



Network for the Conservation of Cetaceans
and Sea Turtles in the Adriatic

Strategy on the conservation of sea turtles in the Adriatic Sea for the period 2016–2025



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List of acronyms

ACCOBAMS – Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area

BPA – Biological Resource Protection Areas

BWI - Blue World Institute of Marine Research and Conservation

CBD – Convention on Biological Diversity

CITES – Convention on International Trade in Endangered Species of Wild Fauna and Flora

CMS –Convention on Migratory Species of Wild Animals (Bonn Convention)

EBSA - Ecologically or Biologically Significant Areas

EC – European Commission

EFPZ - Ecological and Fisheries Protection Zone

EIA - Environmental Impact Assessment

EIONET - European Environment Information and Observation Network

ENIA - Ecological Network Impact Assessment

EPZ – Ecological Protection Zone

EU MS - European Union Member States

FAO – Food and Agriculture Organization of the United Nations

GDP - Gross Domestic Product

GFCM – General Fisheries Commission for the Mediterranean

IGO – Intergovernmental Organisation

IMO – International Maritime Organisation

IMPEL - European Union Network for the Implementation and Enforcement of Environmental Law

IUCN – International Union for Conservation of Nature

LNG – Liquid natural gas

MPA – Marine protected areas

MSFD – EC Marine Strategy Framework Directive

NAP – National Action Plan

NBSAP – National Strategy and Action Plan for Protection of Biodiversity

NETCET – Network for the Conservation of Cetaceans and Sea Turtles in the Adriatic

NGO – Non-Governmental Organisation

NUTS 3 - Nomenclature of Units for Territorial Statistics with population from 150,000 to 800,000 people

PAC – Priority Area of Conservation

RAC/SPA - Regional Activity Center for Specially Protected Areas

SAP BIO - Strategic Action Programme for the Conservation of Biological Diversity

SBSTTA - Subsidiary Body on Scientific, Technical and Technological Advice

SEA - Strategic Impact Assessment

SINP - State Institute for Nature Protection (since 16th of September 2015 Croatian Agency for the Environment and Nature)

SPA/BD Protocol – Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean under the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention)

SPAMI - Specially Protected Areas of Mediterranean Importance

SWOT - A tool that identifies the strengths, weaknesses, opportunities and threats of an organization

UNCLOS – United Nations Convention on the Law of the Sea

UNEP/MAP – United Nation Environemnt Programme/Mediterranean Action Plan

WG – Working group

WMS – Web Map Service

WWF – World Wildlife Fund

1. Introduction

Sea turtles are ancient species with a life cycle linked strongly to terrestrial and marine ecosystems. According to the existing knowledge, sea turtles do not nest in the Adriatic Sea. Therefore, the health of the marine environment is crucial for conservation of these migratory species. The human population is also attracted to the marine environment, particularly for the use of marine resources. Under such circumstances, ensuring the harmonious co-existence between sea turtles and humans is a challenge, but also an obligation for future generations. Due to their migratory features, sea turtles do not recognize state borders and jurisdictions. Therefore, any conservation effort requires transboundary cooperation. This notion was the main premise for the development of the NETCET project (www.netcet.eu), funded through the EU IPA Adriatic cross-border cooperation programme 2007–2013. In the scope of this project, a total of 13 partners from nearly all the Adriatic countries (Albania, Croatia, Italy, Montenegro and Slovenia) have been working on a range of activities aimed at gaining knowledge about the status of sea turtles, improving capacities to perform particular conservation tasks, raising awareness of the importance of sea turtle conservation, and establishing a relevant, regional cooperation network. Based on analyses of the current situation, NETCET partners identified future conservation needs and developed the Strategy for conservation of sea turtles in the Adriatic Sea for the next ten year period (2016–2025). The purpose of the Strategy is to focus the existing resources into concrete actions in a timely manner, to ensure the long-term conservation of sea turtles in the Adriatic Sea.

2. Summary

The conservation of sea turtles as a migratory species requires efforts extending beyond national borders. This is the spirit of the NETCET project, implemented by 13 partner institutions and organisations from nearly all the Adriatic countries, involved mostly in nature conservation.

The final project outcome was the development of the Strategy for conservation of sea turtles in the Adriatic Sea for the period 2016–2025, aimed at determining the necessary future actions to ensure long-term existence of sea turtles in the Adriatic Sea.

The Strategy includes six main elements: Overview of the present state of sea turtles; Vision; Objectives; Action plan; Implementation; Monitoring and revision of the Strategy.

The comprehensive **review of the present state of sea turtles**, also prepared as part of the NETCET project, formed the foundation for development of the Strategy. The review confirmed the significance of the Adriatic Sea as one of the most important foraging areas for these species in the Mediterranean, as well as strong link to animals in Greece. Despite research efforts within the NETCET project, there is still a lack of knowledge on abundance and distribution, particularly for some species; use of habitats and population structure; and the actual impacts of threats.

Sea turtles are under pressure from human activities in the Adriatic Sea, with bycatch and marine debris currently identified as most significant direct threats. The international community has recognised the need to conserve sea turtles and their habitats in the Adriatic Sea and beyond, through a number of international agreements, and policies and directives at the EU and national levels. National nature conservation governmental bodies, institutions and non-governmental organisations are operational, with varying efficiency. Conservation mechanisms, such as legal protection for species, the establishment of protected areas and stranding networks, are also being implemented in the majority of Adriatic countries. However, the effectiveness of these efforts is still not sufficiently clear.

Ideally, in the future, the Adriatic Sea should be a safe place for sea turtles and humans to coexist. This **vision** can become a reality if the eight **objectives** and accompanying targets are accomplished within the next ten year period. This includes improving knowledge about sea turtles, reducing the impacts of threats, enhancing cooperation between stakeholders, establishing a common conservation legislation framework for the Adriatic, understanding the adequacy of targeted protection of areas for conservation of sea turtles in the Adriatic, improving capacities for conservation issues, raising public awareness and ensuring adequate funding. These objectives are linked to global and regional strategies, such as the Aichi

Targets 2011–2020¹, the EU Biodiversity Strategy to 2020², Action Plan for the conservation of mediterranean marine turtles of the UNEP MAP RAC/SPA³ and the EU Strategy for the Adriatic and Ionian region⁴.

The **Action plan** includes 41 actions that should be implemented to achieve these objectives. Above all, **the knowledge base** should be improved through further inventorying and monitoring of sea turtles in the Adriatic Sea. This encompasses setting up and implementing standard sea turtle monitoring and better and more systematic data exchange and storage.

The management of threats should focus on the most significant threats, particularly accurately assessing bycatch rate and anthropogenic noise and identifying appropriate mitigation measures and techniques. The issue of marine debris represents a much greater challenge, which requires a shift in existing consumer practices. **Cooperation between institutions/sectors** is a horizontal issue, tackling all conservation activities, particularly those under the management of threats. Continuation of the NETCET partnership should be ensured after project completion.

Legislation should be aligned in all Adriatic countries to a single common platform, which is the relevant EU acquis communautaire. Better cooperation between inspection services is needed to facilitate the enforcement of the relevant legislation. In order to understand the adequacy of **targeted protection of areas** for sea turtle conservation, it is important to identify significant habitats for sea turtles and to propose adequate mechanisms for their conservation.

The results gained from monitoring strandings can be valuable for understanding the state of sea turtles. It is important to **build institutional and human capacities** to establish functional stranding networks, to maintain the quality of necropsy and examination procedures, and to ensure adequate capacities for monitoring.

The general public is an important ally in biodiversity conservation. Hence **public awareness** activities are needed through targeted campaigns, the celebration of relevant dates and similar activities. The City network promoted through the NETCET project provides an important structure upon which to base such activities.

Finally, no activities can be implemented without adequate **funding**. The existing funding possibilities should be explored and linked to ongoing initiatives, including better exchange of information and the development of the NETCET project follow-up.

Implementation of the Strategy is a challenge. The absence of institutions with the appropriate mandate to develop and implement the Strategy is an issue. It is important, therefore, to ensure that elements of the Strategy are included in future regional strategies. In addition, the Strategy represents a guideline for development of the National Action Plans, also prepared under the NETCET project. The Strategy should be **revised** and updated every ten years, or when appropriate, based on the evaluation of its effectiveness.

1 - <https://www.cbd.int/sp/targets/>

2 - <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0244&from=EN>

3 - <http://www.rac-spa.org/>

4 - <http://www.adriatic-ionian.eu/>

3. Methodology of the Strategy development

The development of the Strategy for conservation of sea turtles in the Adriatic was carried out through the IPA Adriatic NETECT project by a group of 13 partners from Albania, Croatia, Italy, Montenegro and Slovenia. By affiliation, these partners are research institutions, governmental agencies and NGOs dealing with nature conservation issues.

For the purpose of strategic planning, a working group (WG) was established (Annex 1), coordinated by the Croatian State Institute for Nature Protection.

The starting point was the preparation of the analysis of the present state of knowledge (Fortuna, C.M., Holcer, D., Mackelworth, P. (eds.) 2015. Conservation of Cetaceans in the Adriatic Sea. 135 pages. Report produced under WP 7 of the NETCET project, IPA Adriatic Cross-border Cooperation Programme) which includes the analysis of abundance, distribution, threats and human responses including legislation, institutional frameworks, existing conservation mechanisms and their implementation (reference to the document(s)). In addition, a SWOT analysis was carried out during one of the project team meetings.

The vision of the Strategy, the most relevant key issues and possible solutions, were identified through a half day workshop and further discussed during one session held in the scope of the regular project partner's meeting. The WG coordinator prepared the Strategy proposal taking into account the results of analysis of the present state and outputs of the meetings. The proposal was sent to partners for final comment.

4. Vision

Desired ideal future for the sea turtles in the Adriatic is determined as follows:

“The Adriatic is a safe place for sea turtles and humans to coexist”

5. Overview of the present state of the sea turtles in the Adriatic Sea

The overview of the present state of sea turtles summons the existing knowledge about these species in the Adriatic Sea, the pressures and threats that they face, as well as efforts invested in their conservation. This endeavour also displays the key issues that need to be addressed to ensure the long-term conservation of sea turtles in the Adriatic Sea.

5.1. BASIC GEOGRAPHICAL, PHYSICAL AND POLITICAL FEATURES OF THE ADRIATIC SEA

5.1.1. GEOGRAPHICAL AND PHYSICAL FEATURES

The Adriatic Sea is a semi-enclosed basin linked to the Mediterranean Sea, with the surface area over 133,000 km². It includes over 1,200 islands, islets and reefs and has almost 8,500 km of shoreline. It is divided into three sub-basins: 1) northern Adriatic - a shallow basin with the bottom reaching a maximum of about 100 m (average depth = 35 m); 2) central Adriatic - characterised by three depressions located along the transversal line off the coast of Pescara (Jabuka/Pomo pit), with a maximum depth of about 280 m; and 3) southern Adriatic - separated from the central Adriatic by the 170 m deep Palagruža sill (Fig. 1).



Figure 1
Adriatic Sea:
Map of the region
with bathymetry and
main locations used
in this document
(Prepared by:
Draško Holcer, BWI,
NETCET)

5.1.2. POLITICAL FEATURES

The Adriatic Sea is bordered by Albania, Bosnia-Herzegovina, Croatia, Italy, Montenegro and Slovenia. Of the six Adriatic countries Croatia has the longest total coastline, whereas Slovenia and Bosnia-Herzegovina has the smallest total coastline. The general maritime jurisdictional situation in the Adriatic Sea is rather complex.

Some of these boundaries are still not ratified by the relevant parties (Fig. 2). When adding the potential Ecological Protection Zone (EPZ) and Ecological and Fisheries Protection Zone (EFPZ), the waters under the jurisdiction of European Member States amount to 87% of the total area. Eight percent in the southern Adriatic is still officially unclaimed.



Figure 2
Maritime jurisdiction
within the Adriatic
Sea (Source:
UNCLOS)



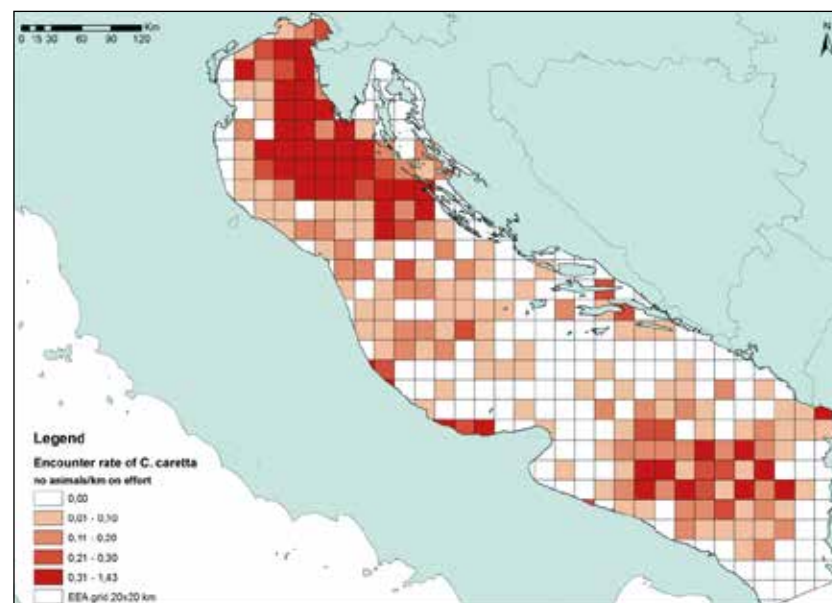
5.2. SEA TURTLE SPECIES IN THE ADRIATIC SEA

5.2.1. OCCURRENCE, ABUNDANCE AND DISTRIBUTION

Three sea turtle species are present in the Adriatic Sea: leatherback turtle (*Dermochelys coriacea*), green turtle (*Chelonia mydas*) and loggerhead turtle (*Caretta caretta*). While the leatherback turtle is rare and the green turtle only occasionally present, the loggerhead turtle is the most abundant sea turtle species in the Adriatic Sea. In fact, the Adriatic is recognised as one of the most important foraging areas for this species in the Mediterranean. Genetic markers indicate that the main origin of these animals is Greece.

Results of aerial surveys from 2013 and satellite tracking (in the scope of the NETCET project) confirmed that the northern Adriatic (known as one of the main feeding grounds in the Mediterranean), shows higher densities of sea turtles (Fig. 3).

Figure 3
The distribution of sea turtles in the Adriatic during the 2013 NETCET aerial survey: relative density of encounters (group/linear km of effort) and relative density of animals (no. of animals/linear km of effort) over a 400 km² cell grid (Source: NETCET project).



The minimum estimate of sea turtles in the Adriatic is 31,051. Since loggerhead and green turtles can be confused in aerial observations, this abundance estimate may actually include green turtles. Based on the existing data (published and unpublished), the potential proportion of green turtles is estimated to not exceed 2%.

Three types of movement patterns have been observed in the Adriatic to date (Figs. 4 and 5):

- 1) adult breeding migration from foraging to breeding grounds and vice-versa,
- 2) seasonal migration: southward movements from the northern Adriatic when temperatures drop in the cold season;
- 3) erratic pattern, with turtles wandering through areas of varying size, even as large as part of the Adriatic.

The existing data are still not sufficient to identify sub-areas with higher turtle occurrence. However, for both breeding and seasonal migrations, most of the observed routes were along the western and eastern Adriatic coasts, suggesting that these may be considered migratory corridors.

Movements limited to the Adriatic, but spanning several territorial waters, indicate that a pan-Adriatic approach is needed for loggerhead turtle conservation.

Figure 4
Movement map for 18 loggerhead turtles tracked within the NETCET project (Source: www.seaturtle.org)

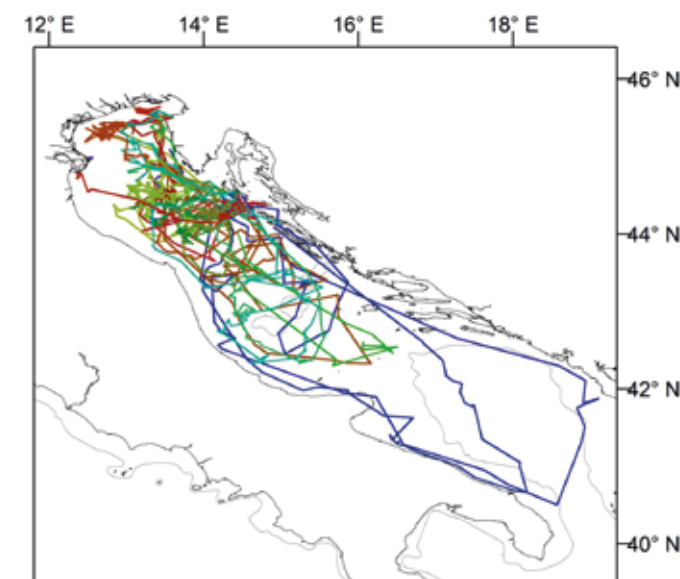
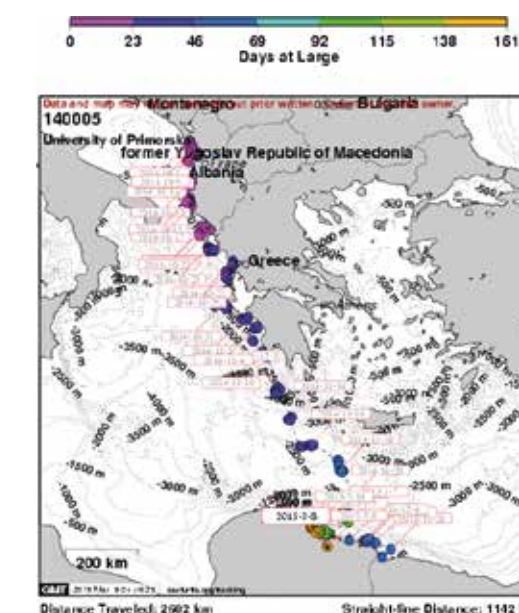


Figure 5
Movement map of a green turtle tagged within the NETCET project (Source: www.seaturtle.org)



5.2.2. CONSERVATION STATUS

Conservation status was estimated at the Mediterranean level in accordance with the Habitats Directive. Unfortunately, the IUCN status has been assessed for the global level alone (Table 1).

TABLE 1.

Status of sea turtles in the Mediterranean

(Sources: IUCN, EIONET)

Species	IUCN status	Conservation status under the Habitats Directive for the Mediterranean biogeographical region
Loggerhead turtle (<i>Caretta caretta</i>)	Unknown	Unfavourable - Bad
Green turtle (<i>Chelonia mydas</i>)	Unknown	Unfavourable - Bad
Leatherback turtle (<i>Dermochelys coriacea</i>)	Unknown	Unkown

5.3.

MAIN HUMAN ACTIVITIES PRESSURING SEA TURTLES IN THE ADRIATIC SEA

5.3.1. POPULATION DENSITY

In terms of the human population potentially affecting the Adriatic area, Italy has the greatest and Montenegro has the lowest potential to have an impact (Fig. 6). The most obvious impacts in this sense are sheer byproducts of human existence, such as communal solid waste and waste waters.

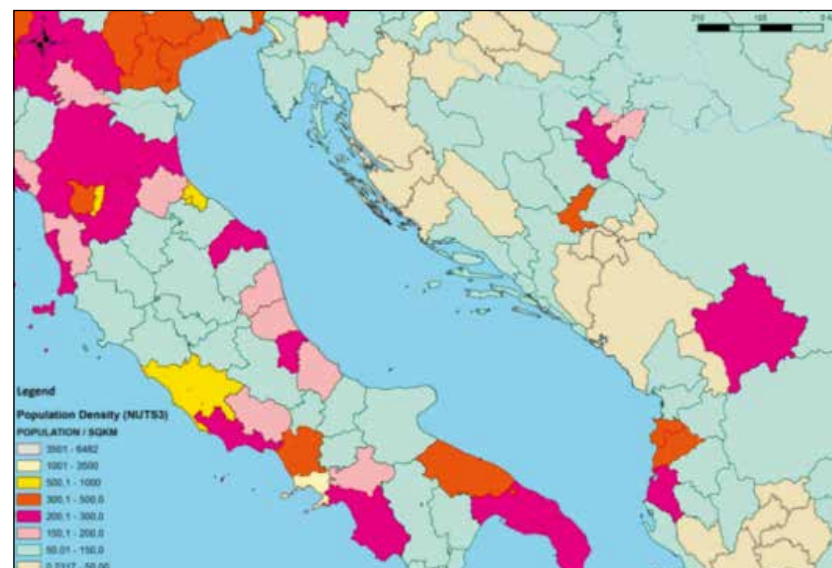


Figure 6
Population density (NUTS3) in the Adriatic region (persons per km2)
(Prepared by: Draško Holcer, BWI, NETCET)

5.3.2. FISHERY

The Adriatic Sea, one of two Mediterranean areas with the largest continental shelf (the other being the Gulf of Gabès), is the most heavily bottom trawled area in the region (Fig. 7).

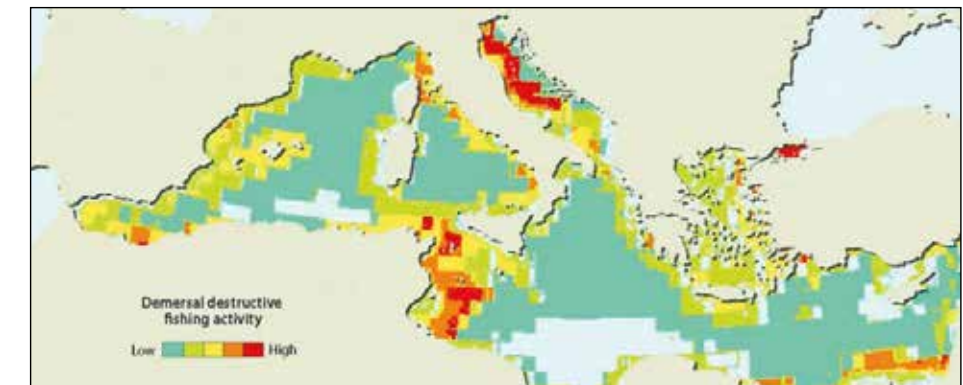
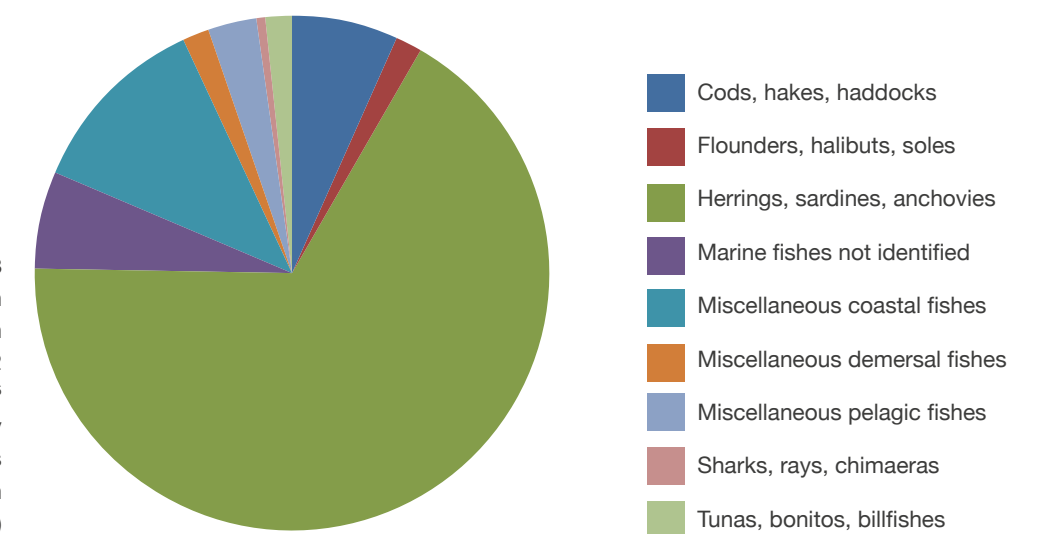


Figure 7
Demersal fishing impact in the Mediterranean Sea (Source: GRID-Arendal, <http://www.grida.no/>)

5.3.2.1. Fishery production

Croatia and Italy had the larger fishery production in 2012. Sardines and anchovies were the most represented species in the catch of the Adriatic (Fig. 8).

Figure 8
Fishery production according to fish species in 2012 in the Adriatic⁵
(Source: FAO Fishery Statistical Collections and MSFD Italian report)



5.3.2.2. Fishing efforts

Within the Adriatic Sea fisheries are managed between two GFCM Geographical Sub-Areas (GSAs): the GSA 17 (north and middle Adriatic) and the GSA 18 (southern Adriatic) (Fig. 9). Croatia, Bosnia-Herzegovina, Italy and Slovenia border the GSA 17. Albania, Italy and Montenegro border the GSA 18, which extends down to the Albania-Greece border.

⁵ Bosnia and Herzegovina do not have marine fishes identified; Montenegro did not report two groups of fish: 1) Flounders, halibuts, soles and 2) Miscellaneous demersal fishes; Slovenia did not report group of fish: Tunas, bomitos, billfishes.

Figure 9
Adriatic Geographical
Sub-Areas (GSA) of
the General Fisheries
Commission for the
Mediterranean:
GSA 17 (green) and
GSA 18 (yellow)
(Prepared by: Draško
Holcer, BWI, NETCET)

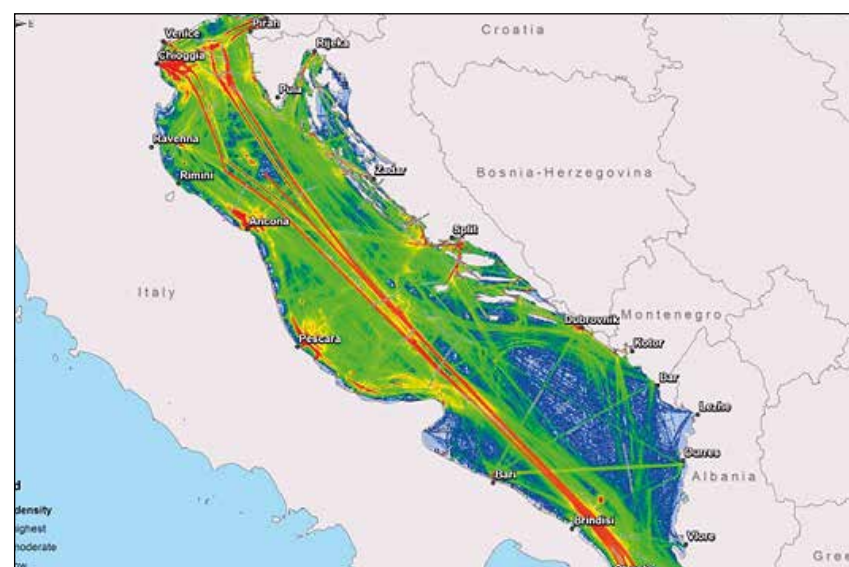


The majority of fishing boats in the Adriatic belong to Croatia and Italy. In the GSA 17 (northern and middle Adriatic) traps are by far the most used fishing gear, followed by gill-nets and entangling nets, trawls and dredges. Trawls are by far the most used fishing gear in GSA 18 (southern Adriatic) area, followed by gill-nets and entangling and purse-seine.

5.3.3. MARITIME TRAFFIC

The Mediterranean Sea is among the busiest shipping routes in the world accounting for 15% of global shipping. The maritime traffic density over the Adriatic Sea shows that most of the traffic is concentrated in the northern and central parts (Fig. 10).

Figure 10
A snapshot of maritime
transportation routes
and traffic density
(all types of vessels)
in the Adriatic Sea
(Source: SHAPE
project WMS and
www.marinetraffic.com)

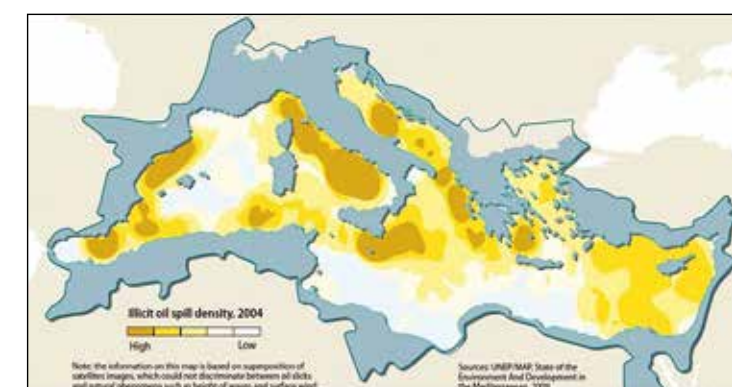


Maritime traffic in the Adriatic includes transport routes for tankers with crude oil to the northern Adriatic ports, liquefied gas transport to the Rovigo LNG terminal, dry cargo and container ships, chemical tankers and passenger ships. In addition, fishing vessels, yachts, recreational boats, military and research vessels contribute to the general and heavy local maritime traffic. Such a busy shipping traffic increases the risk of negative effects on the marine environment. Particularly considering ballast waters, pollution and oil spills, collision, noise, all of which ultimately result in habitat degradation. Therefore the Adriatic Sea is regarded as a high risk area for accidents. Furthermore, the International Maritime Organization (IMO) has recorded a five times higher level of accident frequency in the Adriatic Sea than the world average, mostly due to accidents related to seasonal nautical tourism.

5.3.4. OIL AND GAS EXPLORATIONS AND EXPLOITATIONS

Currently, there are 131 different gas and oil extraction platforms in the Adriatic, around 87% of them are in Italy. They are mostly situated in the north part of the Adriatic. Seismic surveys have been regularly carried out in search for gas and oil, including surveys in Italy and Croatia and planned in Montenegro. In addition, since 2009, a liquid natural gas (LNG) offshore terminal has operated in the northern Adriatic (Italy) with two more planned in the future (Slovenia and Croatia). Given the high intensity of maritime traffic and the importance of the Adriatic for oil and gas exploration, this appears to be one of the Mediterranean regions with the highest potential for both chronic and acute hydrocarbon pollution (Fig. 11).

Figure 11
Potential oil slicks
detected by satellites
(Source: GRID-
Arendal, based on
UNEP/MAP report
2013)



5.3.5. TOURISM

All six countries bordering the Adriatic Sea are important tourist destinations with about 69,3 million tourist arrivals per year. Tourism is a significant source of income for Croatia and Montenegro relative to their Gross Domestic Product (GDP). In the last decade the nautical tourism and the resulting maritime traffic in the Adriatic Sea has significantly increased, particularly personal watercraft and cruising. This type of tourism has a classic peak in the summer months. In addition, tourism generates traffic in terms of ferries, large hydrofoils and fast catamarans. Collision with fast moving vessels is an issue of some concern for sea turtles. There have been reports of collisions between leisure boats (particularly speedboats) and sea turtles resting near the surface. While numbers are not considered to be high this is an aspect that should be considered in the future given the increasing numbers of fast moving leisure boats in the Adriatic region.

5.4. THREATS AND THEIR IMPACTS ON SEA TURTLES IN THE ADRIATIC SEA

Human activities are a particular source of threat to sea turtles. To date, eight types of threats have been identified, with bycatch and marine debris assessed as the most significant in terms of severity of impacts and the number of sea turtles species they may affect (Table 2, Fig. 12). However, it should be stressed that these assumptions were given based on scarce data on actual impacts. The highest number of bycatch events has been recorded with bottom trawlers, followed by mid-water/pelagic trawlers. While there is no reliable data for gill-net or longlines, experts believe that mortality from these types of fishing gear is also high. The impacts of climate change are least understood, however, given the geographical features of the Adriatic, this can be expected to be an important issue that will have to be addressed.

Figure 12
Sea turtle strandings caused by fisheries in the Adriatic (Croatia)
(Prepared by: Ana Maričević, SINP/CAEN, NETCET)

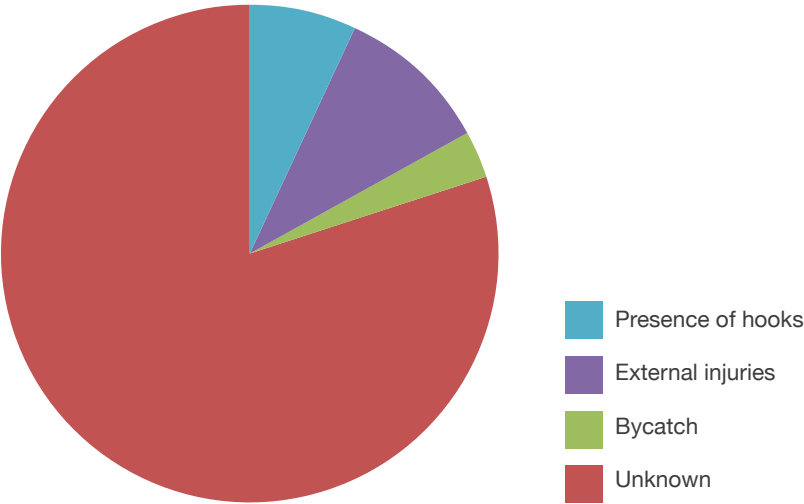


TABLE 2.
Summary of threats for sea turtles in the Adriatic Sea

Threats	Human activities causing threats	Impact of threat	Extent	Significance of threats	Species affected	Source of information for the region
Bycatch	Fishery	Direct mortality	Individual level Potential for population level	High	All sea turtle species	Casale et al. 2004; Lazar et al. 2004; Lazar et al. 2006; Casale et al. 2010
Marine debris	Tourism Fishery	Direct mortality	Individual level (potential for population level)	Medium/High	All sea turtle species	Casale et al. 2010; Lazar & Gracan 2011
Chemical pollution	Agriculture Sewage (communal)	Direct and indirect mortality (habitat degradation)	Individual level (direct mortality) Population level (indirect mortality)	Medium	All sea turtle species	
Collisions with boats	Tourism (seasonal)	Direct mortality	Individual level and sub-population level	Medium	All sea turtle species	Casale et al. 2010
Anthropogenic noise	Oil and gas exploitation	Behavioural changes, direct and indirect mortality (habitat degradation)	Individual level and sub-population level	Medium	All sea turtle species	
Anthropogenic noise	Tourism (seasonal)	Behavioural changes	Individual level and sub-population level	Low	All sea turtle species	
Depredation	Fishery	Behavioural changes, direct mortality	Individual level and sub-population level	Low	All sea turtle species	Casale & Giovanardi 2001
Climate change	All activities with high fossil fuels consumption	Indirect mortality	Population level	Unknown	All sea turtle species	

5.5. SEA TURTLE CONSERVATION EFFORTS

5.5.1. LEGISLATIVE FRAMEWORK

5.5.1.1. International legislation

Eight international conventions and agreements for sea turtle conservation, with associated protocols, are in place. Their scope ranges from biodiversity conservation in general to setting of various mechanisms for conservation of specific species and habitats and supporting environmental protection mechanisms. All Adriatic countries (except Bosnia and Herzegovina) are parties of all or majority of these agreements (Annex 2).

In addition, there are number of conventions, agreements and associated protocols addressing a range of human activities that have potential to affect sea turtles. Within the Adriatic there is a variable degree of adherence to these international legislative frameworks.

5.5.1.2. EU legislation

Three Adriatic countries are members of the European Union (EU MS): Italy, Slovenia and Croatia. There are a number of EU Directives and Regulations relevant for conservation of sea turtles in the Adriatic region, such as Directive on the conservation of natural habitats and wild fauna and flora (Habitats Directive, 92/43/EEC) and the Directive establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive, 2008/56/EC). There are also a number of other regulations addressing human activities that can have an impact on marine species (e.g. fisheries, maritime traffic and pollution). The Adriatic countries which are non-member of the EU have started to harmonisation their respective legislations to EU legislation, supported by the European Commission funding opportunities.

5.5.1.3. National legislation

All Adriatic countries have established to certain level nature conservation legislative framework, regulating overall nature conservation as well as addressing specifically conservation of sea turtles. The majority of countries have at least one nature conservation regulation (usually nature protection act), in force both at national and regional levels. Only in Italy each region enacts its specific regional nature conservation acts. The majority of Adriatic countries also have legislative frameworks to regulate anthropogenic activities with potential impact on sea turtles.

5.5.2. POLICY DOCUMENTS

Strategic Plan for Biodiversity 2011-2020 (Aichi targets) adopted in the scope of Convention on Biological Diversity (CBD) represents the main biodiversity conservation policy document at global level. Two policy document address conservation of biodiversity at the European level: Pan-European 2020 Strategy for Biodiversity and EU Biodiversity Strategy to 2020. Strategic Action Programme for the conservation of Biological Diversity (SAP BIO) developed in the framework of the Barcelona Convention focuses aims at conservation of the biodiversity in the Mediterranean region. There is also regional conservation plans for sea turtles in the Mediterranean, such us Action plan for the conservation of Mediterranean sea turtles, developed by RAC/SPA in 1989 and revised in 2007 and 2013.

National Biodiversity Strategies and Action Plans (NBSAPs) are the principal instruments for implementing the Convention on Biological Diversity at the national level. All Adriatic countries have developed and adopted their National Biodiversity Strategies and Action Plans. National conservation/management or action plans are developed specifically to ensure conservation of sea turtles. Albania is the only Adriatic country with adopted NAP for sea turtles (2012). However, very few actions from the Albanian species action plan have been implemented.

5.5.3. COOPERATION FOR BIODIVERSITY CONSERVATION IN THE ADRIATIC

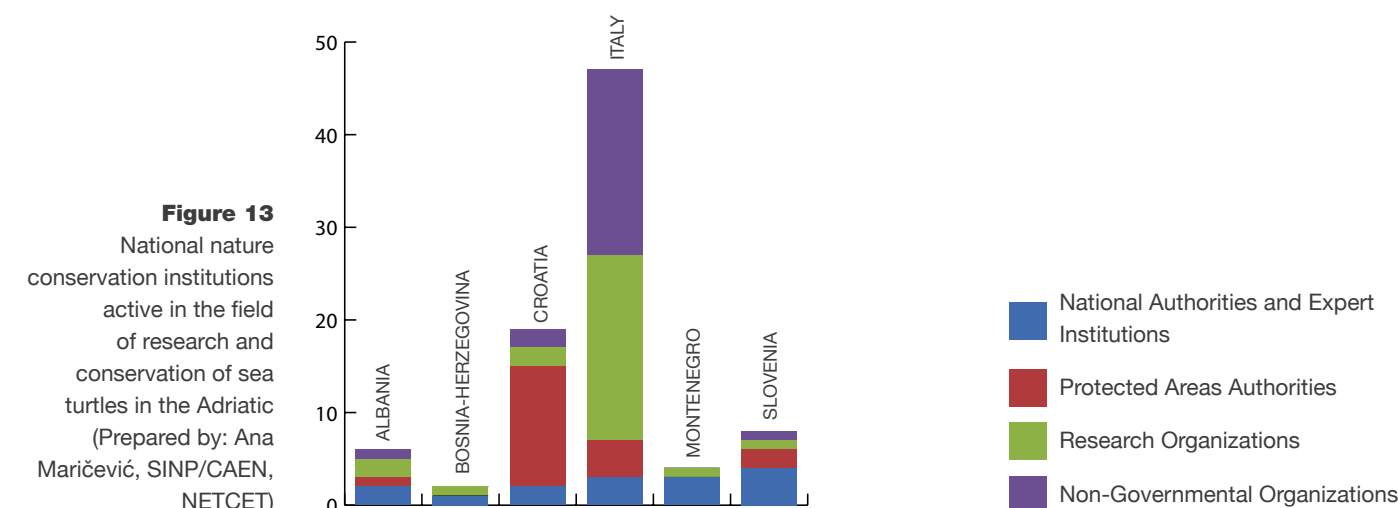
In addition to membership in international agreements, countries have established regional programs and partnerships. There are also a considerable number of projects in progress in the Mediterranean region that deal with conservation of marine biodiversity, marine protected areas, and fishery and pollution related issues. Albania, Croatia, Montenegro and Italy are the most represented countries in the regional projects in progress.

5.5.4. INSTITUTIONAL AND HUMAN CAPACITIES

Regional institutions and organisations relevant for conservation of sea turtles are mostly intergovernmental organisation (IGOs) managing global or regional nature conservation agreements. Several non-governmental organisations are also active in the Mediterranean region, like IUCN and WWF. There are also organisations, mostly intergovernmental, addressing range of activities affecting sea turtles, particularly fisheries, and marine traffic like GFCM and IMO.

In the majority of Adriatic countries ministries for environment are decision-making bodies competent for nature conservation at national level. Specific institutions performing expert tasks of nature conservation, like nature conservation institutes or agencies, exist in all Adriatic countries.

NGOs focusing on sea turtles conservation operate in the majority of countries, except Bosnia and Herzegovina (Fig. 13).



There is no information whether the existing human capacities are sufficient, although one of the main complains often expressed by countries is lack of human resources, more specifically number of employees. In addition, there is a lack of knowledge on some issues, such as procedures related to strandings. This particular topic was addressed in the scope of the NETCET project through organisations of several regional workshops and trainings.

5.5.5. EXISTING CONSERVATION MECHANISMS AND MEASURES

The conservation of species is generally ensured through mechanisms aimed at the formal protection of target species and their habitats. It primarily means granting the legal status of a protected species to vulnerable, threatened or endangered species. This overarching mechanism is further supported through other mechanisms and measures, such as control of captivity, trade and traffic of specimens of wild species; organisation of stranding networks, rescue centres and tissue banks, etc.

The protection of habitats is ensured through establishment of protected areas, including the Natura 2000 network and accompanying procedure of ecological network impact assessment (ENIA). Strategic Impact Assessment (SEA) and Environmental Impact Assessment (EIA) are mechanisms that also respond to environmental conservation concerns in certain situations. Knowledge on species, as basis for planning conservation measures and assess their conservation effectiveness, is usually gained through inventorying and monitoring of species and organisation of data through various data basis.

In order to standardise conservation practices in the region, a few guidelines and recommendations were produced and adopted by RAC/SPA addressing interactions with fisheries, rescues centre and legislative matters (Annex 3).

5.5.5.1. Inventory and monitoring

There is lack of regional systematic inventorying and monitoring of sea turtles. Apart from the 2010 and 2013 aerial surveys and efforts in the scope of the NETCET project, information about abundance and distribution of sea turtles have been collected sporadically through single actions by different bodies/organisations. Furthermore, storage and availability of data has been limited. Within NETCET project a preliminary Adriatic databases on sea turtles strandings has been created at the “Cetacea Foundation” (Riccione, Italy).

5.5.5.2. Species protection

At the Adriatic level there is absence of a coherent Adriatic stranding network, including regional emergency task forces. Some form of stranding network is operational in the majority of Adriatic countries, with systematically organised national stranding networks only in Croatia and Italy. Bosnia and Herzegovina and Montenegro do not have established any mechanisms to address strandings. There is no regional tissue bank. The rescue centres for sea turtles exist in all countries except Albania and Montenegro. All Adriatic countries have database on sea turtle strandings, but mostly not available to public. The systematic monitoring of sea turtles has not yet been established and implemented in any Adriatic country. However, there are some inventorying activities which have been conducted so far and which can serve as basis for future national monitoring.

5.5.5.3. Habitat protection

Habitat protection is based on a range of spatial protection mechanisms (Fig. 17). These have varying objectives and thus different management measures, which can have beneficial impacts on sea turtle conservation. Particularly, areas have been established specifically for biodiversity conservation, such as the EU Natura 2000 network; proposed Specially Protected Areas of Mediterranean Importance (SPAMI); proposed Ecologically or Biologically Significant Areas (EBSA) and national marine protected areas (MPAs) established more or less based on the IUCN criteria. There are several hundred areas already regulated or restricted in all the Adriatic countries, with the exception of Bosnia and Herzegovina. Some extend into the sea (sometimes only very little) and have specific spatial management measures. Montenegro has no marine protected areas or coastal protected areas with any extensions into the sea, except for a part of the Bay of Kotor that is protected under UNESCO as a natural, cultural and historical site. However, only 21 designated sites actually list sea turtles as a species of conservation importance within their boundaries. There are no sites within the Adriatic that have defined sea turtles as the target species.

Some areas have been identified as important for marine biodiversity conservation in different international agreements. Within the framework of the SPA/BD Protocol, part of the Adriatic Sea has been proposed by experts as a Priority Area of Conservation (PAC) for sea turtles, small pelagic fish, nursery ground of elasmobranchs and deep-sea coral reefs. In 2014, three rather large areas of the Adriatic were identified by the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) of the Convention for Biological Diversity (CBD; Rio, 1992) as areas meeting the EBSA criteria.

Additionally, areas that can have positive indirect influence on sea turtles are fishery-regulated areas in Italy managed through spatial fishery measures, such as the protection of biological resources through the establishment of Biological Resource Protection Areas (BPAs; Zone di Tutela Biologica). Although oil and gas exploration activities can have negative impacts on the marine environment; platforms as such de facto exert a certain spatial protection of habitats and species from fishing, navigation and mooring.

5.5.5.4. Other sea turtle conservation efforts

5.5.5.4.1. Awareness raising

Informing the interested public about sea turtles and the need for their conservation contributes to better understanding and effects the attitudes of people. There is no systematic awareness raising for sea turtles at the Adriatic level, apart from activities in the scope of the NETCET project. However there are individual activities in almost all the Adriatic countries.

6. Objectives

A total of eight objectives were determined to bridge the gap between the present situation and the long-term vision for sea turtles in the Adriatic Sea over the next ten years (Table 3). These objectives address topics such as knowledge base, management of threats, cooperation between sectors/institutions for sea turtle conservation, legislation and enforcement, sea turtle specific habitat conservation, capacity building, public awareness and financing. These objectives are strongly linked to the objectives and targets stipulated in relevant global and regional strategies, such as the Aichi Targets, EU Biodiversity Strategy to 2020, Action Plan for the conservation of mediterranean marine turtles of the UNEP MAP RAC/SPA, and the Strategy for the Adriatic and Ionian Region.



TABLE 3.

Specific objectives to be achieved for conservation of sea turtles in the Adriatic Sea in the period 2016–2025

Objectives	Targets	Indicator/Source of verification	Link to the Aichi targets	Link to the EU biodiversity targets	Link to the EU Strategy for the Adriatic and Ionian Region
1. KNOWLEDGE BASE					
1.1. Improve knowledge about the state of sea turtles in the Adriatic, as a basis for conservation planning	1.1.1. Accurately estimated population size and dynamics of sea turtles in the Adriatic	GES Indicators ⁶ : 1.1. (species distribution) 1.2. (population size) 1.3 (population condition)/MSFD ¹ reports	Aichi Target 12 Aichi Target 19	EU Biodiversity Target 1	Horizontal issues - Building on the Biodiversity knowledge base
	1.1.2. All existing and newly collected data about sea turtles promptly available to experts	Strandings and emergency events data/Web-site (NETCET follow up)			
2. MANAGEMENT OF THREATS					
2.1. Reduce (impact of) threats to sea turtles, particularly interactions with fisheries	2.1.1. Decreased mortality rate and number of animals injured due to human activities	Sea turtles mortality trends for the Adriatic in relation to abundance/ Annual reports on mortality in the Adriatic	Aichi Target 6 Aichi Target 8	EU Biodiversity Target 4 EU Biodiversity Target 2	
		GES Indicators: 4.3. (Abundance/ distribution of key trophic groups/species), 8.2. (Effects of contaminants), 10.2. (Impact of litter on marine life), 11.2. (Continuous low frequency sound)/MSFD reports			
3. COOPERATION between INSTITUTIONS/SECTORS for SEA TURTLE CONSERVATION					
3.1. Enhance cooperation between stakeholders, particularly those involved in nature conservation and fisheries	3.1.1. All strategic decisions (i.e. preparation of the relevant Adriatic strategic/management plans related to sea turtles) made with active involvement of all relevant stakeholders	Affiliation of stakeholders participating in development of strategic documents for the Adriatic/Lists of participants in the document developments			

⁶ Commision decision of 1 September 2010 on criteria and methodological standards on good environmental status of marine waters (notified under document C (2010) 5956) (Text with EEA relevance) (2010/477/EU): <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010D0477%2801%29&from=EN>

Objectives	Targets	Indicator/Source of verification	Link to the Aichi targets	Link to the EU biodiversity targets	Link to the EU Strategy for the Adriatic and Ionian Region
4. LEGISLATION AND ENFORCEMENT					
4.1. Establish a common sea turtle conservation legislation framework in the Adriatic	4.1.1. All Adriatic countries follow the EC acquis communautaire	Evaluations of the EC for non-EU countries/ Progress reports by the EC EU nature directives fitness check	Aichi Target 2 Aichi Target 17	EU Biodiversity Target 6	
5. SEA TURTLES HABITAT CONSERVATION					
5.1. Understand the adequacy of targeted protection of areas to conserve sea turtles in the Adriatic	5.1.1. Importance of habitat(s) for sea turtles is recognised	Identified area(s) representing important habitats for sea turtles in the Adriatic – within and outside territorial waters/ Report to the RAC/SPA	Aichi Target 2 Aichi Target 11	EU Biodiversity Target 6 EU Biodiversity Target 1	
6. CAPACITY BUILDING					
6.1. Improve capacities for sea turtle conservation issues, particularly for addressing strandings and monitoring	6.1.1. Functional stranding network(s) and responses to emergency situations	Accurate and adequate responses to emergency situations/Annual reports on strandings in the Adriatic	Aichi Target 19		Horizontal Issues - Building on the Biodiversity knowledge base
	6.1.2. Adequate human capacity with knowledge about inventorying, monitoring and applying sea turtle conservation	Trained participants/ Lists of participants of the programmes			
7. PUBLIC AWARENESS					
7.1. Raise awareness about sea turtle conservation in the Adriatic	7.1.1. General public and other relevant stakeholders are aware of sea turtles and the need for their conservation	Level of awareness - public awareness index/Surveys	Aichi Target 1	EU Biodiversity Target 1	
8. FINANCING					
8.1. Ensure funding for sea turtle conservation activities at the Adriatic level	8.1.1. Financial support available and used for implementation of most of the activities stipulated in conservation strategy	Transboundary projects/ activities implemented in the Adriatic covering activities stipulated in the Strategy	Aichi Target 20		

7. Action Plan

In order to achieve these objectives, a total of 41 actions with different levels of priority were identified (Table 4). Most should be implemented within the first five years of the Strategy period.



TABLE 4.

Action plan for conservation of sea turtles in the Adriatic Sea in the period 2016–2025

1. KNOWLEDGE BASE

Objective 1.1. Improve knowledge about the state of sea turtles in the Adriatic, as a basis for conservation planning

TARGET 1.1.1. ACCURATELY ESTIMATED POPULATION SIZE AND DYNAMICS OF SEA TURTLES IN THE ADRIATIC								
No.	Activities	Responsible subjects ⁷	Expected results (outputs)	Target species ⁸	Relevant Adriatic Countries (based on existing knowledge)	Priority ⁹	Possible sources of funding ¹⁰	Link to the RAC/SPA Mediterranean marine turtles Action plan
1.1.1.1. INVENTORY								
1.1.1.1.1.	Carry out distribution and abundance surveys of the least known species	N*	Abundance and distribution assessment report(s)	CM	All countries	Very high	IP, NF, O	B.1.a, B.1.c
1.1.1.1.2.	Assess population dynamics of the least known species (including seasonal changes and associated factors)	N*	Population dynamics reports	CM	All countries	High	IP, NF, O	B.1.a, B.1.c
1.1.1.2. MONITORING SEA TURTLES STATUS								
1.1.1.2.1.	Standardise monitoring methodologies and procedures in the Adriatic (relation to the MSFD and HD)	N*	Monitoring programme for sea turtles in the Adriatic	All species ¹¹	All countries	Very high	IP, NF	B.2.a
1.1.1.2.2.	Implement fully standardised monitoring programme for sea turtles in the Adriatic (as foreseen in 1.1.1.2.1) using all relevant tools	N	Regular regional overviews of the state of sea turtle populations	All species	All countries	High	IP, NF, O	B.2.b
1.1.1.2.3.	Systematically monitor mortality trends and cases of injured animals (relation to the Capacity building section)	N	Annual mortality trend/injured animals reports	All species	All countries	Very high (ongoing)	NF, O	B.2.c

TARGET 1.1.2. ALL EXISTING AND NEWLY COLLECTED DATA ABOUT SEA TURTLES PROMPTLY AVAILABLE TO EXPERTS								
No.	Activities	Responsible subjects	Expected results (outputs)	Target species	Relevant Adriatic Countries (based on existing knowledge)	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
1.1.2.1. DATA STORAGE AND EXCHANGE								
1.1.2.1.1.	Maintain the Adriatic databases on sea turtles strandings, preliminary created at the Italian Cetacea Foundation in the scope of NETCET	N*	Adriatic sea turtles stranding database Act of cooperation between NETCET partners	All species	All countries	High	NF, IP	
1.1.2.1.2.	Regularly exchange other relevant data on sea turtles between NETCET partners after project completion	N	Act of cooperation between NETCET partners Active mailing lists	All species	All countries	High	NF	B.1.d.
1.1.2.1.3.	Upload data regularly on the existing data platforms, e.g. OBIS SeaMap	N, I	Formal agreements between data holders and data providers	All species	All countries	Medium	NF	

7. N = national institutions and organisations (to be outlined in greater detail in the national action plans), I = international institutions and organisations, such as RAC/SPA, IUCN, WWF etc., * - emphasising the need for coordinated efforts between relevant institutions/organisations
8. CC – Caretta caretta, CM – Chelonia mydas, DC - Dermochelys coriacea
9. Very high = activity should be implemented in the first year of Strategy implementation, High = activity should be implemented by the end of the first triennium, Medium = activity should be implemented in the second Strategy triennium, Low =activity should be implemented by the end of the Strategy period
10. IP = international public (EC, CMS etc.), NF = national funding, O = other such as private foundations, etc.
11. All sea turtle species regular or vagrant in the Adriatic

2. MANAGEMENT OF THREATS

Objective 2.1. Reduce (impact of) threats to sea turtles in the Adriatic, particularly interactions with fisheries

TARGET 2.1.1. DECREASED MORTALITY RATE AND NUMBER OF ANIMALS INJURED THROUGH HUMAN ACTIVITIES								
No.	Activities	Responsible subjects	Expected results (outputs)	Target species	Relevant Adriatic Countries	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
2.1.1.1. INTERACTION WITH FISHERIES								
2.1.1.1.1.	Accurately assess current bycatch rate and hot-spots of sea turtles/ fisheries interactions	N* (involved in sea turtle conservation and fisheries)	Bycatch rate assessment report with maps of hotspots	All species	All countries	Very high	IP, NF	B.I.b
2.1.1.1.2.	Explore, test and, if adequate, implement new techniques and devices (e.g. TED) to mitigate bycatch	N, I* (involved in sea turtle conservation and fisheries)	Report about adequate bycatch mitigation measures	All species	All countries	High	IP, NF	
2.1.1.1.3.	Set up a systematical bycatch (including monitoring effectiveness of mitigation measures) (link with 1.1.1.2.3.)	N (involved in sea turtle conservation and fisheries)	Bycatch monitoring programme Periodical overviews of state of bycatch	All species	All countries	High	IP, NF	
2.1.1.2. MARINE DEBRIS								
2.1.1.2.1.	Raise awareness of negative impact of plastic waste and ghost nets on the marine environment (link with 7.1.1.1.2.)	N, I	Information campaigns	All species	All countries	High	NF, IP	
2.1.1.2.2.	Change existing waste management practices (such as use of plastic bags, new waste collection practices, coastal cleanups, etc.) in cooperation with relevant subjects	N	New formal decisions to regulate use of plastic bags	All species	All countries	Medium	NF, IP	

No.	Activities	Responsible subjects	Expected results (outputs)	Target species	Relevant Adriatic Countries	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
2.1.1.3. CHEMICAL POLLUTION								
2.1.1.3.1.	Ensure high standards are met during transport of petroleum derivatives through the Adriatic, particularly in the central Adriatic	N, I*	Overview of existing practices and proposal of remedy measures	All species	All countries, focus on Italy and Croatia	High	NF, IP	
2.1.1.3.2.	Improve existing sewage systems and agricultural practices, particularly in the northern Adriatic	N*	Overview of existing practices and proposal of remedy measures	All species	All countries, focus on Italy and Croatia	Medium	NF, IP	
2.1.1.3.3.	Assess and monitor impact of pollution on sea turtles, particularly in the northern Adriatic	N*	Chemical pollution impact assessment report with monitoring scheme	All species	All countries, focus on Italy and Croatia	High	NF, IP	
2.1.1.4. COLLISIONS WITH BOATS								
2.1.1.4.1.	Identify hotspot areas for collisions between boats and sea turtles and propose mitigation measures	N, I*	Study with map of critical areas and mitigation measures proposals	All species	All countries	Medium	NF, O	
2.1.1.4.2.	Implement mitigation measures in selected critical areas and monitor effectiveness	N, I*	Evaluation of mitigation measures effectiveness in selected areas	All species	All countries	Medium	NF, O	
2.1.1.5. ANTHROPOGENIC NOISE								
2.1.1.5.1.	Identify noise/ sea turtle interactions hot spots	N, I*	Study with map of noise and hot spots	All species	All countries	Medium	NF, IP	

3. COOPERATION BETWEEN INSTITUTIONS/SECTORS FOR SEA TURTLES CONSERVATION

Objective 3.1. Enhance cooperation between stakeholders, particularly those involved in nature conservation and fisheries

TARGET 3.1.1. ALL STRATEGIC DECISIONS (E.G. PREPARATION OF THE (RELEVANT) ADRIATIC STRATEGIC/MANAGEMENT PLANS RELATED TO SEA TURTLES) MADE WITH THE ACTIVE INVOLVEMENT OF ALL RELEVANT STAKEHOLDERS								
No.	Activities	Responsible subjects	Expected results (outputs)	Target species	Relevant Adriatic Countries	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
3.1.1.1. BUILDING ACTIVE PARTNERSHIP								
3.1.1.1.1.	Establish transboundary partnerships between relevant subjects for sea turtle conservation in the Adriatic, particularly between national rescue/emergency centres	N, I*	Joint projects Partnership agreements	All species	All countries	High	NF	B.b
3.1.1.1.2.	Establish active partnership between sea turtle “friendly” cities (formalisation of the NETCET initiated “City network” – also includes cetaceans)	N*	Formalised agreement between cities Joint (public awareness) activities	All species	All countries	High	NF	
3.1.1.1.3.	Promote cooperation between different organisations/ institutions at the national level	N	Joint involvement in development of national action plans Joint projects	All species	All countries	High	NF	
3.1.1.1.4.	Establish active communication channels between national representatives to regional (Mediterranean) international organisations such as RAC/SPA, GFCM, etc.	N	Exchange of information on relevant topics	All species	All countries	High	NF	

4. LEGISLATION AND ENFORCEMENT

Objective 4.1. Establish a common legislation framework for sea turtle conservation in the Adriatic

TARGET 4.1.1. ALL ADRIATIC COUNTRIES FOLLOW THE EC ACQUIS COMMUNAUTAIRE								
No.	Activities	Responsible subjects	Expected results (outputs)	Target species	Relevant Adriatic Countries	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
4.1.1.1. ALIGNMENT OF LEGISLATION								
4.1.1.1.1.	Fully align the existing national legislation for sea turtle conservation in non-EU Member States with the EC acquis communautaire, particularly with the EU Habitats Directive, MSFD	N	Amended existing national legislation	All species	Albania, Bosnia and Herzegovina and Montenegro	High	NF	A.I.a, A.I.c
4.1.1.1.2.	Improve transposition of the EC directives and regulations into the national legislation in EU MS	N	Amended existing national legislation	All species	Croatia, Italy, Slovenia	High	NF	A.I.a, A.I.c
4.1.1.2. ENFORCEMENT								
4.1.1.2.1.	Stimulate transboundary cooperation between inspection services in Adriatic countries using existing platforms such as IMPEL, etc.	N	Joint activities	All species	All countries	Medium	IP, NF	A.I.b

5. SEA TURTLE HABITAT CONSERVATION

5.1. Understand the adequacy of targeted protection of areas to conserve sea turtles in the Adriatic

TARGET 5.1.1. IMPORTANCE OF HABITAT(S) FOR SEA TURTLES IS RECOGNISED								
No.	Activities	Responsible subjects	Expected results (outputs)	Target species	Relevant Adriatic Countries	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
5.1.1.1. IMPORTANT AREAS FOR SEA TURTLES								
5.1.1.1.1.	Identify the important habitat(s) for sea turtles in the entire Adriatic, based on new data	N*	Proposal of important habitat(s) for sea turtles	All species	All countries, with a focus on Albania, Croatia and Italy	High	NF, IP, O	
5.1.1.1.2.	Based on the outcomes of activity 5.1.1.1.1., propose and implement the most appropriate means of conserving sea turtle habitats	N, I*	Proposal for adequate conservation of important habitats	All species	All countries	Medium	NF, IP, O	A.2.



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6. CAPACITY BUILDING

Objective 6.1. Improve capacities for sea turtle conservation issues, particularly for addressing strandings and monitoring

TARGET 6.1.1. FUNCTIONAL STRANDING NETWORK(S) AND EMERGENCY RESPONSE								
No.	Activities	Responsible subjects	Expected results (outputs)	Target species	Relevant Adriatic Countries	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
6.1.1.1. OPERATIONAL STRANDING NETWORK(S)								
6.1.1.1.1.	Establish the Adriatic Emergency Task Force	N*	Nominated and operational Adriatic Task Force	All species	All countries	Very high	NF, IP	
6.1.1.1.2.	Establish stranding networks in countries with no such mechanism	N	National stranding networks	All species	Bosnia and Herzegovina, Montenegro	Very high	NF	B.2.d
6.1.1.1.3.	Organise periodical regional training on necropsies and diagnostic techniques	I,N*	Trained national experts	All species	All countries	High (ongoing)	IP, NF	D
6.1.1.1.4.	Organise periodical experience exchange workshops between staff of rescue and emergency centres	I,N*	Trained national experts	All species	All countries	High (ongoing)	IP, NF	
6.1.1.2. TISSUE BANKS								
6.1.1.2.1.	Establish national tissue banks in Adriatic countries where they do not exist, and revise the existing national tissue banks in other countries	N	Adequate national tissue banks	All species	All countries, with a focus on Albania	Medium	NF	
TARGET 6.1.2. ADEQUATE HUMAN CAPACITIES WITH KNOWLEDGE ABOUT SEA TURTLE MONITORING AND OTHER CONSERVATION ISSUES								
6.1.2.1. EDUCATION ABOUT SEA TURTLE CONSERVATION								
6.1.2.1.1.	Organise periodical regional training on research and monitoring	N*	Trained national experts	All species	All countries	Medium	NF, IP, O	
6.1.2.1.2.	Develop local educational activities (potentially licensed through national schemes)	N	Local educational schemes	All species	All countries	Medium	NF, O	

7. PUBLIC AWARENESS

Objective 7.1. Raise awareness about sea turtle conservation in the Adriatic

TARGET 7.1.1. GENERAL PUBLIC AND OTHER RELEVANT STAKEHOLDERS ARE AWARE ABOUT SEA TURTLES AND THE NEED FOR THEIR CONSERVATION								
No.	Activities	Responsible subjects	Expected results (outputs)	Target species ¹²	Relevant Adriatic Countries	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
7.1.1.1. INFORMATION								
7.1.1.1.1.	Regularly celebrate Sea turtle day(s) (e.g. 16 June) and similar events	N (including City network)	Events dedicated fully or partly to sea turtles	All species	All countries	High	NF, IP, O	C
7.1.1.1.2.	Implement thematic information campaigns, e.g. campaigns to mitigate different impacts on sea turtle (fisheries, seasonal tourism, plastic bags, ghost nets)	N	Information campaigns	All species	All countries	High	NF, IP, O	C
7.1.1.1.3.	Organise public awareness related surveys	N*	Survey reports	All species	All countries	Medium	NF, IP, O	

12 - CC – Caretta caretta, CM – Chelonia mydas, DC - Dermochelys coriacea

8. FINANCING

Objective 8.1. Ensure funding for sea turtle conservation activities at the Adriatic level

TARGETS 8.1.1. FINANCIAL SUPPORT AVAILABLE AND USED FOR IMPLEMENTATION OF MOST OF THE ACTIVITIES STIPULATED IN THE CONSERVATION STRATEGY								
No.	Activities	Responsible subjects	Expected results (outputs)	Target species ¹²	Relevant Adriatic Countries	Priority	Possible sources of funding	Link to the RAC/SPA Mediterranean marine turtles Action plan
8.1.1.1. NEW FUNDING POSSIBILITIES								
8.1.1.1.1.	Develop follow-up of the NETCET project to implement the Strategies for the Adriatic	N	Joint project	All species	All countries	Very high	IP, NF	
8.1.1.1.2.	Assess potential synergies in funding conservation activities in the framework of implementation of the relevant EU Directives (Habitat Directive, MSFD)	N	Overview of funding possibilities	All species	All countries	High	NF	
8.1.1.1.3.	Regularly exchange information about funding possibilities (tenders) between NETCET partners	N	Active mailing list	All species	All countries	Very high (ongoing)	NF	

8. Implementation of the Strategy

There is no international institution/organisation responsible for the development and implementation of the Strategy for conservation of the sea turtles in the Adriatic Sea. During development of this Strategy, discussions were held regarding the establishment of a specific Adriatic body/agreement for sea turtle conservation, though ultimately, the initiative lacked the necessary support and justification. Therefore, the only way to make this document a living document is to include the proposed objectives and actions into other strategies and documents developed for the Adriatic, that are directly or indirectly linked to sea turtles. In addition, formal recognition should be sought from the RAC/SPA, as the relevant regional body.

Furthermore, this Strategy also represents a guideline for the development of national action plans for sea turtles in Adriatic countries. Namely, there are functional institutions at the national level that have the competences for development and/or adoption of such plans. Elaboration of the regional Strategy also helps to direct existing international public funds, particularly those of the EU, into actions that are needed in the Adriatic to achieve a good status for sea turtles and the environment in general. Funding for particular actions should also be secured through national funds and other sources (i.e. private foundations, etc.).

9. Monitoring implementation and revision

Under these circumstances, monitoring the implementation of this Strategy could be performed by the interested NETCET partners (who prepared the Strategy) and presented to the relevant regional and national bodies, such as RAC/SPA. It is suggested that a comprehensive evaluation of implementation effectiveness should be performed every ten years, and pursuant to this, the Strategy would be revised.



ANNEX 1.

Working group for the preparation of the Strategies for conservation of cetaceans and sea turtles in the Adriatic

Partner	Cetaceans	Sea Turtles
State Institute for Nature Protection (SINP) / Croatian Agency for the Environment and Nature (CAEN)	Ana Štrbenac (coordinator) , Jasna Jeremić, Katja Jelić, Ana Maričević	
Italian National Institute for Environmental Protection and Research (ISPRA)	Sasa Raicevich, Caterina Fortuna, Giulia Mo	
World Wildlife Fund (WWF) Italy		Paolo Casale
University of Padua (UPD)	Sandro Mazzariol, Bruno Cozzi	Lisa Popi, Antonio di Bello
Cetacea Foundation (CF)	Valeria Angelini	Sauro Pari
University of Primorska (UPR)	Tilen Genov	Bojan Lazar
Blue World Institute of Marine Research and Conservation (BWI)	Draško Holcer, Peter Mackelworth	
Marine educational centre Pula (MEC)		Karin Gobić
Institute for Marine biology (IMB)	Mirko Đurović, Zdravko Ikica	
Herpetofauna Albanian Society (HAS)		Vilma Piroli, Idriz Haxhiu
Association for Protection of Aquatic Wildlife of Albania (APAWA)	Sajmir Beqiraj	

ANNEX 2.

International conventions, agreements and related protocols relevant to sea turtles conservation in the Adriatic region

INTERNATIONAL CONVENTIONS/ AGREEMENTS	SIGNATURES AND RATIFICATIONS					
	Italy	Slovenia	Croatia	Bosnia and Herzegovina	Montenegro	Albania
MULTIPLE PURPOSE CONVENTIONS						
Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona 1995; www.unepmap.org)	09/07/2004	28/11/2002	08/10/1991	22/10/1994	19/12/2007	26/10/2001
United Nations Convention on the Law of the Sea (1982; www.un.org/depts/los/convention_agreements/texts/unclos/closindx.htm)	13/01/1995	16/06/1995	05/04/1995	12/01/1994	23/10/2006	23/06/2003
CONSERVATION OF BIODIVERSITY IN GENERAL						
Convention on Biological Diversity (CBD; Rio de Janeiro, 1992; www.cbd.int)	14/07/1994	29/12/1993	07/10/1996	26/08/2002	03/06/2006	05/04/1994
CONSERVATION OF SEA TURTLES AND THEIR HABITATS						
Convention on International Trade in Endangered Species of Fauna and Flora (CITES; Washington, 1973; www.cites.org)	31/12/1979	23/04/2000	12/06/2000	21/04/2009	03/06/2006	25/09/2003
Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979; http://www.coe.int)	01/06/1982	01/01/2000	01/11/2000	01/03/2009	01/02/2010	01/05/1999
Convention on the Conservation of Migratory Species of Wild Animals (CMS; Bonn, 1979; www.cms.int)	01/11/1983	01/02/1999	01/10/2000	/	01/03/2009	01/09/2001
Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1994 and Monaco 1995) – A Barcelona Convention Protocol	17/06/1999	29/11/2002	12/05/2002	/	19/12/2007	26/10/2001
Protocol on Integrated Coastal Zone Management in the Mediterranean (Barcelona 2008) – A Barcelona Convention Protocol	21/01/2008	24/03/2011	28/02/2013	/	08/02/2012	24/03/2011

ANNEX 3.

Guidelines for sea turtles conservation issues in the Mediterranean region

TOPIC	TITLE OF GUIDELINES	SOURCE
Rescue centres	Guidelines to improve the involvement of marine rescue centres for sea turtles (2004)	RAC/SPA
Interactions with humans	Sea Turtle Handling Guidebook for Fishermen (2001, available in several languages)	RAC/SPA
Legislation	Guidelines to design legislation and regulations relative to the conservation and management of sea turtle populations and their habitats (2003)	RAC/SPA

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