

**A vision of a new Ramsar regional initiative
for Black Sea coastal wetlands
(BlackSeaWet Vision)**

Wetlands International Black Sea Programme

Kiev 2009



Vision of a new Ramsar regional initiative for Black Sea coastal wetlands (BlackSeaWet vision). - Kiev, 2009. - 38 pp.

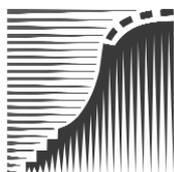
Compiled by Vasiliy Kostushyn, Gennadii Marushevskiy, Kamen Ruskov, Grigore Baboianu, Irakli Goradze, Yıldıray Lise, Ferdi Akarsu, Olga Anisimova

Contributors:

Ervin Van Maanen, Rezo Goradze, Izolda Matchutadze, Ramaz Gokhelashvili, Jimsher Mamuchadze, Mamuka Gvilava, Zura Javakhishvili, Pınar Akyüz, Yusuf Ceran, Serhan Çağırankaya, Melike Hemmami, Şerif Hızlı, Kubilay Özyalçın, Alpay Tırıl, Can Yeniyurt, Andrey Sirin, Yuriy Lokhman, Victor Minoransky, Valeriy Orlov, Borys Alexandrov, Viktor Karamuska

There are 80 major coastal wetlands in the Black and Azov Seas region encompassing freshwater, brackish and saline ecosystems. About 50% of them are wetlands of international importance. They are extremely important for supporting of biodiversity not only at the regional level, but at the global level too: many millions of migratory waterbirds use the coastal wetlands as stopovers on the African-Eurasian Flyway. At the same time, about 20 millions people inhabit coastal zone using the area for economic activities and recreation that lead to ongoing degradation of wetlands. In 2000, participants of international workshop on conservation and wise use of wetlands and wetlands resources along the Black Sea coast conducted by Wetlands International in Odessa unanimously concluded that "establishment of a wetland conservation initiative for the Black and Azov Seas is urgently needed". In 2007, Wetlands International has started with a new project related to establishment of BlackSeaWet initiative. This publication is a background document for a new regional Ramsar initiative, which includes a brief overview of current status of coastal wetlands and main threats to them, legal framework and conservation activities related to coast and coastal wetlands, present mission, vision, key targets and objectives of BlackSeaWet Initiative.

Editor: Rosie Ounsted
Lay-out: Anna Lysovskaya
Picture on cover: Olga Tereshchenko



The publication is supported by Wetlands International through a grant from the Ministry of Agriculture, Nature Management and Fisheries of the Netherlands and the Ministry of Foreign Affairs of the Netherlands (BBI-MATRA Fund/ Management Programme for International Biodiversity)

Published by the Wetlands International Black Sea Programme
PO Box 82, Kiev-32, 01032, Ukraine

Copyright © 2009 Wetlands International Black Sea Programme, Kiev, Ukraine
All rights reserved

Contents

1. Black Sea coastal wetlands	5
1.1. Importance to people	5
1.2. Importance to nature	6
2. The main threats and trends	6
3. Key reasons for the degradation of coastal wetlands in relation to management and planning	12
4. The main needs identified and directions to be taken to conserve Black Sea coastal wetlands	14
4.1. Strengthening international and national legislative frameworks	14
4.1.1. International agreements and initiatives	14
4.1.2. National legislative frameworks	17
4.2. Achieving integrated wetland management	19
4.3. Using wetland resources in a sustainable way	20
4.4. Protected areas and econet development	21
4.5. Maintaining and enhancing wetland habitats and biodiversity	22
4.6. Wetland rehabilitation and restoration	23
4.7. Inventory	24
4.8. Monitoring and development of databases	24
4.9. Research	26
4.10. Stakeholder involvement, awareness raising, environmental education and training	27
5. Ramsar regional wetland initiatives	29
6. The BlackSeaWet Regional Initiative	31
6.1. Mission, vision, key targets and objectives	31
6.2. Strategic framework	32
6.3. BlackSeaWet governance and regional coordination	33
6.4. Partners	34
ANNEX 1. Coastal Ramsar sites in the Black Sea Region	36

1. Black Sea coastal wetlands

There are 80 major coastal wetlands in the Black and Azov Seas region encompassing fresh-water, brackish and saline ecosystems. Thirty-eight of these wetlands have been designated as Ramsar sites, representing a total area of almost 2 million ha (Annex 1). The deltas of large rivers such as the Danube, Dniestr, Dnipro, Don and Kuban are complemented by the smaller deltas (Sakarya, Kizilirmak and Yeshilirmak) of the Turkish coast. The largest delta is the Danube Delta, shared by Romania and Ukraine. The northern coasts of the Azov and Black Seas include extensive coastal lagoon systems and similar coastal waterbodies. There are also numerous coastal lakes along the Romanian and Bulgarian coastline and marsh systems in the Kolkheti lowlands of Georgia. The length of the Black Sea coast line is about 4,340 km in total: 300 km belonging to Bulgaria, 310 km to Georgia, 225 km to Romania, 475 km to the Russian Federation, 1,400 km to Turkey and 1,628 km to Ukraine.

1.1. Importance to people

Approximately 110 million people live in the Black Sea region, with about 20 million in the coastal zone (39 million, if the Istanbul administrative unit is included in the total). For some Black Sea countries the proportion of the national population living within coastal areas is very high – 26% in Bulgaria, 37.1% in Turkey (including Istanbul) and 38.6% in Georgia. Black Sea coastal wetlands provide a range of services of economic and social benefit and opportunity for the population that goes beyond their role as reserves of biodiversity. The wetlands act as sources of food and building materials, supply fresh water, provide nursery and breeding grounds for (often commercially important) fish and waterbird species, contribute to sustaining local farming, improve water quality (including having to some degree a role in wastewater treatment), help to mitigate floods, protect the shoreline from erosion and recharge groundwater. They also have a vital role in ensuring the health of the Black Sea itself, buffering it from some of the upstream impacts of agriculture, industry, forestry and urbanisation, and providing habitats that are important to the life cycle of many of the species living there. Furthermore, groundwater recharge helps to maintain and protect sources of freshwater from saltwater intrusion.

Some coastal wetlands are important sources of drinking water for settlements. Thus the Terkos Basin (Turkey), with Terkos Lake at its heart, is Istanbul's oldest potable water resource. The aquifer near Siutghiol Lake (Romania) provides the water supply for the town of Constanta. The Lower Dniester Wetlands (Ukraine) currently provide drinking water for the city of Odessa and neighbouring towns. A coastal population of some 7 million is connected to sewerage systems that discharge directly into the sea.

The rich array of wetland and coastal habitats offers innumerable opportunities for outdoor recreation and eco-tourism. Major wetlands such as the Danube Delta have developing tourism centres that exploit the natural beauty, character and tranquillity of wetland areas, generating income and supporting regional development. Specific attractions such as therapeutic mud-cures at coastal wetlands such as at Pomorie Lake (Bulgaria), Techirghiol Lake (Romania) and Tyligulsky Liman (Ukraine) provide significant economic benefits to local communities. As an increasing number of people live in towns, there is a growing need for them to be able to 'escape' to remote natural areas. When sustainably managed, wetlands can be major attractions for tourists, generating income and supporting development in the region.

Local communities who have 'lived off the land' for centuries through traditional fishing, hunting and agriculture have developed associated lifestyles that are part of their cultural heritage. For example, they traditionally use reeds for thatch and also harvest them for export to other European countries for roofing materials. Although the diverse amenity values of wetlands and coastal habitats may be difficult to quantify in economic terms, the residual economic benefits of activities based around these activities can be great. For example, bird-watching, fishing, hunting, hiking and boating enthusiasts require transport, lodging, food and guide services, all of which can support local communities. However, such services and consumptive activities (e.g. fishing and hunting) must be managed in a way that does not destroy the resources upon which they are based.

1.2 Importance to nature

Black Sea coastal wetlands support a rich and globally significant diversity of habitats, such as reed-dominated marshes, forest riverine flood plains, inland lakes, *limans*, deltas, coastal lagoons and bays, silt and sand flats, as well as artificial wetlands such as fish ponds, rice paddies and salt ponds. These wetlands are critically important for many, often endangered species. For example, reed-dominated marshes, which characterise many of the lake and river floodplains and delta systems throughout the Black Sea region, are extremely productive and provide refuge for threatened mammals such as the European Otter *Lutra lutra* and European Mink *Mustela lutreola*. Other unique ecosystems include coastal peat bogs (Kolkheti lowlands, in Georgia) and extensive lagoons (Sivash Lagoon and Karkinitska Bay, in Ukraine). All the countries have relict coastal steppe habitat that supports endangered reptiles and a rich diversity of flora. The intertidal areas range from muddy sand flats to rocky shores, providing homes and substrate to a diverse benthic community including molluscs, anemones and seaweeds. For centuries, the region's coastal marine, lacustrine and floodplain wetlands have provided highly productive spawning, nursery and feeding grounds for fish including migratory species (e.g. sturgeon) and freshwater species.

At a scale beyond the habitats and ecosystems themselves, Black Sea Coastal wetlands have international ecological importance. The network of coastal wetlands is of critical importance for millions of migratory waterbirds on the African–Eurasian flyway. For example, the Sivash lagoon (Ukraine) is used as stopover by 4–6 million migratory waterbirds twice a year. In addition, the lagoon supports up to 900,000 wintering waterbirds and up to 150,000 pairs of breeding waterbirds. Furthermore, the Kuban delta and adjacent shallows of the Sea of Azov are especially productive (vegetation, birds, fish) and very important stopover sites for millions of waterbirds, in particular geese and shorebirds during their spring and autumn migrations. Black Sea wetlands also provide a winter refuge for many Arctic-breeding species on their annual migration. These same areas are the summer breeding grounds for many of the shorebirds, herons, terns and gulls that winter in Africa. Fifteen out of the 27 globally threatened European bird species occur in the Black Sea region during the breeding and wintering season and, of these, seven are totally wetland dependent. The wetlands of the Black Sea basin provide refuge for 25 million migrating waterfowl every year.

2. The main threats and trends

According to the Black Sea Transboundary Diagnostic Analysis (2007), conducted as an activity under the Bucharest Convention, the Black Sea is still degraded, but substantial improvements have occurred over the past 10–15 years. This is demonstrated by changes in the plankton, fish and benthic invertebrate communities. In addition, the area affected by oxygen depletion (hypoxia) is now much smaller than it was in the 1980s and early 1990s, and those areas that are still affected by hypoxia are impacted to a lesser extent. At the same time, despite their clear importance to biodiversity and benefits to people, Black Sea coastal wetlands have been seriously degraded in recent years, both through activities in the catchment and also through direct impacts from land reclamation, drainage, pollution and overexploitation. These have been related to unsustainable industry, agriculture, aquaculture, forestry, fishery navigation and tourism-related practices. Some examples of the more specific threats encountered in Black Sea Coastal areas include:

- ♦ Conversion of wetlands and the coast for urban development, industry, transport, tourism, agriculture, and aquaculture:
 - ♦ Construction of water reservoirs and ponds within wetland areas;
 - ♦ Deepening of river beds and canal construction to ensure navigation;
 - ♦ Construction of roads, housing and industrial facilities, including unregulated house-building;
 - ♦ Construction of dams, embankments and breakwater structures to protect against storms and floods;
 - ♦ Consumption of large amounts of water by industrial, agricultural and municipal units;
 - ♦ Extraction of sand, gravel and other materials from wetlands;

- ◆ Pollution from urban areas, agriculture, industry, shipping leading to contamination (including oil pollution) and/or eutrophication;
- ◆ Littering of surrounding areas;
- ◆ Deforestation for exploitation of forest products;
- ◆ Forestation of steppe biotopes around the wetlands and coast;
- ◆ Unsustainable exploitation of wetland resources (hunting, poaching, reed cutting, illegal logging, irrigation, overgrazing);
- ◆ Introduction of alien species.

The intense utilisation and alteration of Black Sea coastal wetlands and their catchments during the 20th century has changed their character to such an extent that their ability to provide the wide range of biodiversity, biophysical and amenity values has been completely lost in some areas and severely impaired in others. In the Black Sea region this has had an impact on fisheries, water quality and tourism. Regionally the economic losses from pollution, fisheries decline and lost tourism revenues are estimated at over US\$ 500 million a year. This could be as high as US\$ 1 billion per year if the realities of lost species, increased health care costs, decreased job productivity, and the rehabilitation and clean-up costs of the coastal zone are included¹. In and around the coastal wetlands biodiversity continues to decline, and this is denying local people the resources that they use in their everyday lives.

For example, since the 1930s more than 2,000 ha of wetlands in the Kolkheti lowlands have been developed and drained. In Bulgaria, the Black Sea coastal area is one of the most developed in the country, with a high degree of urbanisation and industrialisation as well as an intensive recreation industry. Agricultural intensification has destroyed almost half of Turkey's wetlands in the past 40 years; on the Turkish Black Sea coast, the Sakarya Delta has been irreversibly damaged in recent decades. The Black Sea coastal wetlands of Ukraine have undergone significant modification in recent decades, through drainage and irrigation schemes and water diversion.

Very few parts of the coastline now remain in their natural state. Environmental impacts have led to serious changes in biodiversity – decreased native species diversity, an increased proportion of both threatened species and alien species, intense algal blooms, depletion of fish stocks, modification of community structures and changes in food chains, and changes in ecosystem stability.

Bulgaria Wetland habitats along the Black Sea coast of Bulgaria have suffered from reclamation (since WW1), pollution and urbanisation (since the 1950s), and inadequate management throughout the 20th century. At the beginning of the 21st century wetlands appear to be less threatened than other habitats (steppe) by direct destruction (probably because they are less suitable for developers). However, Black Sea wetlands still suffer continued habitat loss, degradation, and isolation from surrounding natural habitats.

The establishment of wind energy farms along the coast and development of tourist infrastructure are two factors that escalate the fragmentation, degradation and loss of key habitats for migratory, breeding and wintering avifauna and other species that depend on these areas for their continued existence. The need for water for housing and tourism purposes is increasing: this augments the negative impacts of reduced natural water flow and more frequent droughts in Bulgarian Black Sea catchment area in recent years. Industrial pollution continues to be a problem at Bourgas and Varna, while wastewater pollution from both coastal settlements and shipping is an endemic problem along the entire coast. Law enforcement against ship-borne pollution and against illegal hunting, fishing and harvesting of sea life is weak or lacking.

Wetland and coastal biodiversity are increasingly threatened across the entire coastal area as a result of rapid **urbanisation**. Tourism and second homes are the dominant economic drivers of habitat loss and degradation along the coast. Apart from the direct impact, there is also

¹ Wilson, A.M. and Moser, M.E. 1994. Conservation of Black Sea Wetlands: a review and preliminary action plan. IWRB Publ. 33, 76 pp.

increasing demand for the provision of energy and transport infrastructure (one additional regional airport has recently been opened near a wetland used by migratory birds near Bourgas, and another is being built on the north of the coast), thereby increasing sector-related threats (direct injury to/killing of waterbirds, habitat loss and degradation, pollution). Urbanisation is also increasing the **demand for water** (there is a direct link to the hydrological regime at some key wetlands) and for waste and wastewater treatment facilities. New and larger sources of solid and liquid waste, which may or may not be properly treated, have emerged. At present, most resorts and resort-towns along the coast lack wastewater treatment facilities, and sewage flows untreated into the sea. Increased human presence within or close to wetlands can also lead to negative impacts – the more so as many wetland areas are not staffed and there is no control on visits, disturbance and poaching.

Pumping out underground freshwater from the catchments of the coastal lakes to provide for new urban and agricultural development leads to the decline of the water level in the lakes, which accelerates the succession in the aquatic ecosystems (already noticed at Shabla and Durankulak Lakes).

The wind energy sector. The construction of tall infrastructure is a particular threat along the Bulgarian *Via Pontica* flyway, since the Black Sea coast acts as a funnel that each autumn and spring concentrates hundreds of thousands of migratory birds into a narrow band. At the same time the country's most suitable wind conditions and plans for wind farm development are situated along the northern reaches of the Bulgarian coast, on land and off-shore. Numerous turbines of varying size and capacity are being built or proposed along the Black Sea coast. Their establishment would potentially pose a severe threat to migrant waterbirds and to species breeding and wintering within the area, such as geese. Many bird populations may suffer directly by individuals being killed or injured, as well as indirectly through the higher stress and energy needed by the birds to successfully circumvent the windpower generators and wind farms or other tall infrastructure in adverse weather conditions. This may reduce the birds' fitness level, lead to higher mortality along the flyway, or simply reduce the breeding success and, hence, contribute to the shrinking of populations. This will exacerbate the problems caused by hunting disturbance to wintering geese, when the geese find it harder to survive and breed because of the stress and use of energy required to avoid being shot. Other forms of tall infrastructure are also dangerous. For example, a single antenna erected along the flyway on the coast to measure wind speeds for potential windpower production resulted in the death of numerous birds in just two nights.

One of the largest proposals for wind farm development has targeted the vicinity of the Cape Kaliakra IBA (Important Bird Area). The Bulgarian Society for the Protection of Birds (BSPB) has been collecting data on breeding and migrating birds in the area of the Cape Kaliakra IBA and has proved information on the potential negative biological impacts. During the 2004 autumn migration, BSPB field workers studied in detail the migration of soaring birds in the area concerned. According to the studies, 40% of the migratory birds fly through the area at an altitude of no more than 150 m. When winds are strong, storks and raptors land on the fields between Kavarna town and Cape Kaliakra in the exact area where the wind farm is planned. Some 51% of the birds migrate at between 160 m and 500 m above sea level, and 40% fly no higher than 160 m (the wind turbines when erected will be 120 m tall). Only 9% of the birds pass through the area flying above 500 m. The area is also of international importance for autumn concentrations of Corncrake *Crex crex*, therefore the site selected for the wind farms is entirely inappropriate as it poses great risk to birds.

The preservation of habitats surrounding the wetlands is critical for migrating species. Geese that winter at Shabla and Durankulak Lakes forage on neighbouring fields during the day. All breeding, migrating and wintering species, even those restricted mainly to wetlands, rely on unobstructed airspace, therefore tall, man-made structures, towers, and wind turbines, even when built many miles from wetlands, will be a potential threat to a number of wetland species, such as White and Dalmatian Pelicans *Pelecanus onocrotalus* and *P. crispus*, Red-breasted Goose *Branta ruficollis* and Lesser White-fronted Goose *Anser erythropus*. Soaring birds are vulnerable, both on migration and on their staging grounds. The main problem for soaring migrants is that thermals over water are weak, consequently they depend on flying over dry land for their daily, and – especially – seasonal, migrations.

The global importance of the *Via Pontica* flyway to the continued existence of numerous globally threatened species is not recognised and is thus underestimated by essentially all stakeholders, from decision-makers to the general public. The safeguarding of habitats that are critically important for migratory birds, therefore, does not receive the attention that it requires. The low awareness of globally significant species also results in their being shot accidentally: hunters, for the most part, are unaware of the status of migratory species.

In short, for the reasons outlined above the capacity and mechanisms for integrating wetland conservation and ecological requirements into economic activities need to be developed to tackle the causes of degradation that have been identified.

Georgia The important functions of the Kolkheti wetlands are greatly impacted by anthropogenic activities. As much as 60% of the original wetland area has been claimed and cultivated for grazing, agriculture and horticulture. Extensive areas have been utilised for peat extraction; an activity that has currently been abandoned but still is a potential threat. A number of landfill sites in the major coastal cities are situated in wetland areas or on river banks.

A new potential threat is the construction of the Kulevi oil terminal on the River Khobistskali. Urban and industrial expansion (including oil-port and railway construction) is another threat to the coastal wetlands, mainly due to the lack of consideration given to biodiversity during the spatial and land-use planning processes.

Romania The threats are varied and in most instances can be found acting in concert to degrade or destroy sites. By far the greatest threat, even today, remains ignorance of the importance of wetlands and the roles they play. The distinction between wetland loss and wetland degradation is not absolute. Continued degradation may result in the complete loss of wetland functions and values. However, it is useful to make a distinction between loss, which is normally the result of deliberate intent, and degradation, which may be an indirect and unanticipated consequence of actions within wetlands and their catchments. The major long-term factors leading to wetland degradation and loss are:

- ♦ **Development of urban areas.** Historically, urban development has regularly involved the in-filling of wetlands for industrial, commercial and housing purposes as well as waste disposal and for the provision of playing fields and other recreational facilities. Many watercourses in urban areas have been converted to drains lined with concrete, resulting in loss of in-stream habitat, fringing wetlands and streamside vegetation;
- ♦ **Agricultural development** has involved substantial wetland degradation. Drainage and conversion of wetlands to agricultural activities has been a major cause of wetland loss. However, agricultural management and maintenance of wetlands can be compatible. Sustainable natural resource management necessarily involves wetlands management as part of a whole-systems approach;
- ♦ **Development of aquaculture** has had substantial impacts on wetlands overseas, both from direct destruction of habitat and indirectly through effects on water quality and native biota;
- ♦ **Changes to water flow patterns and water quality.** Dams and weirs, which regulate the flows received by wetlands, now regulate the flows of most of our waterways. The volumes and timing of flows to wetlands are now very different from those of natural flows, and this can lead to sudden or gradual degradation. Land clearance and water diversions can similarly impact on water flows and water quality and, in turn, on the wetlands of the floodplain;
- ♦ **Pollution** is a particular threat as pollutants tend to accumulate and concentrate in wetlands. On a local scale, wetlands are threatened by both acute and chronic pollution. Acute pollution generally arises from accidents, such as oil spills from shipping, road or industrial accidents. Chronic pollution may arise from both local and widespread sources. Catchment run-off carries nutrients, sediments and pollutants into waterways and eventually into wetlands. Excess nutrients cause eutrophication, resulting in changes to the biological and chemical processes within wetlands.

Russia A difficult economic and social situation has caused a number of problems for local wetlands. Permanent negative factors (wetland reclamation, unmeasured water intake for irrigation, industrial and agricultural pollution of waterbodies) have been accompanied by new threats: unauthorised occupancy and development of water-protection zones, felling of trees in the watershed, pollution from communal waste, poaching on a massive scale. Large areas of irrigation systems, rice paddies and fish farms have been abandoned. This has led to the deterioration of breeding and wintering conditions of some shorebirds and waterbirds. At the same time, the ongoing economic depression is responsible for increased pollution of waterbodies with fertilisers, pesticides and industrial effluents.

Most wetlands in the region have regulated hydrological regimes. Anthropogenic changes to wetland ecosystems are considerable. Surplus water spills into waterbodies during periods of wet weather make conditions extremely unsuitable for animals to breed, undermines their food base, and, consequently, negatively affects biodiversity. In dry weather water is withdrawn from the watercourses, which, again, aggravates the negative climatic impacts and adversely affects the ecosystems, causing degradation of lakes – some may dry out completely. The lower Don River is affected by the Tsimlyansk Hydropower Station. Moreover, in this region river valleys have been converted to reservoirs, and there has been reclamation of wetlands for agriculture, in particular for rice paddies. Water is severely polluted with industrial wastewater, and sometimes with oil products.

Turkey Among the most significant negative impacts on the coastal wetlands have been agriculture, industry, urbanisation of the coastal zone and tourism, leading to pollution, changes in the natural water regime and high levels of water consumption, and a reduction in the areas with natural ecosystems.

The major threat to Igneada Longos Forest is the plan by ISKI (Istanbul Water and Sewerage Administration) to divert water from the streams of the Istranca Mountains to Istanbul as a new source of potable water. Since any major reductions in the water input to the forest will have an irrevocable environmental impact, the General Directorate of Nature Conservation and National Parks has not given the necessary permission to ISKI. However, pressure for development is increasing, and the possible impacts must be studied before such plans are developed further.

Istanbul's population is growing rapidly, and this has led to an increasing demand for potable water: in the last decade water consumption has tripled. In order to meet this increasing demand, six dams have been built in the Istranca Mountains (most on streams feeding Igneada Longos Forest), near the Bulgarian border, 200 km west of Istanbul. The water is directed through a pipeline and stored in Terkos Lake. This caused a rise in the original water level of the lake, and hence an increase in its area, resulting in a reduction of the distance between the Black Sea and the lake from 630 m to 319 m in 2002, and has impacted the natural habitat of the lake and its surroundings. This impact and the water level changes should be monitored regularly.

Terkos Lake suffers from water contamination as a result of intensive agricultural activities, unplanned summer settlement enlargements and lack of a proper sewerage system around the lake.

Tourism pressure on the Igneada Longos Forest has increased over the past decade. One of the main threats is construction of summerhouses there by visitors from the nearby urban area. Each year the reeds at Mert Lake are cut completely, so that no nesting sites remain. The runoff of sewage into Mert and Erikli Lakes and clearance of natural forest for poplar plantations are additional problems. There are also plans to establish a cement factory in the region. The extraction of small quantities of sand for building in the nearby town occurs on some streams and beaches.

Major threats in the Kizilirmak Delta are drainage and irrigation projects, pollution and filling of lakes with agricultural chemicals, illegal urbanisation on the coastal zone, sand extraction and uncontrolled hunting, degradation of the coastline due to the absence of alluvial flows from lower courses of the river after dam construction. The wetland is polluted by agricultural

run-off and untreated sewage from Bafra, which flows into Cernek Lake through the Badut channel, leading to eutrophication. In the eastern half of the delta, fish catches have declined drastically in recent years, from 500 tons a year in the 1970s to only 125 tons in 1995 as a result of eutrophication. Sand extraction, although illegal, is common. Reed-burning occurs throughout the year in order to improve grazing conditions.

Ukraine The Azov-Black Sea coastal zone of Ukraine is much more extensive than the coastal zones of any of the other Black Sea countries. For this reason, Ukraine has a major role to play in the conservation of the coastal wetlands. The coastal zone has been subject to several major negative impacts in recent decades – from agricultural, urban, recreational and infrastructure development, pollution, changes in the natural hydrological regime, and overuse of natural resources.

Agriculture. The south of Ukraine is under intensive agriculture. The proportion of arable land is as high as 80–90% in some administrative areas, and many wetlands are completely surrounded by agricultural fields. The majority of this land was irrigated during the Soviet era. As a result of this, soil erosion due to wind and water and the use of fertilisers and pesticides have led to chemical pollution and eutrophication of the wetlands. The discharge of irrigation water from the fields has strengthened this negative impact, and has also seriously altered the natural water balance in some wetlands and coastal areas. Among such wetlands are Karkirnitska Bay (suffering the impact of rice production) and the Eastern Sivash (dramatically reduced salinity due to the discharge of water from irrigation systems). Some *limans* were separated from the sea by dams and turned into freshwater reservoirs. Over a number of years salinity fell from 35–36 ppt (Khadzhibeisky Liman) or 16–17 ppt (Sasyk Liman) to 2 ppt, producing radical changes in the flora and fauna in the process.

Urban, industrial, recreational and infrastructure development. Urban development has had an especially negative impact around large cities (Odessa, Kherson, Yalta etc.). Ever greater areas around wetlands and along the coast are being encroached upon by private development. There has been a similar impact by recreational development. In the past 15–20 years many unspoilt areas along the coastal zone have been developed with the building of new sanatoriums, hotels and private houses. Under threat are the most valuable parts of the coast (e.g. Kinburnska Spit, Arabatska Spit etc.). Infrastructure developments – the construction of roads, railways, power lines etc. – is related to both of these and brings with it further negative impact.

Several closed *limans* have been breached, deepened and turned into harbours. Thus, Sukhoi Liman, which was enclosed until the mid-1950s, was converted to become part of the port of Ilyichevsk. In the 1970s, Grigoryevsky Liman became the sea port of Yuzhny. The flora and fauna in both these *limans* has changed dramatically as a result.

Pollution. There are various sources of wetland and coastal water pollution – dispersed and point sources; related to the coastal zone or whole catchments; related to industry, agriculture or urban areas. Some wetlands or coastal areas of Ukraine are fairly highly polluted, but in general the level of pollution is not critical. Significant discharges of river water high in nutrients causes eutrophication in the shallow water of the Azov and Black Seas. Sea water is still contaminated by harmful wastes from ships, sewage-pumping stations, commercial enterprises and other bodies that do not have effective purification systems. Contaminated substances bring threat to population and water biota. The index of contamination of marine water by oil hydrocarbons is the highest among all indices.

Other factors. Some uses of natural resources, such as hunting, fishing, grazing, recreation, etc., not only have a direct negative impact on wetland flora and fauna but also cause harm through disturbance. Poaching and non-regulated recreation are especially harmful during the most sensitive periods of the biological cycle of many species (in birds, for instance, the breeding and moulting periods); this is of particular concern for rare and endangered species. In summer many thousands of people camp on the banks of wetlands and the coast, and not only disturb the wildlife but also trample grass and other plants, fell trees, make fires and leave large quantities of litter in popular places. Furthermore, the private cars of thousands of tourists

make the negative impact even more severe in wetland areas. At such places natural ecosystems are in the final stages of degradation.

Commercial and recreational fishing and hunting are badly managed, and, in combination with poaching, have already resulted in the depletion of fish and waterbird resources. Another problem is the invasion of alien species, whose negative effect on wetlands and adjacent land ecosystems has become increasingly harmful.

Many of Ukraine's coastal wetlands are very popular as places to hunt. However, the gradual accumulation of lead shot used during waterfowl hunting in wetland areas raises a serious threat, of which hunters are still not aware. According to existing scientific data, lead shot can gradually accumulate in the organs of birds and other animals, causing poisoning, malfunction and ultimately death.

3. Key reasons for the degradation of coastal wetlands in relation to management and planning

Degradation of coastal wetlands is a result not only of the negative impact of development in different sectors of economy, but also of the lack of integrated management and planning or, rather, its absence in the majority cases.

Understanding of environment-related issues in the Black Sea region is not new. Over the past 15–20 years there has been considerable investment of resources in addressing the problems facing the marine ecosystem, in particular, and specifically in relation to water pollution. However, the sustainable use of wetlands has not been addressed sufficiently strongly, and implementation of measures to address the needs where identified has been slow/weak. This has underpinned continued wetland degradation and loss in the past. Unless these barriers are overcome, further degradation and loss of critically important habitats will continue to accelerate, and in turn this will seriously jeopardise wetlands and their biodiversity in the region.

The problems of wetland-related management and planning vary greatly from country to country, nevertheless several main reasons can be listed:

- ♦ There is a lack of popular recognition of the socio-economic and ecological values of wetlands;
- ♦ Consumer attitude to wetlands is poor;
- ♦ The economic crises of the period of transition from the Soviet era, and social instability;
- ♦ Business companies are driven almost exclusively by quick profits in the utilisation of the wetlands and their resources;
- ♦ There is a lack of political will with regards to nature conservation and sustainable use, strongly connected to the low level of environmental awareness among policy and decision-makers in state and business institutions and private companies;
- ♦ There is insufficient legislative and regulatory support for natural resource use and wetland ecosystem conservation in the new emerging market systems, in particular, to control land privatisation;
- ♦ The standard and discipline of law enforcement agencies are low;
- ♦ There is no Integrated Wetland Management approach;
- ♦ Sectoral policies and practice are not coordinated;
- ♦ There is an unbalanced investment policy (neglect of environmental requirements) and lack of funding;
- ♦ National and local environmental authorities are not powerful enough and have insufficient influence over economic sectors to ensure a holistic approach to the sustainable use of wetlands;
- ♦ The system of poaching control is ineffective;
- ♦ Wetlands conservation is not related to long-term spatial planning;
- ♦ The discrepancies in the availability and supply of the relevant data make it difficult for business planning and decision making;

3. Key reasons for the degradation of coastal wetlands in relation to management and planning

- ♦ Usage quotas for the majority of flora and fauna species of economic importance are not defined, which runs the risk that their use will be excessive and uncontrolled;
- ♦ There is no unified methodology for biodiversity monitoring, which is often the reason for inconsistency of the existing data;
- ♦ Public participation in the decision-making process is low;
- ♦ The level of environmental education and awareness among the general public is low.

Several of these points are further discussed below. First of all it is necessary to stress that there are some differences between countries that have already become members of the European Union (EU) (Bulgaria and Romania) and the other Black Sea countries. The EU has stricter demands with regard to environmental law enforcement and the integrated approach to using natural resources. The environment was not always an externality, however it essentially remains so today, although with EU access the Natura 2000 policies are being incorporated. The regional planning framework does not provide effective guidance and support for biodiversity conservation. Most legislation and policies (apart from Natura 2000) provide general statements of intent, but no specific tools or instruments such as by-laws to implement them effectively. Environmental policies are weakly or not reflected at all in economic sector plans and programmes, such as tourism, or in land-use plans. Decisions concerning land use, however, are often made at the municipality level, and are constrained by a lack of capacity. Although districts attempt to set development goals at the district level, municipalities nevertheless establish priorities in the formulation of their own development strategies. Plans are at times conflicting or competing, covering different sectors and different geographical scales. Not surprisingly, perhaps, there also are no effective tools for ensuring consistency among these plans and for the incorporation of biodiversity conservation requirements within them in a consistent manner.

Another important problem is related to land privatisation in former Soviet countries. Some countries (e.g. Ukraine and Russia) are still in a transitional stage in this regard. This has resulted in environmental conditions not being taken into account, and the social 'acceptance' of activities and decisions that were not entirely legal. In turn, this contributed to a poorly functioning legal system, lack of respect for the law, effective institutions and public property, and lack of individual responsibility, empowerment and accountability. State and municipality-owned coastal land is becoming privatised and then 'developed' utilising legal loop-holes.

Policies and plans have little resonance among stakeholders. Mechanisms to involve the public are still inadequate. A sense of empowerment to influence decisions has not yet been developed. In many cases local authorities are pressured by investor and local interests and promote short-term economic improvements. At the same time, developers are driven almost exclusively by quick profits in utilisation of the coast, thus contributing to wetland loss and degradation.

The existing economic incentive framework encourages an investment climate characterised by short-term horizons and quick financial returns. Decisions are made to stimulate economic development with little attention being given to environmental considerations. Very few existing credit-extending schemes include any incentives for the protection of wetlands/biodiversity or the conduct of activities and operations in an environmentally appropriate manner.

Due to the traditional and historic fragmentation of responsibilities and sectors, there is still no tradition and little experience in the development of partnerships for mutual benefit. While economic partnerships are most advanced between the government and the private sector, they are still rather narrowly focused on the stimulation of economic development. Few partnerships have yet been developed, however, to stimulate wetland conservation, with long-term regional sustainability in mind. The NGO sector is particularly lacking in the development of strong, effective partnerships, especially with the private sector.

4. The main needs identified and directions to be taken to conserve Black Sea coastal wetlands

Today the Black Sea coastal zone is still subject to heavy human pressure, especially in relation of intensive development. Large areas have been seriously damaged or destroyed by inappropriate development in the past, lack of planning and bad management. The Black Sea and its coastal zone are also affected by the economic activities developed within the whole catchment basin.

The Black Sea countries are strong and active supporters of the global efforts to acknowledge the importance of wetlands and modify human practices so that these areas are retained for future generations. The governments of Black Sea countries are signatory parties to several international treaties relating to environmental and wetland conservation; in particular they are responsible for the management of Ramsar sites and also administer a range of social, economic and environmental programmes that affect wetland conservation and use throughout the country. For this reason, the governments have to ensure that their obligations under these treaties are met through the approval and implementation of national policies on wetlands, including the development and implementation of national wetland conservation strategies. The significant role of the national governments in wetland conservation should be realised through cooperation and partnership with other governments, the business sector and local communities.

Conservation of the Black Sea coastal wetlands should be built within the broader context of environmental management. In recognition of the special role of wetlands, conservation aims to provide responsible governmental departments with guidelines and define processes to ensure that wetlands are managed in accordance with sustainable development principles. Further, it is necessary to set a standard of excellence in this area for other sectors of government and the private sector to emulate, and to act as a catalyst, stimulating and enabling the communities to participate in a collective effort.

It is clear that considerable efforts have been made and are continuing to be made to address the problems associated with Black Sea ecosystems in general and most specifically the marine ecosystem. None the less, in practice there is an overwhelming concentration on pollution-related aspects. Coastal wetlands are essential and valuable ecosystems in the Black Sea basin both as ecosystems in their own right as well as in terms of their role in maintaining the health of the Black Sea. Pollution is only one of a range of different threats causing degradation and loss that need urgent attention. Several key areas of concern can be identified and need to be elaborated with the support and engagement of key stakeholders at national and regional levels:

- ◆ Strengthening international and national legislative frameworks
- ◆ Achieving integrated management of wetlands
- ◆ Using wetland resources in a sustainable way
- ◆ Protected areas and econet development
- ◆ Restoring and rehabilitating wetlands
- ◆ Maintaining and enhancing the biodiversity of wetlands
- ◆ Making inventories
- ◆ Monitoring and development of data bases
- ◆ Conducting research
- ◆ Raising public awareness
- ◆ Providing training and education

4.1. Strengthening international and national legislative frameworks

4.1.1. International agreements and initiatives

The Black Sea region is an area covered by a number of multi-lateral agreements that are relevant to wetlands. The Ramsar Convention on Wetlands, signed in Ramsar, Iran, 1971, is

4. The main needs identified and directions to be taken to conserve Black Sea coastal wetlands

arguably the most significant of them. This is a convention that provides the framework for conservation and wise use of wetlands and their resources. All Black Sea Countries are member states of this convention.

The Bonn Convention on the Conservation of Migratory Species of Wild Animals (CMS) foresees specific agreements for the conservation of certain populations of migratory animals. In this context, these are The Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS) to protect Cetaceans, and African–Eurasian Waterbird Agreement (AEWA) to protect migratory waterbirds in the African–Eurasian region.

All Black Sea countries are members of Convention on Biological Diversity (CBD). Issues related to wetlands are generally addressed under the Ramsar Convention through a Memorandum of Understanding (MoU) between the two conventions.

The Bern Convention on the Conservation of European Wildlife and Natural Habitats has become an important conservation tool for the region since Romania and Bulgaria joined the EU. An important aspect of the Bern Convention is also related to the establishment of a network of special conservation areas (the Emerald network) corresponding to an extension of the Natura 2000 network of States outside the EU.

The designation of several Biosphere Reserves in Black Sea coastal countries had brought this region into the framework of the UNESCO’s Man and Biosphere Heritage programme.

Several Black Sea countries are members of the Danube River Protection Convention, and participate in the International Commission for the Protection of the Danube River.

Romania and Bulgaria’s accession to the EU and the intention of the majority of the other Black Sea countries to follow in the coming years will potentially strengthen the framework for wetland conservation. Various EU laws are relevant in this respect. The Water Framework Directive, the forthcoming Flood Risk Management Directive, Directive 79/409/EEC on conservation of wild birds (Birds Directive), and Directive 92/43/EEC on conservation of natural habitats and wild flora and fauna (Habitats Directive) and the Communication on Integrated Coastal Zone Management are all key legislation that is increasingly relevant for Black Sea coastal wetlands.

Global Plan of Action for the Protection of the Marine Environment from Land-based Activities (GPA). Georgia, Romania and Russia are signatories to the GPA. It has a Coordination Unit based in the Hague (the Netherlands), supported by the UN Environment Programme (UNEP). The GPA aims to prevent the degradation of the marine environment from land-based activities by facilitating the duty of States to preserve and protect the marine environment.

Table 1. Participation of Black Sea countries in multilateral environmental agreements relevant to coastal wetland conservation

Agreement	Bulgaria	Georgia	Russia	Romania	Turkey	Ukraine
Convention on Biological Diversity & Pan-European Biological and Landscape Diversity Strategy (PEBLDS)	P	P	P	P	P	P
Bucharest Convention	P	P	P	P	P	P
Ramsar Convention	P	P	P	P	P	P
Bonn Convention	P	P	P	-	-	P
Bern Convention	P	P	O	P	P	P
EU Directives	M	-	-	M	A	-

Key: A – accessed, M – member, O – observer, P – party, S - signatory

In 2007, the European Commission launched the Black Sea Synergy – a new regional initiative designed to develop cooperation within the Black Sea region and also between the region as a whole and the EU. Despite the major efforts to stimulate democratic and economic reforms to support development and stability in the Black Sea area, it is recognised that there is a need to focus political attention at the regional level and invigorate existing cooperation processes. It has also been identified that implementation is lagging behind policy and strategy in many areas. The Black Sea Synergy has been initiated to address this issue. A number of key sectors, including the environment sector, have been identified that require coordinated action at the regional level.

One of the most important international agreements for conservation of the Black Sea and its coastal wetlands is the Convention on the Protection of the Black Sea against Pollution (the Bucharest Convention), which was adopted by the six coastal states in 1992 and entered into force in 1994. This convention is a framework treaty that commits the coastal states to reducing marine pollution levels. Below this level is a series of Protocols. The Landscape and Biodiversity Protocol is one of most significance to wetland ecosystems, addressing as it does the marine environment including coastal ecosystems up to the freshwater limit. Another is the Integrated Coastal Zone Management (ICZM) Protocol. An updated Strategic Action Plan for the Environmental Protection and Rehabilitation of the Black Sea has been adopted in 2009 in Sofia (Bulgaria). Taking account of the Ecosystem Approach and ICZM, this seems a very promising contribution to the sustainable use of wetland ecosystems.

There is a range of existing initiatives related to Bucharest Convention. In 1993, the Black Sea Environmental Programme (BSEP) was established, funded by the Global Environmental Facility and also sponsored by the European Union's Phare and Tacis programmes and other governments including the Netherlands, France, Japan, Austria and Canada. The first task of BSEP was to help to create a strong international network of institutions, specialists and other stakeholders. The BSEP established its headquarters in Istanbul with the support of the Government of Turkey. In order to spread the technical responsibilities of the programme throughout the region and to make best use of the excellent specialists in the region, a system of six Regional Activity Centres, seven Advisory Groups and three *ad hoc* working groups was devised. The activity centres addressed a range of different issues:

- ◆ Environmental and Safety Aspects of Shipping, Bulgaria;
- ◆ Pollution Monitoring and Assessment, Ukraine;
- ◆ Control of Pollution from Land Based Sources, Turkey;
- ◆ Development of Common Methodologies for Integrated Coastal Zone Management, Russia;
- ◆ Conservation of Biological Diversity, Georgia;
- ◆ Fisheries and other Marine Living Resources, Romania.

In 1996 (and amended in 2002), the BSEP established the Strategic Action Plan for the Rehabilitation and Protection of the Black Sea. The Commission of the Convention of the Black Sea against Pollution (Black Sea Commission) and its subsidiary bodies have received the task of coordinating the implementation of the Black Sea Strategic Action Plan. The Black Sea Commission is assisted by the Permanent Secretariat of the Black Sea Commission.

In 2002, a Black Sea Ecosystem Recovery Project was initiated with the long-term objective of enabling sustainable human development in the Black Sea through reinforcing the cooperation and the capacities of the Black Sea countries to take effective measures in reducing nutrients and other hazardous substances to such levels as to permit Black Sea ecosystems to recover to similar conditions to those observed in the 1960s. The Project sits under the Global Environment Facility (GEF) Operational Strategy for International Waters and comes under the responsibility of UNDP. A second phase covering 2004-2007 has the specific objectives of:

- a) Reinforcing regional cooperation under the Black Sea Convention;
- b) Setting up institutional and legal instruments and to define priority areas at regional and national levels to assure sustainable coastal zone management;
- c) Protecting coastal and marine ecosystems and habitats in order to secure sustainable use of coastal and marine resources.

With a view to strengthening cooperation between the Bucharest and Danube Conventions, the EU established the Danube Black Sea (DABLAS) Task Force, the main objective of which is to provide a platform for cooperation for the protection of water and water-related ecosystems of the wider Black Sea region.

The principles behind the Bucharest Convention and its Protocols, together with its strong regional mandate and engagement of National Partners, give a strong basis for addressing some of the problems confronting coastal wetlands. However, it is an imperfect tool when the full range of wetlands issues is considered. Not all the threats facing wetlands can currently be adequately addressed under this Convention and its related programmes. The focus of the convention on pollution and the Black Sea Ecosystem means that where wetlands are not perceived to be a part of this issue they will be overlooked.

Existing international commitments such as the Ramsar Convention give a strong basis for addressing these gaps, but currently implementation is not sufficient. In addition there is no formal basis for cooperation between the two conventions and consequently the wetland conservation agenda has not been strongly embedded in the Bucharest Convention. Sites of international importance have been identified and are listed under the Ramsar List. However, steps towards the development of wise use principles and their implementation (e.g. stakeholder-driven management planning and implementation) lag far behind.

There are other significant gaps and missed opportunities that need to be addressed through stronger coordination of international treaties. For example, Black Sea coastal wetlands play a global role for waterbird conservation, but there is no unified monitoring system in the region for this taxonomic group. One of the most developed monitoring systems is the International Waterbird Census (IWC), which conducts annual counts of wintering waterbirds. However, it does not monitor migratory and breeding waterfowl at different times of the year. Furthermore, the IWC is not integrated into the implementation of the Landscape and Biodiversity Protocol, where it could act as a basis for providing indicators of wetland health in the region.

4.1.2. National legislative frameworks

The national legislative frameworks of Black Sea countries related to coastal wetlands conservation and use are represented by a large volume of laws, parliamentary and government decrees, national programmes, etc. Nevertheless, in general, national conservation legislation does not identify wetlands as a particular conservation target, and provides for their conservation, management and use through different types of legislative documents.

Examples of the most general laws are the Law on Nature Conservation (Ukraine), the Environment Act (Bulgaria), the Law on Environment Protection (Georgia), the Environment Protection Law (Romania), the Federal Law on Conservation of the Environment (Russia), and the Law on Environment (Turkey). This legislation forms a framework for all the nature conservation legislation. This category of laws usually not only regulates the conservation and use of the environmental components, but also EIA procedures, access to information, the control and management of negative impacts on the environment, financing of the activities, and rights and responsibilities of the relevant institutions.

The second group of laws also has more general aims than wetland conservation alone and relates to development, planning and management of the coastal zone or at the regional level. Bulgaria's Black Sea Coast Act is intended mainly to regulate development in the coastal area – but with deferred implementation, allowing for even more building development to take place. In Romania, there is a similar law for the integrated management of the coastal zone. The Regional Development Act adopted in Bulgaria states that the Ministry of Regional Development and Public Works must integrate environmental protection and sustainable development objectives into its regional policies and the national operational programme for regional development, and into regional development strategies and plans.

The third group of legal documents regulates land, water, mineral resources and soil use and conservation. Among these are the Water Act (Bulgaria), which regulates the ownership and management of waters within the territory of the Republic of Bulgaria as a national indivis-

ible natural resource and the ownership of the water systems and facilities, the Law for Water Management (Romania), the Soil Protection Law, Water Law and Law on Minerals (Georgia), the Water Code (Russia), and the Land Code and Water Code (Ukraine).

The fourth group of legislative acts regulates the use of biodiversity for commercial interests. The Fishery and Aquaculture Act (Bulgaria) regulates the organisation, management use and protection of fish resources in Bulgarian waters, and the fish and shell trade. The Hunting and Game Protection Act (Bulgaria) establishes relationships in terms of: ownership; management, use and protection of game species; organisation of hunting farms; rights to hunt and to trade game species and game products. In Georgia, there is a special Hunting and Fishing Regulation; in Romania, the Law for Hunting and Protection of Game and the Law for Aquatic Resources, Fishery and Aquaculture; in Turkey, the Law on Terrestrial Hunting and Decisions of the Central Hunting Commission, which provide measures to protect species subject to threats due to hunting, and the Law on Fisheries; in Ukraine the Law on Game Species.

All Black Sea countries have a series of laws related to biodiversity. The Biodiversity Conservation Act in Bulgaria is the main special law that introduces conservation of the biological diversity through the establishment of a National Ecological Network and special measures for conservation of species, as well as regulation of the activities and international trade in wild animals. Similar to this are the Law on Fauna and Law on the Red Data List and Red Book in Georgia, and the Law on the Red Data Book, the Law on Flora, and the Law on Fauna in Ukraine.

The conservation of natural habitats/ecosystems and biodiversity through the development of networks of protected areas or national ecological networks are covered by special legislation in all Black Sea countries. In Bulgaria this is the Protected Areas Act; in Georgia, the Law on the Protected Territories System; in Romania, Ordinance of the Government concerning the natural protected areas, the protection of natural habitats, and wild flora and fauna; in Russia, the Federal Law on Specially Protected Natural Areas; in Turkey, the Law on National Parks, the Law on Specially Protected Areas and the Law on Protection of Cultural and Natural Heritage; in Ukraine, the Law on the Protected Area Network of Ukraine, the Law on the State Programme of Ukraine's National Environmental Network Development for 2000–2015, and the Law on Ukraine's Ecological Network.

There is also some legislation which is devoted especially to wetland or coastal area conservation. For example, in Turkey this is 'The Regulation on The Conservation of Wetlands', was brought into the force by the Ministry of Environment and Forestry. The main purpose of the regulation is to implement the Ramsar Convention in Turkey. By means of this regulation, the National Wetland Committee was established.

Some Black Sea countries, including Turkey, have National Wetland Strategies. Other countries still intend to develop a National Wetland Strategy or have drafted one or are awaiting official approval by national government. In Ukraine, until recently the term 'wetlands' did not occur in national legislation but it has now entered the legal vocabulary and has been approved for several laws and regulatory documents. A few state documents are especially devoted to wetlands. These include the Resolution of the Supreme Council of Ukraine, 'Reinforcement of the Conservation of International Wetlands', the Law of Ukraine, 'On the participation of Ukraine in the Ramsar Convention', the Decree of the Cabinet of Ministers of Ukraine, 'The Order of Awarding Wetlands with the Status of Wetlands of International Importance'. To carry out Ukraine's commitments to the Ramsar Convention, the Cabinet of Ministers of Ukraine by the Order 'On Activities on Protection of Wetlands of International Importance' (1995) approved the List of 22 Ukrainian Wetlands of International Importance. In 2003, the Ministry of Environmental Protection of Ukraine together with the Wetlands International Black Sea Programme prepared new information sheets for 11 wetlands officially recognised by the Ramsar Convention as Wetlands of International Importance. Twenty-two Ramsar sites in Ukraine are coastal wetlands. The State Programme on Protection of the Azov-Black Seas from Pollution partly addresses the conservation of coastal wetlands of Ukraine.

Some steps towards improving national legislation have been already taken in recent years. For example, in 2005 Turkey prepared a revised version of the legislation for the conservation of wetlands. Georgia's legislation has been analysed from the point of view of compliance with Ramsar Convention requirements, and recommendations have been elaborated. Bulgaria and

Romania, as EU members, had already taken crucial steps to harmonise their national legislation with that of the EU. In Romania a 'Strategy for the Integrated Management of the Coastal Zone' has been elaborated. In Georgia a 'Policy Note on the Development of an Integrated Coastal Zone Management (ICZM) Concept for Georgia' has been prepared, together with a draft law on ICZM.

It is important that, gradually, the concept of sustainable development is incorporated in national policy documents. In Russia these include the Presidential Decree 'On the Concept for Transition of the Russian Federation to Sustainable Development' and the Environmental Doctrine of the Russian Federation.

In spite of the progress in development and implementation of nature protection legislation in Black Sea countries, it is necessary to introduce a number of changes and amendments, to set up a more comprehensive legal basis to protect wetlands in the region, especially Wetlands of International Importance. All Black Sea countries should develop their National Strategies and National Action Plans for Wetlands.

4.2. Achieving integrated wetland management

The overarching environmental sector issue is how to ensure the sustainable use and biological integrity of coastal wetland ecosystems under economic and social pressures. The Black and Azov Sea coastal region contains a mosaic of globally and internationally significant wetland and marine communities, agricultural lands, factories and major population centres.

In Black Sea countries, specific management structures and mechanisms enabling implementation of integrated management of wetlands are practically absent. The integrated approach to natural resources management is mentioned only in legislation and various strategic documents. In practice, natural resources management is undertaken according to different sectoral laws (Water, Land, Forest Codes, etc.) by respective ministries and state committees (institutions) and their regional bodies. Each of the resource management structures has its own priorities and authority in decision-making concerning its sector; local administrations and self-governing bodies also have some authority for resources management. In Bulgaria and Romania, which are EU members, integrated management of wetlands can be achieved via the Natura 2000 network, which provides the incentives for sustainable development and for the integration of economic activities with conservation. However, in some cases governments have postponed the designation of sites, and this has been taken as a green light by private companies to continue to take advantage of slack regulations and enforcement. The country's biodiversity and the Black Sea coastal wetlands are largely at the mercy of investors, some of whom might provide examples of environmental consciousness and sustainable development.

To achieve integrated, comprehensive wetland management, it is necessary to establish an official bodies or groups to oversee wetland management at the state level, which should oversee:

- ♦ Coordination of activities in the area of conservation and wise use of coastal wetlands;
- ♦ Implementation of strategies for integrated management of coastal wetlands, water and living resources that promote their conservation and sustainable use in an equitable way (or ecosystem approach);
- ♦ Implementation of economic and ecological forecasts of the natural resource potential of developing coastal wetlands;
- ♦ Development and implementation of management plans for all coastal wetlands, primarily for wetlands of international importance;
- ♦ Ecological monitoring of the state of coastal wetlands;
- ♦ Training of specialists in the area of conservation and wise use of coastal wetlands.

Such a body or group would take the form of a National Wetland Committee, as recommended by the Ramsar Convention. In Georgia, the Council on Wetlands Management Issues was established in 2006 by Decree of the Ministry of Environmental Protection and Natural Resources of Georgia. Another example of incorporating a holistic approach into wetland-related management is the establishment in Romania, in 2004, of the National Committee for the Coastal Zone, which deals with implementation of the existing legal framework and Strategy once it has been approved by the Ministry of Environment and Water Management.

The Black Sea countries quite actively practise the 'whole-basin' approach and integrated water management. This does not apply only to Bulgaria and Romania, which strictly follow EU regulations. Ukraine has also created Basin Management Units for all the major river basins in the country, and Basin Councils for some basins. According to the Government of Georgia's mid-term action plan for the period 2008–2011, one of the priority tasks at the Ministry of Environment Protection and Natural Resources is the establishment of a water-basin management system.

It is crucially important that investment and conservation issues correspond with one another; this would also mean that sectoral policies would be well balanced.

At the local level, it is necessary to strengthen and encourage natural resources users and owners to take responsibility for conservation and wise use of coastal wetlands, as well as to strengthen regional departments of the ministries that are engaged in natural resource management in coastal wetlands.

Efforts to conserve and restore wetlands should be united in the development of management plans for coastal wetlands. The development and implementation of management plans for wetlands of international importance is a mandatory element of Ramsar Convention implementation at the national level. Analysis of the ecological (at the local, national and regional levels) and socio-economic values of coastal wetlands should become the information basis for wetland management plans as a document that incorporates the interests and unites the efforts of all parties interested in wetland conservation. Management plans should be very specific and, first, must be straightforward in order to conserve wetland values relevant to the criteria for the wetlands of international significance. Special sections on the conservation of valuable wetland flora and fauna species and ecosystems are to be developed within the frameworks of these management plans. Management plans should provide the administrative bodies with lists of the activities and recommendations necessary to achieve integrated management of wetland natural resources. Some of the wetlands of international importance on Black Sea coast, especially those that have national protected area status, already have management plans, examples being the Danube Delta Biosphere Reserve, Kolkheti National Park and Black Sea Nature Reserve.

Wetland management should become more efficient when all stakeholders are involved in it. Because local inhabitants live and work within wetlands, they may be quicker to identify their emerging problems and undertake ameliorative activities. Traditional knowledge of local inhabitants and their experience in traditional sustainable nature-related activities should be conserved and restored. The public should be involved in conservation and wise use of coastal wetlands at all stages of environmental management, i.e.:

- ◆ Problem identification;
- ◆ Decision-making;
- ◆ Implementing management plans;
- ◆ Monitoring the effectiveness of implementation of the agreed activities.

NGOs should play an important role in achieving conservation and wise use goals for coastal wetlands. It is worth involving not only national and international environmental NGOs but also different professional, political, commercial and other organisations that are interested in conservation and wise use of wetlands. The main task of NGOs is to form active groups among the public who will participate in solving coastal wetland conservation problems and will be able to present wise and coordinated public opinion on the issues.

4.3. Using wetland resources in a sustainable way

Wetland resources include water, animals and plants (fish, waterbirds, some mammals, invertebrate species, reed and medicinal herbs), mud, salt etc. Components of biodiversity in the form of wild and domesticated animals, plants and micro-organisms provide a vast array of goods and services that are often of significant local and national economic value. All Black Sea wetlands are used primarily for fishing, which is a centuries-old tradition. Other wetland resources being utilised are aquatic molluscs (mussels, *Rapana* snails, etc.) and crustaceans (*Astacus* spp.). Certain invertebrates – *Tubifex* spp., *Artemia salina*, Polychaeta, Oligochaeta, etc – are

harvested specifically for the pet industry. Some wetlands, such as Atanasovsko and Pomorie Lakes in Bulgaria and the lakes on Kinburnsky Spit and in the Sivash in Ukraine, are used for salt production. Other special uses of wetland resources include the extraction of mud for cosmetics and medical purposes, and use of hyperhaline water for medical purposes. Hunting and hunting tourism are well developed at the majority of wetlands. An increasing number of wetlands are also used for birdwatching tourism. Other types of biodiversity-related tourism, specialising in dragonflies, butterflies and plants, have begun to develop more recently.

The use of coastal wetland resources is regulated by the individual Black Sea countries. In Ukraine, for example, resource use is based on a system of permits. The Ministry of Environmental Protection of Ukraine is responsible for granting these permits, including for the use of water resources, fish, game, plants and other natural resources. Nevertheless, in many cases background data about natural resources is not relevant, and the system for controlling the use of resources is weak. One of the globally important issues related to the Black Sea region is regulation of the waterfowl harvest through comprehensive management plans, as proposed by AEWA.

The level of consumptive and non-consumptive exploitation of wetland resources should be assessed. The quotas for the use of resources of coastal wetlands should be based on sound information on the status of each resource; the quotas should be adhered to and updated regularly on a statutory basis.

Participatory approaches are necessary to raise awareness and to provide sufficient information to local people and stakeholders about the importance of wetland resources and the need to manage them in a sustainable manner. Specific training programmes for local decision-makers, scientific and administrative personnel and wetland resources users should be developed.

4.4. Protected areas and econet development

The designation of protected areas is traditionally the most effective tool for conserving natural resources, including wetlands. According to the UNEP-World Conservation Monitoring Centre (World Protected Areas Data Base, 2007), some 125 protected areas bordering the Black Sea coast have been designated. These greatly vary in size from small reserves of several hectares up to the Danube Delta Biosphere Reserve in Romania, with an area of 576,216 ha. Different categories of protected areas recognised under national law in different countries cover ca. 1.9 million ha in the Black Sea coastal region. Of note among these are the Danube Delta Biosphere Reserve (which includes the Razim-Sinoie Lake Complex, Saraturi-Murighiol wetland and Black Sea coastal zone of Romania), Dunaiski Biosphere Reserve, Black Sea Biosphere Reserve, 'Kinburns'ka Kosa' Regional Landscape Park, 'Meotida' Regional Landscape Park in Ukraine, and Kolkheti National Park in Georgia. It is also planned to create national parks in the Dnipro and Dniestr deltas, in the Sivash lagoon and on the Azov Sea coast of Ukraine. Romania and Bulgaria are now actively developing a network of the Natura 2000 protected areas. The Natura 2000 network is currently seen as a critical tool for integrating and mainstreaming biodiversity conservation into economic development by both government and NGOs.

At the same time, existing protected areas are not sufficiently effective in conserving their biodiversity – for different reasons. First is lack of funding, resulting in insufficient staff and equipment thereby restricting the management's ability to guard protected areas, conduct monitoring, etc. Protected areas often do not have clearly stated and prioritised management objectives, and many operate in the absence of a management plan. Management decisions are often not based on good scientific information and biodiversity conservation requirements but on other competing priorities. Protected areas are often not widely accepted by the local community because local landowners prefer the quick profit to be made from selling their land to developers. Not all important coastal habitats are presently included under some form of protected area designation. Many areas that are desirable for protection in the near future as Natura 2000 sites often include private land, and no measures exist to address the resulting conflicts. The administration and management of protected areas is divided among various authorities, and no coherent plan has been formulated for their coordinated management towards a common overarching goal. The management of existing protected areas does not explore opportunities for establishing partnerships with other economic sectors, especially tourism.

Moreover, construction may proceed in protected areas since this has not been exclusively prohibited by law, and pressure for construction has been exercised through management plans and changes in land-use and physical planning.

Further strengthening of the role of protected areas in coastal wetland conservation should be based not only on increasing of the numbers or extending area that they cover, but mainly through improving conservation regimes and management, developing cooperation with local authorities and the local population, and increasing the capacity of protected area administrative staff with regards to raising public awareness and education levels.

The existing protected areas along the coast are in dire need of alternatively generated funding to complement the limited state budgetary subsidies. As demonstrated by the BSPB in the management of the Poda Protected Area (Bulgaria), funding generated by tourist visits can contribute significantly to sustained biodiversity management.

Different types of protected areas form the 'backbone' for a national ecological network and for the Pan-European Ecological Network (PEEN) as a whole. In the majority of Black Sea countries 'econets' are just beginning to be developed, and have as yet had no real practical results in terms of conserving nature. Nevertheless, in future this tool would form a strong basis for realising an integrated approach to the management of natural areas, including wetlands. For example, in Ukraine the development of a national econet is based on two special laws and state financing that allows the creation of a set of new national parks and other protected areas along the Azov-Black Sea coast of the country.

4.5. Maintaining and enhancing wetland habitats and biodiversity

The wetlands and coastal habitats of the Black Sea region support a rich diversity of wetland-dependent species, which use these habitats at different times of the year or at different stages in their life cycle.

The ecological status of the Black Sea has varied greatly in the last 40–50 years, from being 'normal' in the 1960s to being a highly degraded environment in the 1980s, with a more recent tendency to recovery. In accordance with the Black Sea Transboundary Diagnostic Analysis (TDA) (2007) conducted as an activity under the Bucharest Convention, the following aspects of the negative human impact on the environment been documented: frequent and intense algal blooms, modification of community structure and changes in food chains, depletion of fish stocks, loss of migratory species using the habitat, as well as altered migration patterns, increased mortality of aquatic organisms and avian mortality, decreased native species diversity, increased proportion of threatened species, changes in ecosystem stability, alien species establishment and increased vulnerability to opportunistic invaders, ecosystem degradation. The TDA showed that habitats most at risk include the coastal lagoons, estuaries/deltas and wetlands/saltmarshes.

Each of the above-mentioned negative changes resulted in a chain of further sequences. Thus, alien species can cause irreversible environmental impact at the genetic, species and ecosystem levels in ways that cause significant damage to the goods and services provided by ecosystems and thus to human interests. The number of alien species recorded at the regional level is 217 (parasites and mycelium excluded). Nearly 10% of the established alien species in the Black Sea and coastal aquatic habitats are considered to be highly invasive, and another 16% to be moderately invasive.

At the same time, economic activity can in some cases have a positive influence on biodiversity. In Bulgaria, Lake Atanasovsko and Lake Pomorie are examples of human economic activity having significantly contributed to the biological diversity of wetlands. Both lakes are saline with numerous dikes, canals and large and small ponds of varying salinity and flora. Such conditions have provided for a larger number of birds on migration, during the breeding period and in winter. Both lakes, as well as the BSPB Poda Reserve, can be highlighted as good examples of long-term successful conservation and biodiversity-enhancing measures.

The socio-economic consequences of habitat and biodiversity degradation include reduced options for freshwater use, increased costs of alternative water supplies, increased costs of water treatment, decline of fisheries, reduced options for aquaculture development, loss of

tourism, recreational and aesthetic value, loss of educational and scientific value, increased costs of clean-up and preventive measures, increased costs of restoration of modified ecosystems, loss of sanctuary and protected areas.

The top priority for the conservation of wetland biodiversity is to develop an integrated and sustainable approach to the management and use of habitats. It is important to define and apply the necessary protection measures to maintain the ecological character of coastal wetlands, especially Ramsar sites. For countries that are already EU members, all national and international important wetlands should be included in the Natura 2000 network as Special Protection Areas (SPAs) (under the Birds Directive), Special Areas of Conservation (SACs) (under the Habitat Directive) or Areas of Special Conservation Interest (ASCIs) (in the Emerald Network).

A unified classification of the wetland habitats should be developed and agreed. The habitats should be mapped, using a geographic information system (GIS), especially within the borders of wetlands of international importance. At the species level, identifying wetlands sites that are important for threatened, rare or endemic species and attempting to protect them should be a priority. National Action Plans for globally threatened bird species should be prepared. A review of the presence of introduced (exotic) species should be developed to determine the status of such species, trend and potential impact on native species. National Action Plans for prevention and control of spread of non-native species should be elaborated and implemented.

Poaching is one of the major negative factors influencing biodiversity (especially fish species) in some Black Sea countries, and should also be addressed adequately.

The use of lead shot for hunting could result in lead poisoning of waterbirds. It is important to create sufficient non-hunting areas and use non-toxic ammunition so that there is a possibility for waterbird populations to increase.

4.6. Wetland rehabilitation and restoration

Many coastal wetlands have already been lost in the Black Sea region, and the natural functions of those that remain have often been degraded through human impacts. Wetland restoration is the reinstatement of some or all pre-existing functions to 'lost' wetlands; wetland rehabilitation is the enhancement of the remaining functions and the reintroduction of past functions to remaining wetlands. There are rare examples of natural or partly human-assisted wetland restoration – Komlushka Nizina Marsh, part of Mandra Lake Complex in Bulgaria. During the last decade, a wetland restoration/rehabilitation programme was implemented in two important zones in Romania: the Danube Delta Biosphere Reserve and Danube Flood Plain. In the Danube Delta, the first wetland restoration work started in 1994 with two agricultural polders (Babina and Cernovca, 3,680 ha). Abandoned polders for agriculture and fish farming in the Danube Delta are included in this major restoration/rehabilitation programme. The restoration programme for the Danube Delta is also a component of the recently elaborated 'Master Plan - Support for Sustainable Development in the Danube Delta Biosphere Reserve'. In Ukraine, restoration activities have also been undertaken in the Danube Delta – at the agricultural polder on Tataru Island and some other small wetlands on Kinburnsky Spit (Dnipro-Bugsky Liman) and in Crimea. At the same time, many coastal wetlands need rehabilitation or restoration. The first step towards this should be the creation of a list of the wetlands valuable for restoration. Crucially important are a well developed methodology and strong information basis, which in many cases are absent. Restoration of wetlands should be undertaken on a regular basis, and should form an important part of the National Wetland Policy of each Black Sea country.

The development of demonstration projects should be the next step. The implementation of such projects should be monitored and evaluated. Local communities should be integrated into the decision-making and planning process, and play an active role in monitoring and managing wetland restoration projects.

Restoration of wetlands located within the borders of protected areas (nature and biosphere reserves, national nature parks, etc.) should also be foreseen in the protected areas' management plans. A sharp decline in the economic use wetlands occurred once they were protected, especially when they were designated as nature reserves or zones of strict protection in the

national nature parks. This may be sufficient for them to be restored naturally without the need for any additional management activities and significant financial expense. This will depend on power and the level of influence at sites adjacent to the protected area.

It is important to establish national training courses on wetland restoration, based on regional training courses and available manuals, and to ensure that appropriate staff from governmental and non-governmental agencies will participate in the regional training courses on wetland restoration and rehabilitation.

4.7. Inventory

A number of international lists and directories of wetlands covering the Azov-Black Sea region have been published over the last 30 years. The most detailed information is available for the Black Sea wetlands that have been designated as Ramsar sites. These sites are described in the Directory of Wetlands International Importance, which was first produced in draft form for the Second Conference of the Contracting Parties to the Ramsar Convention (CoP) in Groningen, the Netherlands, in 1984, and has since appeared in revised and updated versions at the subsequent CoPs. The most comprehensive overview of the Black Sea wetlands and a preliminary action plan for wetland conservation was prepared by IWRB (Wilson and Moser 1994). It promoted further development of inventories of Black Sea wetlands. In 2003 Wetlands International, in collaboration with national experts, prepared and published the Directory of Azov-Black Sea Coastal Wetlands. The Directory includes information on 94 wetlands located in Bulgaria, Georgia, Moldova, Romania, Russia, Turkey and Ukraine. The Directory includes all Black Sea coastal wetlands of international importance. Wetlands of national importance were identified for inclusion by experts of each national team, as far as each country has its own rules and criteria for definition of such wetlands.

Very comprehensive wetlands studies have been conducted in Bulgaria and the publication *Inventory of Bulgarian Wetlands* and supplementary CD-ROM present the results of an inventory of about 9000 wetlands and their biodiversity in Bulgaria. In recent years comprehensive inventories of biodiversity have been conducted under various projects: Wetlands International – Sivash Lagoon, WWF – Danube Delta, Technical Aid to the Commonwealth of Independent States (TACIS) – Dniestr Delta etc.

Thus in terms of wetlands in general, the inventory of Black Sea coastal wetlands is complete. Nevertheless, detailed inventories of the different habitats and taxonomic groups of flora and fauna are still lacking. A set of priorities should be developed for an inventory of wetland habitats/biodiversity, and surveys should then be carried out in order to create a sound basis for monitoring programmes.

4.8. Monitoring and development of databases

There is no unified monitoring system for coastal wetlands in Black Sea countries, just as there is no single wetland database for the region. The database on existing Ramsar sites contains generalised information on wetlands of international importance, determined by the format of the Ramsar survey sheets. Nevertheless, a variety of monitoring programmes and related databases on various taxonomic groups of flora and fauna already exist.

In Bulgaria, the first biodiversity monitoring programme was a midwinter census of waterbirds, established in the 1970s by the Central Laboratory of General Ecology and at present carried out with the participation of the BSPB and Green Balkans NGOs. The BSPB began monitoring geese in the northern wetlands in the 1990s, and continues this work with the support of WWT. Winter monitoring of White-headed Duck *Oxyura leucocephala* and Pygmy Cormorant *Phalacrocorax pygmaeus* (Bulgarian-Swiss Biodiversity Conservation Programme [BSBCP]) covered wintering waterbirds in the north and south of the country, respectively. The Bourgas wetlands project (BSBCP) carried out monthly monitoring of waterfowl in the mid 1990s. The migration of soaring birds has been monitored at Lake Atanasovsko since 1978. The main problem with monitoring programmes is that of ensuring the funding to carry out work from year to year and in the long term. At present, waterfowl and geese are still being monitored regularly in winter.

4. The main needs identified and directions to be taken to conserve Black Sea coastal wetlands

In Georgia there is no special wetland monitoring programme, but the Centre for Monitoring and Forecasting (under the Ministry of Environment) monitors water pollution at 40 points on 25 rivers, on two lakes and one reservoir; and since 2006 there has been renewed monitoring across the Black Sea coastline. Simultaneously a monitoring programme is being implemented for Georgia's Ramsar sites, related to monitoring conducted in protected areas.

In Romania, data on different aspects of the status of wetlands are accessible as the Environmental Protection Agencies and 'Apele Romane' National Administration carry out monitoring programmes on environmental quality, including water quality, at almost all the country's waterbodies. Special monitoring programmes are undertaken in the Danube Delta and other protected areas by their management staff.

The Russian Federation also does not monitor targeted wetlands, but information on the extent, current status, and use of wetlands in Russia is regularly provided by sectoral statistics and monitoring systems. The State Water Cadastre provides information on water resources, including water bodies, watercourses, underground waters etc. The Land Cadastre of the Russian Federation provides information about land use. Information to assess changes in wetland status is available within the systems of the State Environmental Monitoring Agency, some sub-systems of which relate to wetlands: monitoring of inland surface waters, monitoring of marine surface waters, monitoring of underground waters etc. Data on biodiversity is accessible through the Red Data Book of the Russian Federation and Red Data Books of the individual administrative regions, and special monitoring of hunting and fishing are allowed under licence. More complex monitoring of wetland ecosystems is conducted for wetlands that lie within the borders of federal protected natural areas, as a result of a special monitoring programme for protected areas.

In Ukraine, monitoring of the abiotic components of coastal wetlands is also undertaken only within general monitoring of the environment, which is organised on the basis of a number of state documents (the Decree of the Parliament of Ukraine of March 30, 1998 'Regulations on State System of Monitoring of the Environment', Decree of the Cabinet of Ministers of Ukraine 'On Establishing the Interdepartmental Commission on Environment Monitoring Issues' (2001), etc.). Monitoring of the biotic components of wetlands is conducted by the staff of different scientific institutions, protected areas and NGOs. Some of these programmes are in-house programmes of research organisations (e.g. the Institute of the Southern Seas, Odessa University, Azov-Black Sea Ornithological Station etc.) or protected areas (e.g. Danube Delta Biosphere Reserve, Black Sea Biosphere Reserve etc.). Other programmes are supported by different international organisations. The most comprehensive programme is the IWC, which has been conducted in the Black Sea region, including Ukraine, for more than 20 years; the programme is coordinated by Wetlands International. Another example is the August census of waterbirds in coastal wetlands of Ukraine. This is a new monitoring initiative organised by the Azov-Black Sea Ornithological Station and supported through different projects, among which are Wetlands International and GEF projects. An IBA monitoring programme is also supported by international funds delivered through NGOs.

Considering the exclusive national and international significance of wetlands, organisation and improvement of their monitoring is an urgent need and is an issue separate from the use and conservation of natural resources. It demands immediate governmental actions, support from the national NGOs and attention from the international scientific and nature protection organisations.

The most important tasks for developing wetland monitoring should be:

- ♦ Making an inventory of existed monitoring programmes for Black Sea coastal wetlands and conducting a gap analysis with regards to this;
- ♦ Setting unified priorities and developing unified standards for monitoring wetlands and their biodiversity;
- ♦ Strengthening coordination between participants of the monitoring, and developing aspects of monitoring that are currently lacking;
- ♦ Developing mechanisms for exchange of information between participants and making monitoring results widely accessible to all stakeholders: governmental bodies, scientific

and research institutes, local authorities, administrations of protected areas, relevant national NGOs, and international scientific and nature protection organisations.

To unify approaches to monitoring coastal wetlands, it would be extremely helpful to use MedWet experience.

To further develop wetland monitoring it is necessary to ensure that it is integrated into economic activities at all stages (strategic and technical planning, current production activity and analysis). Moreover, it should be integrated into regional informational systems, and its results should be accessible to decision-makers at local, regional and national levels.

Databases. Monitoring of wetlands is inseparably linked to the accumulation and processing of data using computer databases and GIS. In the Black Sea region there are a number of different databases held by the different organisations. Among these are the Wetlands International database on the international winter census of waterbirds (IWC), the IBA database held by BirdLife International and its partners in the region, the Azov-Black Sea Ornithological Station's waterbird database and databases of national bird-ringing centres in the different countries of the region, National Bird Data Bank (BSPB), Atlas of the Breeding Birds in Bulgaria (on 10x10-km UTM grid) (BSPB), Wetlands International Black Sea Programme's database on Ukrainian wetlands as well as various state databases on abiotic components – water, soil, land use, etc. Many of these are GIS-related.

There is a strong need to make an inventory of existent databases and to develop mechanisms (tools and procedures) to ensure exchange of information between similar databases and access to them by different scientific, conservation, management and development organisations.

4.9. Research

Scientific research into Black Sea coastal wetlands has resulted in many hundreds of different publications. For example, there are 1,242 references on the list of main publications on wetlands of the Azov-Black Sea region of Ukraine for the period 1970–1999. Another example is the list of publications related to Ukraine's largest lagoon – the Sivash and adjacent area, which comprises 1,173 references.

Only Wetlands International and its partners, having worked for many years in the Black Sea region, have conducted a series of research projects. This is reflected in a range of publications devoted to coastal wetlands and their biodiversity: *Directory of Azov-Black Sea Coastal Wetlands*, *Directory of Ukraine's Wetlands*, *Wetlands of the Azov-Black Sea Region of Ukraine* (Bibliography 1970–1999), *Numbers and Distribution of Breeding Waterbirds in the Wetlands of Azov-Black Sea Region of Ukraine*, and many others. Among this very comprehensive list of publications should be mentioned the publication *Inventory of Bulgarian Wetlands* and its supplementary CD-ROM, which presents the results of an inventory of about 9,000 wetlands with details of their biodiversity. A large volume of publications related to coastal wetlands is produced by the different state scientific and conservation institutions, staff of protected areas etc. every year. The comprehensive studies undertaken in the Romanian and Ukrainian parts of the Danube Delta are a shining example of such work. Many of the publications are the results of GEF, TACIS, BirdLife International, IUCN, WWF and other projects.

Nevertheless, there are still many gaps in the research, especially on groups other than birds, their ecology and conservation biology. To improve the practice of conservation and wise use of coastal wetlands scientific research has to be streamlined into the following areas – ecological, economic and social.

1) Ecological research. Inventories of the flora and fauna of coastal wetlands have primary importance, in particular there is a need to:

- ♦ Develop a scientific and methodological basis for making inventories of coastal wetlands and coordinate it with international inventory methodologies;
- ♦ Study the composition of the flora and fauna of coastal wetlands;
- ♦ Study coastal wetland communities and locations (community inventory and mapping);
- ♦ Develop a scientific and methodical basis for establishing a system of criteria for evaluating wetland importance;

4. The main needs identified and directions to be taken to conserve Black Sea coastal wetlands

- ♦ Develop a standardised system of indices for the status of coastal wetlands.

The study of the natural dynamics of coastal wetlands also plays an important role in e.g.:

- ♦ Studying the dynamics of vegetation cover as part of ecosystem dynamics;
- ♦ Defining the forms, methods and level of mutual influence of phytocenoses and zoocenoses;
- ♦ Defining the role of phytocenoses in the accumulation of organic substances and studying the biological circulation of such substances in coastal wetlands.
- ♦ Conducting priority research into coastal wetlands transformed in the process of economic activities: studying the directions and levels of anthropogenic impact on coastal wetlands;
- ♦ Developing criteria and methods for evaluating the ecological status of coastal wetlands and their ecological importance;
- ♦ Developing methods for conserving ecosystems under conditions of intensive economic activity;
- ♦ Developing scientific concepts for managing coastal wetlands with different levels of anthropogenic transformation;
- ♦ Developing and implementing methodologies to restore lost or degraded coastal wetlands.

2) Economic research. The priority should be given to economic methods of developing natural resources. The prospective research areas are:

- ♦ Analysis of the main economic reasons for coastal wetlands degradation;
- ♦ Economic and ecological evaluation of coastal wetlands (cost evaluation of the following wetland functions: provision of natural resources, support to regulatory ecological functions, provision of natural benefits such as recreation, aesthetic pleasure, etc.);
- ♦ Research into the area of economic and ecological forecasting of consequences of the potential transformation of coastal wetlands;
- ♦ Evaluation of the country's macroeconomic and sectoral policy influence on coastal wetland conservation;
- ♦ Development of economic mechanisms and tools to encourage coastal wetland conservation (tax incentives, fines for pollution, payment for use of natural resources, ecological funds, ecological insurance, ecological business, etc.).

3) Social research. Issues of socio-cultural traditions connected with coastal wetlands; development of the socio-cultural importance of wetlands (natural and historic heritage, recreation zones and areas of cultural and religious importance play an important role in social research). The utmost importance should be given to the development of methods to identify wetland stakeholders and evaluate their ability to influence wetland management. Research into the influence of awareness-raising programmes for coastal wetland conservation on the social groups that have the greatest impact on the status of wetlands is also important.

There are discrepancies the availability and supply of the relevant data. While considerable information on wetlands has been compiled, significant gaps still remain, and the detailed knowledge is either unavailable to planners and environmental specialists or difficult to find.

4.10. Stakeholder involvement, awareness raising, environmental education and training

The stakeholder analysis, conducted as part of the Black Sea Transboundary Diagnostic Analysis (2007), showed that over 70% of stakeholders thought the environmental health of the Black Sea region to be more important than economic development. Some 80% of respondents thought that if people knew more about the causes of the environmental problems they would want to make changes to improve matters.

In recent decades a great deal has been done to raise public awareness and education, and there were achievements in wetland training and public involvement. It is impossible to list all the articles published in newspapers, popular brochures and books, posters and leaflets, CDs, web-sites, TV advertisements and video clips and other awareness products issued by the state and NGOs to promote the conservation of the Black Sea and its coastal wetlands.

In Bulgaria, the Visitor and Information Centre at Durankulak Lake (a Ramsar Site,

Protected Area and Natura 2000 Protected Zone) was established. There are several visitor centres in protected areas in other Black Sea countries – in, among others, the Danube Delta Biosphere Reserve, Kolkheti National Park in Georgia, the Black Sea Biosphere Reserve in Ukraine.

In Ukraine special training courses for stakeholders and discussions have been organised in Odessa Oblast (for six Ramsar sites) and Zaporizhya Oblast (for two Ramsar sites, including the Danube Delta) in recent years. In Turkey, the Training-of-Trainers Course for Wetland Management Planning was designed and held with the support of Wageningen University (the Netherlands). By the end of 2009 participants from 40 provinces will have been trained in eight centres. In Turkey, there is also a national e-group for wetland management plan trainers. There are also many e-groups for stakeholders in the areas that have management plans.

In the Black Sea counties, many different campaigns on wise use of water resources, conservation of certain wetlands etc. have been conducted.

To involve local communities, local wetland committees such as the National Wetland Committee have been established in the provinces in Turkey.

Environmental NGOs, which represent the most active part of the local population, have obtained support through different projects implemented in the Black Sea region. Furthermore, the Black Sea NGO Network has been created; it includes many organisations from Black Sea countries.

In spite of the considerable progress achieved, civil society is still not a major partner in wetland conservation and management because of low levels of awareness of the issues, opportunity and engagement in planning and decision-making in the region. It is a principle of both integrated water resource management and coastal zone management that civil society's voice must be heard. Without this many of the most important arguments for coastal wetland conservation and sustainable management will not be heard by planners and implementers of policy.

Local communities should understand their obligations in terms of wetland conservation. They should be involved in the management of coastal wetlands to conserve their productivity and ecological and economic value for the long term. In order to do this, the level of ecological awareness of the local population must be improved. The need to participate in formulating important ecological decisions should demand knowledge of the main ecological characteristics of coastal wetlands and understanding of the possible ways of solving local and regional environmental problems.

The information programmes should plan to raise public awareness, in schools and the other educational establishments, of the natural characteristics of the local area, coastal wetlands, local flora and fauna, local natural resources use, and corresponding ecological problems and ways they could be solved. Programmes should not intend only to inform but also to increase the motivation of different groups of stakeholders to ensure their coastal wetlands are used wisely. Programmes should promote the active involvement of the public in the decision-making process, planning corresponding activities and management of coastal wetlands. They should encourage an attitude that influences coastal wetlands positively. Wise use of coastal wetlands should be the key issue of the programmes. Decision-makers and local people living near coastal wetlands should be the main stakeholders.

Favourable conditions for obtaining information on coastal wetlands, as well as visiting them with educational and recreational purposes, should be created. The establishment of information centres within wetland sites of international importance will have major importance once the stakeholders are better informed. The mass media should provide the public with more information on wetland problems. Informational and training materials on wetlands (manuals, CD, posters, photos, video, etc.) should be developed for each administrative region and, as far as possible, for all coastal wetlands of international importance.

The dissemination of printed and electronic material (such as descriptions of nature conservation projects, manuals for owners and natural resources users, descriptions of protected areas, etc.), delivering information on training programmes by mass media and computer networks, is an important means of raising public awareness. Celebration of International Wetlands

Day (2 February) and Black Sea Day (31 October) is especially important for raising public awareness and disseminating relevant informational and educational materials.

The goal of educational nature protection activities is the improvement of people's knowledge of the values and functions of coastal wetlands. The goal may be achieved through the development and implementation of national educational and training programmes on coastal wetlands.

At the secondary school level, the curriculum should cover lessons on types, structure and functions of wetland ecosystems, possible ways of conserving wetlands and using their natural resources wisely. It is also important to undertake informal education: organise excursions to coastal wetlands; involve young people in the activities of environmental NGOs that promote conservation and rehabilitation of coastal wetlands as well as wise use of their resources; involve pupils in public raising awareness campaigns.

At the high school level students should be involved in studying of coastal wetlands as unique ecosystems. At least, in one or – better – in several higher education establishments the specialist subject of wetland management should be introduced, to improve specialists' skills in this field. Special methodological bases will have to be developed for this purpose. The issues of wetland conservation and socio-economic aspects of wetlands use and restoration are important for inclusion into the curriculum for science students.

Special training courses, including training-of-trainers and specialists, involved in the dissemination of knowledge on wetlands should improve their capacity to raise public awareness. Training programmes on coastal wetlands should be implemented at national, regional and local levels. Representatives of governmental, business and public organisations, local authorities and the local population should participate in these programmes. Their joint work will promote the creation of a partners' network, which will support the implementation of national wetland policy.

The main objectives of education and training programmes are:

- ♦ Improvement in stakeholders' knowledge of the value of wetlands for people, of their flora and fauna;
- ♦ Encouragement of inclusion of modules related to coastal wetlands in the curricula at all levels of education;
- ♦ Promotion of environmental education for decision-makers;
- ♦ Development, support and implementation of initiatives aimed at improvement of levels of knowledge and qualifications of wetland managers;
- ♦ Encouragement for the development of educational centres on coastal wetlands.

5. Ramsar regional wetland initiatives

The first regional collaborative structure for wetlands, the Mediterranean Wetland Initiative (MedWet), was launched in 1991 and formally recognised as operating under the Ramsar Convention eight years later by Resolution VII.22 of the 7th meeting of the Conference of the Parties (COP7, 1999). In 2002, the COP8 formally recognised the importance of regional initiatives in the framework of the Convention and endorsed guidance for their further development (Resolution VIII.30). From 2005, six additional regional initiatives and two regional centres for training and capacity building have been officially endorsed.

The experience accumulated and the lessons learnt during these operational years under the Ramsar Convention helped to clarify the aims and conditions of regional initiatives and led the COP10 to recall 'that regional initiatives under the Ramsar Convention are intended as operational means to provide effective support for an improved implementation of the objectives of the Convention and its Strategic Plan through international cooperation in specific geographical regions' (Resolution X.6). COP 10 has adopted '*Operational Guidelines 2009-2012 for regional initiatives in the framework of the Convention on Wetlands*', which provide the appropriate framework for regional collaboration between Contracting Parties and other partners.

For many years, the Ramsar Convention has recognised the value of regional approaches to wetland conservation, and its work in this area provides both a model and increasingly an

opportunity. The long-running MedWet Initiative in the Mediterranean Basin has led the way in this respect. The example of the Mediterranean Initiative is provided in the box below (text is taken from the Ramsar Convention website, www.ramsar.org) as an example of how this could be organised.

Background on the Mediterranean Wetlands Initiative (MedWet)

MedWet is a coordination mechanism for wetland activities in the Mediterranean Basin, designed to involve all major stakeholders. It owes its origins to an international conference organised by the International Waterfowl & Wetlands Research Bureau (IWRB) [now Wetlands International] in Grado, Italy, in February 1991. The MedWet1 project (1992-1996), funded by the European Union and involving the five EU member states in the Mediterranean (France, Greece, Italy, Portugal, Spain), began building the collaborative MedWet network and developed regional methods and tools.

As part of MedWet1, the **Mediterranean Wetlands Strategy** was developed by the eleven participating partners (Ramsar Bureau, the EC, 5 EU-member states, and 4 NGOs) after wide consultation in the region. MedWet1 culminated in a major Conference on Mediterranean wetlands (Venice, Italy, June 1996), at which the Mediterranean Wetlands Strategy, based on the first global Strategic Plan of the Ramsar Convention, was endorsed.

In the same year (1996), the Ramsar Convention on Wetlands, under whose guidance the MedWet Initiative had been developed, established the **Mediterranean Wetlands Committee** (MedWet/Com). **MedWet/Com** meets every year and a half and guides the strategic direction and implementation of the Initiative; it includes representatives of 25 Mediterranean governments, the Palestinian Authority, the European Commission, intergovernmental conventions and UN agencies (Barcelona/UNEP; Council of Europe/Bern; Ramsar; UNDP), non-governmental organisations (BirdLife International, IUCN, Wetlands International, WWF International) and the wetland centres Greek Biotope/Wetland Centre (EKBY), Station Biologique de la Tour du Valat in France, Sede para el Estudio de los Humedales Mediterraneos (SEHUMED) in Spain, and the Centro de Zonas Húmidas, Instituto de Conservação da Natureza (ICN) in Portugal.

In 1999, MedWet became a formal inter-regional structure for the implementation of the Ramsar Convention (Resolution VII.20 of Ramsar's COP7) and serves as a model for regional wetland cooperative structures elsewhere. A **MedWet Secretariat** has been established under the Ramsar Convention Bureau (the Convention's secretariat) – it comprises the **MedWet Coordinator** (who reports to the Secretary General) and four colleagues, all outposted Ramsar Bureau staff based in Athens, Greece, with the financial support of the Government of Greece, and it is assisted by the MedWet Technical Network of five well-known research and conservation institutes units (EKBY, SEHUMED, Tour du Valat, ICN, and – joining in 2005 – ARPAT).

Between meetings of the Mediterranean Wetlands Committee, MedWet relies on the **Steering Group** to take operational decisions and solve problems in the implementation of the Committee's decisions. One representative of each of the regions of Africa, Middle East and Europe is appointed to serve for three years at a time as member of the Group.

According to its aim, any Regional Initiative must promote the objectives of the Ramsar Convention, to which all Black Sea countries are signatory. As the objectives of the Convention are broadly expressed, it falls to the regional stakeholders to define their regional priorities through a bottom-up process. Furthermore, the exact mode of operation of a regional initiative must be agreed. However, there is flexibility in this, and other governance and organisational structures could also be designed according to needs identified.

There are many aspects to Black Sea coastal wetlands that would benefit from a regional approach:

- ♦ Similar wetland ecosystem types, threats and hence technical challenges to address in-basin countries;
- ♦ Transboundary coastal wetlands that require international cooperation to develop management plans and resolve issues (the Danube Delta and Azov sea coast are good examples of this);
- ♦ Conservation of migratory waterbirds and other non-sedentary species requires a regional approach to monitoring, knowledge management and research;
- ♦ There is much to be shared and learned between different countries within the region concerning practices and how best to approach conservation, civil society engagement;

- ♦ The maintenance of wetlands as supporting ecosystems for the Black Sea is an inherently regional responsibility.

Understanding of these benefits and concern for coastal wetlands conservation has initiated the creation of a new Ramsar regional initiative for the Black Sea region.

6. The BlackSeaWet Regional Initiative

In the last 25 years much work has been done to describe the importance of Black Sea wetlands, identify the key sites and make the case for their conservation. Regional approaches to conservation have been advocated and detailed action plans drawn up. At the same time the rapid degradation of the Black Sea itself has stimulated considerable political and strategic efforts in the basin that have to some extent enabled some of the wetland issues to be addressed. This has stimulated major programmes and funding for the Black Sea. However, implementation of these measures has been slow and coverage incomplete when wetlands are considered. There is a need to reinvigorate the long-standing need for a regional wetland-focused initiative. Political momentum needs to be re-established, stakeholder support from all levels of society engaged, the action plans for the past reviewed and updated, donors engaged and a path forward agreed.

The first action plan for the conservation of Black Sea wetlands originates from the Black Sea basin Wetlands Workshop, which took place in Odessa, Ukraine from 12–22 October 1993. The workshop concluded that 'it is necessary and urgent for all concerned parties at every level (international, national, local) to initiate concerted actions in the Black Sea Basin for the sustainable management of its wetlands, to the benefit of the peoples of the region and of global biodiversity.'

In 2000 two international workshops, organised by Wetlands International, on conservation and wise use of wetlands and wetlands resources along the Black Sea coast were held in Odessa. The participants of the international workshops unanimously concluded that 'establishment of a wetland conservation initiative for the Black and Azov Seas is urgently needed' and recommended that Wetlands International should take the lead in initiating this initiative.

In 2001, the European Ramsar Contracting Parties in the Black Sea Region repeated calls for this. In 2005, the Black Sea Regional Initiative was listed as a developing initiative in Resolution IX.7. In 2006, at the Ramsar Standing Committee meeting, the issue was discussed and guidance given on the process of achieving endorsement of a regional initiative in the period approaching the next Ramsar CoP, which was held in South Korea in 2008.

At the international conference 'Stopping the loss of Black Sea Coastal Wetlands: the Establishment of a Regional Initiative', held on 30–31 October 2007 in Odessa, the representatives of the Black Sea countries stressed the need for a regional wetland initiative and discussed its vision, key targets, objectives, governance and regional coordination and communication. At the conference a Portfolio of Actions as a basis for future activities of a BlackSeaWet Regional Initiative was also discussed.

BlackSeaWet is a bottom-up regional initiative, initiated by different stakeholders – ministries, scientific institutions, administration of protected areas, educational institutions and NGOs from all the Black Sea countries. A Ramsar regional initiative would provide a strong basis for addressing the gaps and necessary linkages between existing initiatives that are urgently needed in the Black Sea Basin. In the longer term, this might also include acting as a mechanism for cooperation with the Bucharest Convention.

6.1. Mission, vision, key targets and objectives

BlackSeaWet will generate global, national and local benefits. Global benefits will include the securing of long-term protection for globally significant species of avifauna in critically important migration coastal wetlands. National benefits accruing from the initiative will include a built-up capacity to achieve the conservation of biodiversity, as well as critical habitats, effectively while pursuing sustainable economic development along the coast. Coordination among

stakeholders will be improved. Reforms to the legal and regulatory framework will provide a basis for subsequent applications in the country. Skill sets will also be improved through the provision of training. The management capacity of the relevant protected sites will be improved through the development of new partnerships with the tourism sector. Local benefits will include the securing of a healthier environment for local people and the provision of opportunities for obtaining additional economic benefits associated with participation in the tourism sector.

BlackSeaWet is:

- ♦ A bottom-up regional initiative, designed to involve all major stakeholders in wetland conservation;
- ♦ An international coordination mechanism for wetland activities in the Black Sea Basin;
- ♦ A mechanism of cooperation between the global Ramsar Convention and the regional Bucharest Convention;
- ♦ A tool for attracting the attention of donors to financing the conservation and sustainable use of coastal wetlands.

The mission of BlackSeaWet is:

To halt and reverse the loss and degradation of coastal wetlands and their biodiversity in the Black and Azov Seas, and catalyse the wise use of wetlands in the context of sustainable development in the region through strengthening of international cooperation.

The vision of BlackSeaWet:

In 20 years' time the coastal wetlands of the Black Sea and Azov Seas are sustainably used, healthy ecosystems that provide the basis for conservation of wetland-dependent biodiversity, support services for people and are the same in area and health as they are at present.

Key targets will be to:

- ♦ Halt the loss and degradation of wetlands and their biodiversity by 2020;
- ♦ Ensure that wise-use principles are integrated into coastal zone developments;
- ♦ Engage local people in planning and decision-making;
- ♦ Complete the ecological network around the Black and Azov Sea coasts;
- ♦ Combine wetland conservation in integrated water resource management and integrated coastal zone management approaches;
- ♦ Mainstream wetland conservation in sectors whose activities are contributing to degradation.

This should be achieved through activities that address the following ***objectives:***

1. Harmonise and strengthen conservation legislation in the Black Sea countries and improve its implementation and enforcement.
2. Ensure that wetland conservation, management and restoration is underpinned by biodiversity, environmental and socio-economic information and knowledge based on standard approaches to monitoring, data processing and storage.
3. Raise awareness of civil society, government and private sector stakeholders of wetland values, degradation and wise-use approaches.
4. Reach out to key sectors whose activities affect wetlands, and develop innovative approaches to and best practices in wetland management.
5. Maintain a regional coordination mechanism for governments, civil society and the private sector that will act as a focus for regional wetland conservation, including information management and exchange, research, communication, resource mobilisation and capacity development.
6. Mainstream wetland conservation into frameworks, strategies, plans and implementation of integrated approaches to water resources and coastal zone management, including river basin management.

6.2. Strategic framework

Forming a strategic framework for the Ramsar regional initiative BlackSeaWet are the Ramsar Strategic Plan 2009-2015 and other Ramsar strategic documents such as the

Memorandum of Understanding between the Ramsar Convention and the Bonn Convention, Memorandum of Cooperation between the Ramsar Convention and the Convention on Biological Diversity, and related Joint Working Plans.

BlackSeaWet targets fit completely or partly into four out of five of the Goals, and 22 of the 28 Strategies of the Ramsar Strategic Plan 2009-2015:

Goal 1. Wise Use. To work towards achieving the wise use of all wetlands by ensuring that all Contracting Parties develop, adopt and use the necessary and appropriate instruments and measures, with the participation of the local indigenous and non-indigenous population and making use of traditional knowledge, while at the same time ensuring that conservation and wise use of wetlands contribute to poverty eradication, mitigation of and adaptation to climate change, as well as prevention of disease and of natural disasters.

Under Goal 1 BlackSeaWet targets fit the following Strategies: 1.1 Wetland inventory and assessment, 1.2 Global wetland information, 1.3 Policy, legislation and institutions, 1.4 Cross-sectoral recognition of wetland services, 1.5 Recognition of role of the Convention, 1.6 Science-based management of wetlands, 1.7 Integrated Water Resources Management, 1.8 Wetland restoration, 1.9 Invasive alien species, 1.10 Private sector, and 1.11 Incentive measures.

Goal 2. Wetlands of International Importance. To develop and maintain an international network of wetlands that are important for the conservation of global biological diversity, including waterbird flyways and fish populations and for sustaining human life, by ensuring that all Contracting Parties appropriately implement the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* and by appropriate management and wise use of those internationally important wetlands that are not yet formally designated as Ramsar sites but have been identified as qualifying through domestic application of the *Strategic Framework* or an equivalent process.

Under Goal 2 BlackSeaWet targets fit the following Strategies: 2.1 Ramsar site designation, 2.3 Management planning – new Ramsar sites, 2.4 Ramsar site ecological character, 2.5 Ramsar site management effectiveness, and 2.6 Ramsar site status.

Goal 3. International cooperation. To enhance the conservation and wise use of wetlands using effective international cooperation, through *inter alia* the active application of the *Guidelines for international cooperation under the Ramsar Convention*.

Under Goal 3 BlackSeaWet targets fit the following Strategies: 3.1 Synergies and partnerships with MEAs and IGOs, 3.2 Regional initiatives, 3.3 International assistance, 3.4 Sharing information and expertise, and 3.5 Shared wetlands, river basins and migratory species.

Goal 4. Institutional capacity and effectiveness. To progress towards fulfilment of the Convention's mission by ensuring that it has the required mechanisms, resources, and capacity to do so.

Under Goal 4 BlackSeaWet fits Strategy 4.1 CEPA.

6.3. BlackSeaWet governance and regional coordination

BlackSeaWet will be organised based on the following principles and structures:

Governance: BlackSeaWet will be governed by a Management Board which will comprise the following representatives: Ministries of Environment from the six Black Sea countries, six national level non-government organisations, one from the Ramsar Convention Secretariat, one from the Black Sea Commission Secretariat, up to four international non-governmental organisations active in the region (e.g. Wetlands International, BirdLife International, WWF, IUCN). Meetings of the Management Body will be conducted annually. The costs for annual Management Body meetings should be covered by the host country.

Regional coordination and communication: Between meetings of the Management Board an Interim Coordination Unit will be responsible for coordination, administration, communication, monitoring and implementation of BlackSeaWet plans and preparing annual meetings and reports. The Unit will comprise two persons – one representative of the Ministry of Environment and the other from a national NGO of the host country. The Interim Coordination Unit will be hosted by a Black Sea country, with responsibility rotating periodically.

National coordination and implementation: *National Working Groups* will be established in each country for implementation of BlackSeaWet. They will be responsible for coordination and implementation of initiatives in the country in line with regionally defined goals and targets. They will include representatives of ministries, non-government organisations, scientific and other relevant organisations. Participation will be on a voluntary basis.

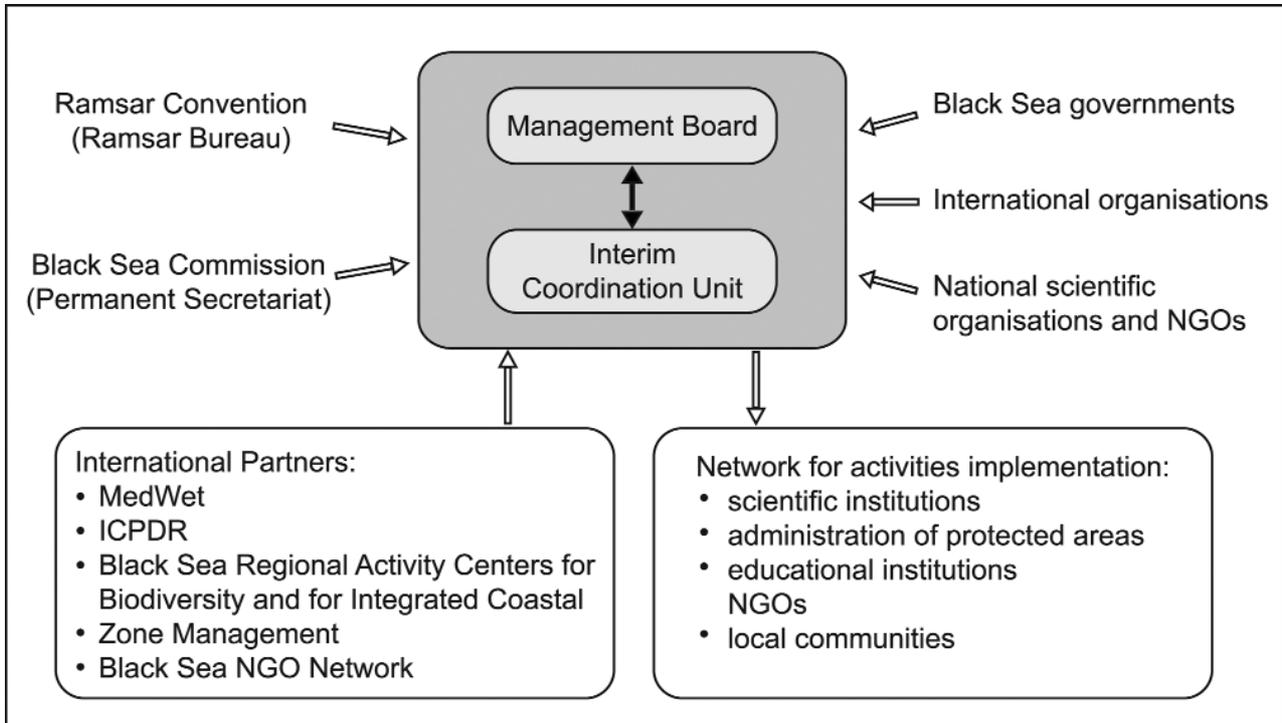


Fig. 1. Participants, partners, network and governing bodies of BlackSeaWet.

6.4. Partners

Currently there are many organisations of many different types whose activities are relevant to the conservation and sustainable development of coastal wetlands in the Black Sea region. From the early stages of developing BlackSeaWet, this regional initiative will seek for collaboration with other intergovernmental or international partners operating in the region. Those with whom collaboration is most likely are:

- ♦ The Convention for Protection of the Black Sea Against Pollution and its structures:
 - The Commission on the Protection of the Black Sea Against Pollution;
 - The Permanent Secretariat of the Black Sea Commission;
 - The Black Sea Commission Advisory Groups, especially those on ICZM;

Conservation of Biological Diversity; Environmental Aspects of the Management of Fisheries and other Marine Living Resources; and Advisory Group on Information and Data Exchange;

- The Black Sea Regional Activity Centres for Biodiversity and for Integrated Coastal Zone Management;

- ♦ The Secretariat of the DABLAS Task Force in European Commission DG Environment;
- ♦ The European Commission Initiative Black Sea Synergy;
- ♦ The Ramsar Convention Regional Initiative MedWet.

A very important partner for the BlackSeaWet should be the Convention for Protection of the Black Sea against Pollution. This convention has a regional remit and is devoted to the protection and restoration of the Black Sea ecosystem in relation to pollution. As long as the main sources of pollution are land based the convention's scope also covers the coastal zone of the Black Sea, including habitats and biodiversity. Taking into account the fact that the main aim of the Ramsar Convention is conservation of wetlands, and for BlackSeaWet these are coastal wet-

lands, there is a strong basis for collaboration between the two conventions in the Black Sea region. The conventions use the same environmental approaches to reach their aims – Integrated Coastal Zone Management, Integrated River Basin Management and Ecosystem Approach.

At the same time, the BlackSeaWet, as a part of the Ramsar Convention, has its own specific niche with regards to coastal wetlands, since all aspects of its activity should be strongly related to wetlands of international importance (Ramsar sites) and the activity of this regional initiative will to a great extent be 'site based'.

It is important to strengthen the links with the MedWet Initiative, taking into account the 'bridging' role of Bulgaria and Turkey. Within the framework of the MedWet Initiative, different methods and tools for inventory and monitoring, wetland management, training and capacity building, information and public awareness have been developed. Transfer and adaptation of these tools to the Black Sea coastal wetlands could go a long way towards establishing unified methodologies for Black Sea coastal wetlands. Contributors to the BlackSeaWet Initiative should participate in Mediterranean activities and events. Technical exchange of experts should be organised. Joint conservation and sustainable use of wetland projects should be developed and implemented.

ANNEX 1 Coastal Ramsar sites in the Black Sea Region

N	Site	Date of designation	Region	Area (ha)
Bulgaria				
1.	Atanasovsko Lake	28/11/84	Burgas	1,404
2.	Durankulak Lake	28/11/84	Dobrich	350
3.	Lake Shabla	19/03/96	Dobrich	404
4.	Poda	24/09/02	Burgas	307
5.	Pomorie Wetland Complex	24/09/02	Burgas	814
6.	Ropotamo Complex	24/09/75	Burgas	5,500
7.	Vaya Lake	11/11/02	Burgas	2,900
			Subtotal	11,679
Georgia				
8.	Ispani mire	07/02/97	Adjara	770
9.	Wetlands of Central Kolkheti	07/02/97	Guria and Samergelo	33,710
			Subtotal	34,480
Romania				
10.	Danube Delta	21/05/91	Tulcea	647,000
11.	Lake Techirghiol	23/03/06	Constanta	1,462
			Subtotal	648,462
Russian Federation				
12.	Kuban Delta: Akhtaro-Grivenskaya group of <i>limans</i>	13/09/94	Krasnodarsky Krai	84,600
13.	Kuban Delta: Group of <i>limans</i> between the Rivers Kuman & Protoka	13/09/94	Krasnodarsky Krai	88,400
14.	Lake Manych-Gudilo	13/09/94	Kalmykia & Rostov Oblast	112,600
15.	Veselovskoye Reservoir	13/09/94	Rostov Oblast	309,000
			Subtotal	594,600
Turkey				
16.	Kizilirmak Delta	15/04/98	Samsun	21,700
			Subtotal	21,700
Ukraine				
17.	Aquatic-cliff complex of Cape Kazantyp	29/07/04	Crimean AR	251
18.	Aquatic-cliff complex of Karadag	29/07/04	Crimean AR	224
19.	Aquatic-coastal complex of Cape Opuk	29/07/04	Crimean AR	775
20.	Berda River Mouth, Berdianska Spit and Berdianska Bay	23/11/95	Zaporizka Oblast	1,800
21.	Bilosaraiska Bay and Bilosaraiska Spit	23/11/95	Donetska Oblast	2,000
22.	Central Sivash	23/11/95	Khersonska Oblast & Crimean AR	80,000
23.	Dniester-Turunchuk Cross-rivers Area	23/11/95	Odeska Oblast	7,600
24.	Dnipro River Delta	23/11/95	Khersonska Oblast	26,000
25.	Eastern Sivash	23/11/95	Khersonska Oblast & Crimean AR	165,000
26.	Karkinitaska and Dzharylgatska Bays	23/11/95	Khersonska Oblast & Crimean AR	87,000
27.	Kartal Lake	23/11/95	Odeska Oblast	500
28.	Kiliiske Mouth (Danube Delta)	23/11/95	Odeska Oblast	32,800

29.	Kryva Bay and Kryva Spit	23/11/95	Donetska Oblast	1,400
30.	Kugurlui Lake	23/11/95	Odeska Oblast	6,500
31.	Molochnyi Liman	23/11/95	Zaporizka Oblast	22,400
32.	Northern Part of Dniester Liman	23/11/95	Odeska Oblast	20,000
33.	Obytochna Spit and Obytochna Bay	23/11/95	Zaporizka Oblast	2,000
34.	Sasyk Lake	23/11/95	Odeska Oblast	21,000
35.	Shagany-Alibei-Burnas Lakes System	23/11/95	Odeska Oblast	19,000
36.	Tendrivska Bay	23/11/95	Khersonska Oblast	38,000
37.	Tyligulsky Liman	23/11/95	Odeska & Mykolaivska Oblasts	26,000
38.	Yagorlytska Bay	23/11/95	Khersonska & Mykolaivska Oblasts	34,000
			Subtotal	594,250
			TOTAL	1,905,171