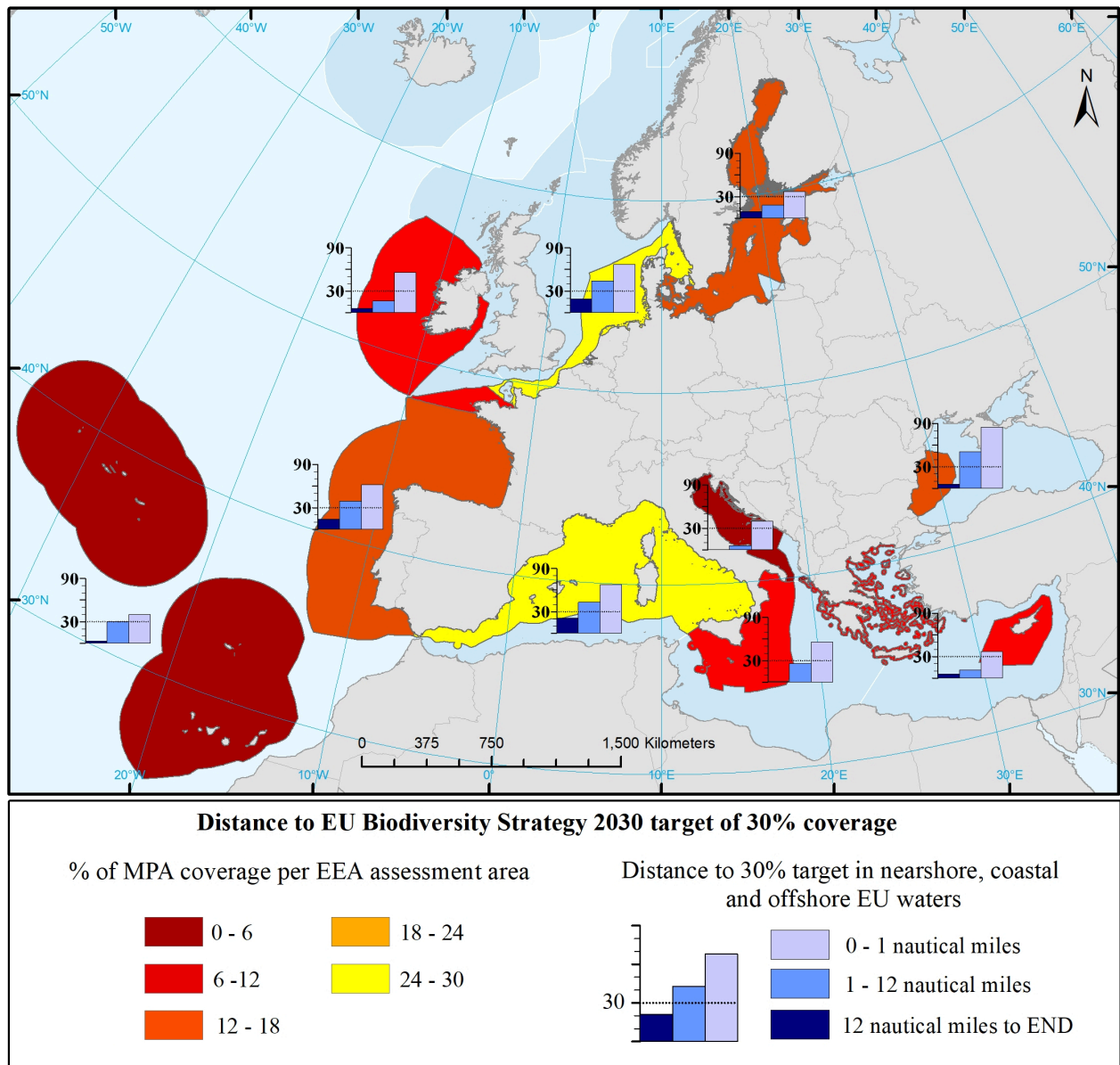
Table 3.7 indicates that:

- The percentage of network contribution to the shared percentage cover varies from one region to another and is generally high (> 25 %) with the exception of the Macaronesia, Adriatic Sea, Aegean-Levantine Sea and Black Sea regions / sub-regions, where sites established under two or more networks varies from 0.9 % to 10 %.
- Natura 2000 is the network which contributes most significantly to the overall attainment of MPA coverage as a single network on its own (43 % of the overall MPA network). In the Black Sea, the Natura 2000 network contributes in highest proportion (99.1 %) to the overall MPA network and in the Adriatic and Aegean-Levantine Sea Natura 2000 nearly reaches 90 % of the overall network.
- Sites established only as CDDA or RSC instead contribute with lower percentages. This is likely due to the fact that in order to be established under RSC frameworks sites need to first be established under national designations of various types that are independent of Natura 2000 establishment frameworks.
- The exception to the above is in the Macaronesia region where sites are established either as Natura 2000 or CDDA, while only 10 % of overlapping MPAs exists.

Another illustration of the distance from the 2030 target of 30 % protection coverage by MPAs is reported in Map 3.5. The colour of each sub-region represents the distance from the threshold target value, covering all the MPAs occurring in the respective sub-region. The superimposed bar charts provide the same information estimated according to buffer distance belts and the 30 % threshold target is indicated with a dashed line.

Map 3.5: Distance to the EU Biodiversity Strategy 30 % coverage target for each Marine Protected Area (MPA), assessment marine region and sub-region and for each buffer zone

Key: EEA: European Environment Agency



The percentage cover of the MPA network, with respect to modelled biological (depth) zone boundaries, is shown in Table 3.8.

Table 3.8 Percentage coverage of EU-27 Marine Protected Areas (MPAs) in each biological depth zone within each EU marine region (NP = Biozone is not present in the region/sub-region). Depth zone as defined by the EUNIS classification

MPA assessment area regions and sub-regions	Infralittoral	Circalittoral	Bathyal	Abyssal
Baltic Sea	40.7	12.0	NP	NP
North East Atlantic Ocean	63.7	24.4	13.7	3.0
Celtic Seas	63.0	14.5	4.6	0.4
Greater North Sea, incl. the Kattegat and the English Channel	68.2	22.6	42.2	NP
Bay of Biscay and the Iberian Coast	52.7	40.6	31.3	7.5
Macaronesia	65.6	58.3	11.8	1.7
Mediterranean Sea	47.5	26.4	17.5	7.2
Western Mediterranean Sea	65.5	54.9	29.1	7.7
Ionian Sea and the Central Mediterranean Sea	48.1	15.1	4.9	NP
Adriatic Sea	28.4	4.1	0.0	NP
Aegean-Levantine Sea	34.8	17.6	8.3	NP
Black Sea	67.2	23.4	0.7	NP
Total	48.6	21.4	15.6	3.4

In summary, Table 3.8 indicates that:

- The MPA network exceeds the 30 % coverage in the infralittoral zone of all but one sub-region (the Adriatic Sea).
- In the circalittoral zone, the 30 % target is reached in only three sub-regions (Bay of Biscay and the Iberian Coast, Macaronesia, and Western Mediterranean Sea).
- In the bathyal zone the target is met only in the Greater North Sea (incl. Kattegat and English Channel) and the Bay of Biscay and the Iberian Coast. In the abyssal zone the coverage is very low and at the most reaches 7.5 % in one sub-region (Bay of Biscay and Iberian Coast).

The MPA percentage coverage of the revised broad habitats is shown in Table 3.9, while Table 3.10 illustrates the representativity of the target achievement (*sensu* Agnesi et al., 2017a, i.e. at least 20 % target coverage achievement and at least 60 % for *Posidonia* beds) and the rate of coverage increase observed during the preceding three-year period. It is worthy of mention that the assessment scenario used for describing the degree of coverage of the broad habitats included in the overall network does not refer to the 30 % EU BD Strategy, but rather to the similar assessment criteria used for the evaluation of the Habitats Directive network sufficiency assessments.

Table 3.9 Percentage coverage of the revised broad habitats within Marine Protected Areas (MPAs) according to each MPA assessment region and sub-region (NP = Revised broad habitat is not present in the region/sub-region)

MPA assessment area regions and sub-regions	Ir	Ic	Is	Im	Imx	Pos	Cym	Cr	Cc	Cs	Cm	Cmx	Br	Bc	Bs	Bm	Bmx	Ar	Ac	As	Am	Amx	
Baltic Sea	29.7	48.5	59.8	37.0	29.3	NP	NP	19.7	26.5	26.3	5.2	13.1	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
North-East Atlantic Ocean	62.4	55.5	67.6	60.2	53.1	NP	88.4	27.4	25.6	28.7	17.5	34.0	16.7	26.7	45.8	7.5	10.3	0.8	0.0	37.5	3.3	2.0	
Celtic Sea	79.0	60.5	58.2	71.6	87.8	NP	NP	17.9	18.9	23.9	1.2	2.0	0.2	17.8	62.5	5.3	0.0	0.0	NP	0.0	0.3	0.0	
Greater North Sea incl. Kattegat and English Channel	49.0	53.5	73.8	57.4	56.2	NP	NP	56.2	29.7	23.1	16.9	14.7	NP	NP	0.0	42.3	39.6	NP	NP	NP	NP	NP	
Bay of Biscay and the Iberian Coast	54.0	48.3	48.6	62.6	41.5	NP	NP	29.4	46.1	45.3	32.5	57.2	36.6	41.9	59.7	32.6	36.5	0.2	NP	38.8	11.9	NP	
Macaronesia	68.8	67.9	72.4	89.3	19.2	NP	88.4	50.4	29.8	78.8	60.7	7.1	9.9	13.1	19.6	5.1	11.1	0.8	0.0	0.0	2.9	2.0	
Mediterranean Sea	51.5	53.8	41.4	NP	51.8	67.4	19.7	34.3	60.7	25.7	25.0	26.9	14.3	59.1	34.9	17.0	5.4	NP	48.8	42.8	6.2	NP	
Western Mediterranean Sea	71.6	62.4	64.8	NP	82.4	67.6	30.9	41.2	68.3	51.7	56.9	35.7	22.8	88.0	41.0	28.5	1.7	NP	48.8	42.8	6.7	NP	
Ionian Sea and Central Mediterranean Sea	37.7	40.1	40.8	NP	91.1	59.6	26.3	20.3	28.1	9.7	22.7	27.1	3.1	3.5	18.0	4.7	5.3	NP	NP	NP	0.0	NP	
Adriatic Sea	40.2	57.1	27.6	NP	59.6	72.1	2.0	30.4	34.9	6.9	2.0	11.5	NP	NP	7.8	0.0	NP	NP	NP	NP	NP	NP	
Aegean-Levantine Sea	2.5	23.6	29.0	NP	23.5	77.4	NP	1.2	9.8	21.1	16.0	31.2	1.7	0.0	27.2	7.8	10.9	NP	NP	NP	NP	NP	
Black Sea	77.4	81.6	78.8	34.8	68.8	NP	NP	93.7	40.9	24.3	27.7	9.6	NP	NP	NP	0.2	NP	NP	NP	NP	0.0	0.0	
Total	47.6	51.9	56.9	42.0	31.5	67.4	23.4	26.6	27.5	27.6	16.5	16.4	16.0	41.5	41.6	13.7	9.4	0.8	48.8	38.2	3.8	1.9	

Habitat legend: I, C, B and A= infralittoral, circalittoral, bathyal, abyssal; r,c,s,m,mx = rock, coarse, sand, mud mixed sediments; Pos, Cy = Posidonia oceanica meadows, Cymodocea nodosa beds

Table 3.10 Achievement of 20 % target coverage (60 % for Posidonia beds) per broad habitat type and MPA assessment region (red = target not achieved) and the change with respect to the end of 2016 coverage (>3 % increase ☺; increase between 0 and 3 % ☹; no trend increase observed, ☹).

MPA assessment area regions and sub-regions	Ir	Ic	Is	Im	Imx	Pos	Cym	Cr	Cc	Cs	Cm	Cmx	Br	Bc	Bs	Bm	Bmx	Ar	Ac	As	Am	Amx	
Baltic Sea	☹	☹	☹	☹	☹			☹	☹	☹	☹	☹											
North-East Atlantic Ocean	☹	☹	☹	☹	☹		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
Celtic Sea	☹	☹	☹	☹	☹			☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
Greater North Sea incl. Kattegat and English Channel	☹	☹	☹	☹	☹			☹	☹	☹	☹	☹			☹	☹	☹						
Bay of Biscay and the Iberian Coast	☹	☹	☹	☹	☹			☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
Macaronesia	☹	☹	☹	☹	☹		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
Mediterranean Sea	☹	☹	☹		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
Western Mediterranean Sea	☹	☹	☹		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
Ionian Sea and Central Mediterranean Sea	☹	☹	☹		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
Adriatic Sea	☹	☹	☹		☹	☹	☹	☹	☹	☹	☹	☹			☹	☹							
Aegean-Levantine Sea	☹	☹	☹		☹	☹		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
Black Sea	☹	☹	☹	☹	☹			☹	☹	☹	☹	☹				☹					☹	☹	
Total	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹

Habitat legend: I, C, B and A= infralittoral, circalittoral, bathyal, abyssal; r,c,s,m,mx = rock, coarse, sand, mud mixed sediments; Pos, Cy = Posidonia oceanica meadows, Cymodocea nodosa beds

Table 3.9 and 3.10 highlight that:

- Most infralittoral habitats are displaying an increasing coverage meeting up to the threshold levels, but some habitats in the Mediterranean Sea are still not meeting sufficient coverage, such as the infralittoral rock in the Aegean-Levantine Sea and the infralittoral mixed sediment in the Macaronesia.
- The number of habitats that are under threshold increase in the circalittoral biozone. This is particularly evident in the Baltic Sea, in the Celtic Sea, in the Adriatic Sea and in the Aegean and Levantine, where more than half of the circalittoral habitats are under threshold and most are characterised by a low/weak increasing surface cover trend in the last three years. The trend increase is particularly low/absent in the Baltic, Celtic and Adriatic Seas.
- Bathyal and abyssal habitats are generally under coverage targets in two out of four sub-regions of the North East Atlantic Ocean and three out of four Mediterranean sub-regions.

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