State of Maritime Spatial Planning in Turkey

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ABSTRACT. This article provides a comprehensive and initial overview and assessment of the current state of Maritime Spatial Planning (MSP) in Turkey. Turkish government has spent considerable efforts to implement measures for better applications for Integrated Coastal Zone Management (ICZM) and furthermore for Maritime Spatial Management procedures. Main driving force is the location of Turkey; its dependence to marine environment and marine resources, social, economic and environmental benefits from the marine resources. After giving brief information about country characteristics of Turkey, the most important maritime activities are presented. Additionally, the legal aspects, important user/interest groups and existing plans and projects related to Integrated Coastal Zone Management (ICZM) and MSP as well as the relevant international initiatives and platforms for cooperation are summarized.

KEYWORDS. (MSP) Marine Spatial Planning; ICZM (Integrated Coastal Zone Management); maritime; fisheries; aquaculture.

I. INTRODUCTION

1.1. Country Profile

Turkey is a transcontinental country and has borders with Greece in the West, Syria and Iraq in the South-east, Bulgaria, in the North-west, Georgia in the North-east and Iran in the east. Turkey has coasts in the four seas; the Black Sea, Sea of Marmara, Aegean Sea and the Mediterranean with total 8333 km.

There is an EEZ agreement in the Black Sea with riparian countries which let countries to use up to 200 nm zone where appropriate and equal jurisdiction rights where narrower distances from the coast. Sea of Marmara and Turkish Straits System (Bosporus and Dardanelles) is under Turkish authority as a national enclosed sea. In the Aegean Sea, both Turkey and Greece established 6 nm territorial waters and in the rest of the seas territorial waters is 12 nm. Maritime jurisdiction areas have not been thoroughly delimited between all coastal states in the Eastern Mediterranean. Turkey argues that in a semi-enclosed sea like the Eastern Mediterranean, international law dictates that such delimitation should be effected by agreement respecting rights and interests of all relevant coastal states as well as taking into account all pertinent conditions and special circumstances. There is no agreement among the relevant parties in this regard.

Turkish Straits and the Sea of Marmara, connecting the Mediterranean and the Black Sea, have an intensive maritime traffic as a waterway from the world seas to the ports of riparian countries for tankers, bulk carriers, ro-ro and cargo vessels, etc.

Besides international maritime activities fisheries and aquaculture is one of the important components for the Turkish economy as providing not only contribution (a mere 0.4 %) to the national economy but also vital for the nutrition and employment for the citizens. In 2016 total capture fisheries provided 301464 tons of fish and other marine species (51% of total production) [1]. Even though total capture fish production has a decreasing trend in the last ten years, fish harvest from the seas has still been important source for Turkey for nutrition. On the other hand, officially there are licensed 14340 pieces of vessels and 31350 fishermen

using marine resources directly. If retailers, wholesalers, transporters, packaging and processing staff had taken into consideration total population in the fishing sector is over 100 thousands as an employment and welfare area for the coastal communities. On the other hand mariculture has an increasing popularity in Turkey. Total aquaculture production has reached to 253395 tons which is about to equal marine capture fish production and total mariculture production from mainly finfish culture has been realized as 151794 tons (60 % of the total aquaculture production, 50 % of capture fisheries and 27% of total fisheries production); which is one of the most top productions in EU level. Majority of the production is exported to EU.

It is sincerely believed by the national environmental authorities and scientific community that future sustainable benefits from the marine resources are strongly related with the level of "protection and conservation" measures taken for the healthy/good environmental status of the certain local areas supporting regional ecosystems in the surrounding seas. Marine protected areas support environment by conservation of biodiversity and ecosystems, protection of genetic diversity, protection of rare or endangered species and communities, contributions to technology and scientific knowledge, conservation of scientific reference sites, conservation of cultural heritage, educational opportunities, contribution to sustainable tourism and potential contribution to ecosystem-based management of fisheries.

1.2. Protection of Marine Environment

There are several protected areas implemented by the enforcement of National Parks Law and Special Environmental Protection Areas law; almost located on the Aegean Sea and Mediterranean coasts.

Environmental pollution and destruction of habitats together with degradation of ecosystems due to increase in the regional population have drastically influenced the nature and natural resources of Turkey [2]. In order to find common solutions to such very complicated problems and obstacles in the region, the governments of the Mediterranean countries approved a Mediterranean Action Plan (MAP) in 1975. Turkey has developed a strong policy for conservation of nature with the implementation of a new law allowing the creation of Specially Protected Areas (SPA) (in reference to the Barcelona Convention Specially Protected Areas Protocol) since 1989. During this period, 385 thousand hectares and 774 kilometers of coastline have been protected and the further steps for management are underway[3].

Marine Protected Areas (MPA) safeguards the marine environment's rich diversity of life while supporting local economies. They provide a safe 'boxes' for commercial fish stocks as well as endangered species and offer alternative sources of income for local people, like tourism. Marine parks therefore act as insurance for the future of marine ecosystem and local people[4].

There are only 9 MPAs in Turkey and 53 in the whole basin of which the number of total protected areas are reached up to 135 (Table 1) [3,4]. Considering the length of the national coasts (8333 km, approximately 5 thousand miles) and characteristics of the surrounding seas (Fig. 1), it is very few comparing with the other Mediterranean countries. Sixty percent of the population lives within the 100 km of the coast. The area of the continental shelf is about 53 thousand km², territorial sea up to 12 km is 81 thousand km² and claimed EEZ is 177 thousand km².

Turkey has made a significant effort for the creation of protected areas by designating 25% of the Mediterranean coastline as MPA. Regarding the total protected coastal lines, Turkey is coming after Greece (16600 km), Italy (8800 km) and Croatia (5790 km) with 5200 km [3].

The Turkish Mediterranean coast is of high importance for the protection of the monk seal and of sea turtles as well as for biodiversity in general [5, 6]. At the moment some 1332 kilometers of the total coast length have been declared under protection. However, most of these areas include only terrestrial or wetland environments. A much stronger effort is required for the marine environment. Of the 200 thousand hectares included in MPAs, more than 50 percent is located in Turkey. Action is required to ensure the conservation of important species such as sea grasses, monk seal, turtles and small cetaceans since some cases only international marine protected areas will provide the solution[7]. The Aegean Sea is one of the most important locations in the region for a couple of endangered animals: Mediterranean monk seal (*Monachusmonachus*) I nesting for endangered marine turtles such as the loggerhead (*Carettacaretta*) and green (*Cheloniamydas*) turtles. Morever, it contains several micro habitats for many species and, some of these species play vitally important role in maintaining the stability of the ecosystem, i.e. Posidonia meadows and stone weeds which is calcified and called trottoires in some areas. Apart from those mentioned above, numerous other species are present, in particular species entering the Mediterranean through the Suez Canal or from the Black Sea.

The following MPAs have been established in the Mediterranean and Aegean Regions [4]:

- *DatcaBozburun Specially Protected Area* (147,400 hectares including 116,900 hectares terrestrial)
- *FethiyeGocek Specially Protected Area* (61,300 hectares including 30,000 hectares terrestrial)
- Foca Specially Protected Area (2,750 hectares including 1,550 hectares terrestrial)
- Gokova Specially Protected Area (52,100 hectares including 24,500 hectares terrestrial)
- *Goksu Delta Specially Protected Area* (23,600 hectares including 17,800 hectares terrestrial and wetland)
- Kekova Specially Protected Area (26,000 hectares including 14,500 hectares terrestrial)
- *KoycegizDalyan Specially Protected Area* (38,500 hectares including 28,300 hectares terrestrial)
- Patara Specially Protected Area (19,000 hectares including 14,800 hectares terrestrial)
- *Gökçeada Marine Park* (37 hectares in the area of 1 nm coastal length and 200 m to the sea)

The Black Sea, with 1695 km, is the second longest Turkish coastline after the Aegean Sea. The Black Sea has no island or large bays. Only limited information is available on the activities developed by the riparian countries of the Black and Azov Seas. The recent cooperative agreement for the protection of the Black Sea along the lines previously followed for the Mediterranean may improve this situation.

There are several protected forest areas along the Turkish Black Sea coast. However, only two marine areas are planned for official designation as protected areas according to the Strategic Action Plan for the Turkish coast of the Black Sea. These are; The Prebosphoric Marine Reserve near the Istanbul Strait, which is extremely important for migratory fish, marine mammals and birds; and the Doganyurt-Cide Marine Reserves on the western Black Sea, which is important for the Mediterranean Monk Seal and sea otters [8]. There are 4 MPAs (1 Bulgaria, 3 Ukraine) in the Black Sea, and no marine protected areas in the Azov Sea.

Sea of Marmara is a small inland sea of Turkey and there are no marine protected areas exist meantime. Turkey, applying the same policy to the Mediterranean and Black Seas, has established three coastal terrestrial protected areas and is developing numerous research programs. It has two important straits, namely the Istanbul (Bosporus) and Çanakkale (Dardanelles) Straits playing a vital role for the marine biodiversity of the Black Sea and Mediterranean Sea due to their function as biological corridors. Sea of Marmara is under threat from a heavy pollution load from the Black Sea. Moreover, ship-originated pollution is the second largest source of pollution for this sea, and many bays and gulfs are affected by ship accidents in the Istanbul Strait in the past. Fifty-two marine species are in the Red Data Book,

including the M. Monk Seal. This area, the spawning ground for many pelagic migratory fish species, is under consideration possible designation as a Particularly Sensitive Sea area.

1.3. Main Legislations

Though many efforts, preparation of new legislations always take long time to be implemented. There are several legislations concerning implementation of MPA's, ICZM and MSP in Turkey. The important ones can be summarized as:

- The **Law on National Parks** (No. 2873, 1983) defines the classification of National Parks,
- The Law on Protection of Cultural and Natural Assets (No. 2863, 1983) defines all cultural and natural assets – known or to be discovered – as "State Property",
- The Law on Environment (No. 2872, 1983) assigns authority to the Council of Ministers to declare Specially Protected Areas (SPAs), for areas deemed of national or international significance,
- **Fisheries Law (No. 1380)** enacted in 1972, concerning fishery regulations, prohibits commercial fishing in protected areas.

More details will be given in the next section.

II. THE STATE OF MARINE SPATIAL PLANNING IN TURKEY

At present, there is no specific national legislation to regulate marine spatial planning that directly aims the preparation of marine spatial plansin Turkey. "Turkish National Constitution" states that: "Shores are under the jurisdiction and responsibility of the State, in benefiting from the sea, lake and river shores, and from shore strips bordering the seas and lakeshores, public benefit is primarily sought[9]. The widths of shores and shore strips, in relation to purposes of use, possibilities and conditions for people to benefit from these places are established by law" (Article 43). On the other hand, any kind and scale of spatial planning activity may effect and/or describing the human activity for the use of sea is defined under the scope of "Shore Law" (No: 3621). If these activities, constructions are more strictly regulated with different legislations (National Parks Law, Environmental Law etc.) then this legislation(s) can be valid for the use of given area. Therefore, Shore Law is in use as the main legislative structure in Turkey and it does not make a separation between landward and seaward planning; both of the legislations are in the scope of this law. For more information, the characteristics and details can be given as follows:

Shore Law (4.4.1990. Amended in 1.7.1992):

The purpose of this Law is "to set out the principles for the protection of the sea, natural and artificial lakes, and rivers shores, and the shore strips, which are extensions of these places and are under their influence, by paying attention to their natural and cultural characteristics, and for their utilization towards the public interest, and access for the benefit of society" (Art. 1). The Law gives definitions of the "shore line" and the "shore". The "shoreline" is defined as: "the line along which water touches the land at the shores of seas, natural or artificial lakes, and rivers, excluding the inundation periods". The "shore" is the area between the shoreline and the "shore edge line", which is defined as "the natural limit of the sand beach, gravel beach, rock, boulder, marsh, wetland and similar areas, which are created by water motions in the direction of land starting from the shoreline". It is observed that, although the location of the shore edge line is very important for managing development at the shore, its definition is far from clear and precise. The "shore edge line", according to the amendment-dated 1.7.1992. Shore is "open to benefit of all society, equally and freely" (Art. 6). It is illegal "to excavate

the shore, and to take sand, gravel etc. at scales which may cause changes at the shore". It is forbidden to dump excavated soil, furnace ballast, debris, or wastes along the shore and the shore strip. On the shore, subject to a land use planning permit; a) infrastructural and other facilities such as pier, port, harbor, berthing structure, quay, breakwater, bridge, seawall, lighthouse and storage facility, salt production plant, fishery installations, treatment plant and pumping station, which aim either shore protection or utilization of the shore for the public interest; b) buildings and facilities like shipyards, ship dismantling plants, fish farmingmariculture facilities, which cannot be located inland due to the nature of the activity; can be built. Along the first 50m width of the shore strip (Zone A), apart from those which can also be built on the shore as described above, no building of any kind is allowed. This area can only be planned and used "for pedestrian access, walking, relaxing, sightseeing and recreational purposes". On the remaining part of the shore strip (at least 50 m wide), roads, recreational and tourism facilities (other than those which offer boarding) open to public use, and public waste treatment plants can be built, subject to land use planning permit. Across the shore and the shore strip, building of barriers that hinder free access, such as walls, fences (wooden or wire), ditches, piles, or similar, is prohibited[9].

Harbor Law (14.4.1923):

Management, cleaning, deepening, enlargement, dredging, placement of buoys, and protection, and all related harbor works are under the responsibility of the Government. The government agency, which carries out this responsibility, is the Ministry of Transport. "Without obtaining an official permit from the harbor master, pier, quay, boat-shelter, repair shop, factory, recreational facility, warehouse, shop and public sea baths (this term is probably used to indicate public beaches) cannot be constructed on sea shores; debris, excavation material, ballast, wastes and similar substances cannot be dumped in places which are prohibited by the harbor master" (Art. 4). The relevant articles of the Environmental Law superseded this article. "At places in harbors, specified and restricted by the Government, it is forbidden to drill piles at the sea shore; to occupy sea area by reclamation; to build restaurants, boarding houses, or similar facilities; and to restrict the size of the harbor in any way" (Art. 5). Diving activities in coastal waters are subject to permits from the harbor master (Art. 6). Other issues covered by the Harbor Law include removal of shipwrecks and other objects that disrupt the safety of navigation in harbor areas, and regulations on ship sheltering and loading and unloading in harbors[9].

The Environmental Law:

This Law administered by the Ministry of Environment and Urbanization and covers major environmental issues in general. Several by-laws that have been passed under the Environmental Law deal with issues such as air, noise and water pollution, water quality, solid waste management and environmental impact assessment (EIA), and provide the rules and regulations for environmental management Art. 8, entitled the "prohibition of pollution", refer to by laws that cover various issues related to pollution of coastal waters. The By-laws on "Water Pollution Control" classify lake waters according to their quality (Art. 9), and coastal and seawaters according to their dominant use (Art.14). For the purpose of establishing the necessary set up for securing the transfer the natural beauty of areas which have ecological significance at national and international levels and which are sensitive to degradation, to future generations, the Council of Ministers is authorized to identify and declare "Specially Protected Areas", to determine the principles of protection and utilization within these areas, and to decide which ministry is going to prepare and implement the plans and projects (Art. 9). "Organizations, companies and establishments that may cause environmental problems through activities which they plan to carry out, are required to prepare an environmental impact assessment report" (Art. 10). The EIA By laws (passed on 7.2.1993 for the first time, and

revised twice on23.6.1997 and 6.6.2002) provide the list of projects for which environmental impact assessment reports are required, outline the contents of the report, and describe the authority and procedure for their approval.

The Fisheries Law (No: 1380):

The scope of this law is the "protection, exploitation, production and control of aquatic living resources" (Art. 1). The responsible government unit is the Ministry of Food, Agriculture & Livestock.

The Law prohibits the dumping of substances into aquatic environment (both in inland and marine) and their neighboring areas, which may impact on living resources, or to people who catch or consume them, or to their vehicles, gears and tools which are used to catch them.

National Parks Law:

The purpose of this Law is specified as the "identification of areas which possess values of national and international importance, as national park, Nature Park, nature monument, and nature protection area, and the protection, enhancement and management of these areas without degrading their values and characteristics" (Art. 1). National parks are declared by a decree of the Council of Ministers, following a proposal of the Ministry of Forestry (renamed the Ministry of Environment and Forestry in 2003), which is supported by earlier reports from the Ministries of National Defense, Public Works and Settlements, Culture, and Tourism, and other ministries if deemed necessary (Art. 3). The Ministry of Environment and Forestry is responsible for the management of the areas covered by this Law.

Council of Ministers' Decree for the Establishment of an Agency for Specially Protected Areas:

This Decree aims to set up an Agency for Special Protected Areas, which has duties and responsibilities "in special protected areas already declared or yet to be declared, to take all kinds of measures to solve environmental problems and to protect environmental wealth, to establish principles of protection and utilization in these areas, to prepare land use plans, to revise and approve plans of all scales and planning decisions" (Art. 1). The Agency was initially set up under the Prime Minister's Office. It was transferred to the auspices of the Ministry of Environment and Urbanization.

At present there is no specific authority to regulate the MSP policy in Turkey. In case of regulate the use of sea areas such as for the establishment of sea farms, defining new routes for maritime activities and implementing marine protected areas for different purposes (fully nature protection, fisheries and protect cultural heritage), defining recreational zones for tourism and construction for the off-shore wind farms to produce energy and other needs, there are several competent authorities in Turkey. Some of them are:

-The Ministry of Environment and Urbanization (Former Ministry of Public works and Settlements): Planning implementations in coastal zones and monitoring implementation plans (*Shore Law, Settlements Law, Environment Law*).

-Governorships and municipalities: Spatial planning implementations in coastal zones and monitoring (Municipalities Law),

- The Ministry of Forestry and Hydraulic Works: Nature protection, protected areas and high scale planning (*National Parks Law, Forest Law, The Ministerial Decree for SPAs*),

- The Ministry of Culture and Tourism: Tourism planning, cultural heritage (*Law on Protection of Cultural and Natural Assets*),

- The Ministry of Agriculture: Fish farming, fishing, (Fisheries Law and secondary legislations)

- The Ministry of Energy and Natural Resources: Energy lines, off-shore oil drilling (*The Ministreal Decree for Energy*),

- The Ministry of Transport, Maritime Affairs and Communication: Transport Master Plans. Maritime routes for ships (*Harbours Law*),

- Ministry of Internal Affairs (Coast Guard Headquarters) (Coastal Security Force Law, Municipal Law)

As a result of this multi-institutional structure, decision making process is not fast and easy. Since there is neither a specific legislationwhich covers all respects related to coastal zones, nor a special institutional structure for this purpose, various organisations have authorities which overlap and create gaps in management. There are 22 institutions in total that are in charge[9]. Every institution has the authority to act in the limit that their legislation gives them the responsibility. Shore Law is the main legislation. If there is any other legal instrument brings out more strict decisions for the sea-use, then, it is implemented. New constructions on marine areas (filling, breakwater, marina etc.) require EIA and Ministry of Environment and Urbanization isresponsible for all EIA procedures. A draft By Law on Seahas already been prepared and expected to be in force soon. Plans and programs considering coastal strip will be in the scope of the regulation[9].

Ministry of Environment and Urbanization, asthe leading authority, has the legal responsibility of wide scale spatial planning, implementing environmental assessment tools, defining spatial protected areas, national parks and has the authority to manage and monitor the developments in these areas which is powered by the Shore Law and low scale spatial implementation plans. They control all marine and coastal implementation activities. Advices to other institutions are always given where/when is needed. However, sometimes these advices could not be taken into account. In some cases, lacking of coordination between various institutions may cause conflicts. For instance, there were many harbors constructed according to the political preferences instead of environmental and engineering realities.Overlapping, time consuming, over investment and destruction of the habitats was the case for Turkeyin the past. Authority should be given to the specific institution/ ministry.

To clarify the state of MSP implementations some figures can be given. Basically, the sea is commonly used for recreation, maritime activities and aquaculture in Turkey. The Ministry of Environment and Forestry prepares large scale plans to make decisions for the use of the sea for different purposes. Dilek Peninsula and Gelibolu Peninsula National Parks are the latest examples of spatial decisions (plans). Gelibolu National Park is a special historical area and there are protected archaeological heritage sites in the sea which is popular for sunken war ships. There are provisions considering the sea inside the Long Term Development Plan (1/100.000 scale) such as;

- Water/Sea pollution: Prevention of sea pollution in Historical National Park (HNP) is a principle of Long Term Development Plan (LTDP). HNP management takes into account Environment Law, Shore Law, Fisheries Law, Harbors Law, Turkish Coast Guard Command Law and other related legislations. HNP management aims for the prevention of sea pollution in Dardanelles Strait and SarozBay and will give effort in this direction.

- Streams: HNP management, with utilizing from Dardanelles Strait streams, produces solutions for environment friendly energy production including also solar and wind energy. It is a principle to promote environment friendly energy for HNP.

- Aquaculture: No new aquaculture area is permitted inside HNP's land and sea borders, existing ones will be closed. HNP management will prepare an action plan for the clearance of existing (fish, mussel) facilities and eliminate their environmental damages.

- Underwater activities: It is the principle to protect sunken and other undersea heritages. Thus, sunken visits (scuba tourism), underwater fishing, diving, underwater photographing and related activities must be organized under the responsibility of HNP management.

Management makes all necessary coordination and cooperation with Strait Command, Ministry of Culture and Tourism and related responsible public institutions.

- Coasts and coastal management: Description of HNP coastal edge line must be made and coastal strip should be protected in a sustainable manner. Constructions and usages inside the coastal strip must be made according to Shore Law. No implementation contrary with LTDP is allowed[9].

Another specific example is the Dilek Peninsula. LTDP is to ensure sustainability of the natural resources, its use and protection ways keeping the balance. Planning decisions describes provisions for coastal area and sea; "1 km seaward is defined as *sensitive zone*. Coast line cannot be changed, no filling or drilling is allowed, any kind of fishery, aquaculture activity that threatens natural ecosystems and geomorphologic structure is forbidden, only traditional fishing methods are allowed and possible fishing areas and types of fishing ships are described. Any kind of diving, underwater photography, filming etc. is subject to permission. Any kind of activity which may impact the water quality and cause pollution is forbidden in this zone. Only specially permitted ships can enter the national park. No other ships are allowed inside sensitive zone "

This is specific conservation plan and it brings out stricter provisions than "Shore Law". There are also different spatial plans in Turkey that brings out tourism, housing, transport infrastructure to the region which are not as conservative as above mentioned plans. However, important point is; they are still bounded with different legislations.

III. CONCLUSION

A specific authorization is very essential to implement MSP and complimentary ICZM, MPAs and others. There is an urgent need to increase number of MPAs especially for the sensitive areas of the Sea of Marmara and the Black Sea and concerted actions needed for their better management; with the employment of experts and security staff as well as sufficient budget allocations.

One of the recent initiatives is the capacity development project implementation to cover the needs of Marine Strategy Framework Directive in Turkey between 2016 and 2018. Main aim of the project is to support Turkey in order to reach good environmental state and/or protection of Turkish seas in line with the EU acquis by increasing institutional, administrative, legal and political capacities. Mediterranean Sea and the Black Sea are selected as pilot areas. Expected outputs are the guidelines how to implement MSFD in these specific areas for the sustainable development and ecosystem based management of the marine areas, and protect and restoration of existing levels of marine ecosystem. In order the reach the target, many activities have been planned under 2 components of the project; institutional and legal gap analyses, baseline data, determination of GES, measures and definition of the targets in the selected areas in Mediterranean and the Black Sea. In order to implement harmonized methodologies, several quantitative descriptors were selected such as biodiversity, invasive species, industrial fisheries, food web, eutrophication, sea bottom, hydrographic conditions, and pollutants, pollutant residuals in sea food, marine litter, energy and noise. All of the descriptors are linked to local and regional GES and environmental targets, existing pressures, expected effects, and the way of implementation including responsibilities, timing and financing, coordination with the implementation of other legislations, cost and benefits. Regional coordination is essential for the better results aimed in the MSFD.

Some of other achievements on this field can be summarized as:

Preparation of the "National Strategy Document on the Marine and Coastal Protection of Turkey" by the Ministry of Environment and Urbanization,

- Establishment of "Marine and Coastal Protection Areas System" since 2009 (funded by GEF, with the collaboration of Ministry of Environment and Urbanization and UNDP,
- Kaş-Kekova Special Environmental Protection Region, Maritime Management Plan (2014-2017),
- Developing of Cadastre Information Systems for Marine Area: Case of Trabzon,
- Surveying Engineering Applications in the use of Coastal and Marine Areas,
- Integrated Coastal Zone Management; problems and future prospects,
- Assessment of Marine Protected Areas in the Eastern Black Sea,
- Guidelines for the Implementation and Management of Marine and Coastal Protection Areas in the Mediterranean (UNEP, MAP, Regional Activity Centre for Specially Protected Areas-RAC/SPA),,
- Marine and coastal biodiversity surveys.

On the other hand, Biodiversity Convention, ratified in 1996, is another binding document for Turkey. Though several successful steps had been completed in administrative, financial and authorisation level, there are many technical, scientific and practical steps remained or postponed due to high bureaucracy between governmental organisations. For instance, implementation of 10% protected areas in coastal areas has been foreseen in the Convention. But at present, there are no MPA in the Black Sea to support ecosystem by protection, restoration and rehabilitation purposes. In other words, Turkey needs to determine main goals with clear objectives as measurable outcomes, indicators to measure level of success and establish applicable management measures.

There are also some ongoing threats on marine and coastal ecosystems coming directly from the governmental big investments such as construction of coastal motorways by filling and destroying the beaches and littoral zones, filling of bays and coastal strips without any EIA procedures. Moreover, construction of hydroelectric power plants even by combining the waters of several river basins with the exemption from any environmental impact analyses, and political preferences during the evaluation of the demands for the use of marine and coastal waters when there is conflicting interests, instead of scientific approach and without realistic stakeholder consultations are the other threats causing ecosystem impacts.

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