

2.1 Encircling the Beginning: Where (I)CZM Started

Despite the fact that the use and to some extent the “management” of the coastal zone started long time ago it is not easy to set a starting point for the beginning of integrated coastal zone management. For example, in the late nineteenth century in Northern Germany civil engineers started to draw plans for the straightening and deepening of river channels – see [Franzius \(1888/1991\)](#). Many years before, men started to build dikes and to reclaim land from the sea and rivers to enhance the territory of emperors and simultaneously the fertile area to be used by peasants ([Kramer and Rohde, 1992](#); [van de Ven, 1993](#)).

In these times men admire the capability and ability of human kind to conquer nature. Principally, only the benefits of these new developments were seen and acknowledged. Although, in the late nineteenth century critical voices exist that pinpoint on controversial effects – see [Blackbourn \(2006\)](#). One can also find evidence for critical voices against the typical proceeding of protecting sandy islands in Northern Germany by the implementation of hard measurements, for example, [Bartels \(1881\)](#). Especially, the notion of technical dominion of natural processes was questioned. This aimed at trying to take further aspects into account. At any time the reason to get active was to adapt or develop the natural environment to the purpose of human kind. If negative effects did occur or were detected they were mainly answered by sectoral measurements (see Chap. 3).

2.1.1 San Francisco Bay (USA)

The earliest efforts in *ICZM* dated back to the 1960s in the USA and Australia ([Sorensen, 1993](#)). The San Francisco Bay suffered increasing siltation. This led to a reduction of the size of the bay by one-third and destroyed approximately 90 % of tidal marshes. In 1961 a

plan was generated to fill 60 % of the remaining Bay and create a narrow shipping channel until the year 2020. At that time three women started a campaign against these plans and in 1965 the Bay Conservation and Development Commission (BCDC) was established which was charged to prepare a plan for long-term use of the San Francisco Bay.

A variety of factors led to the decline of the Bay area and the degradation of tidal marshes such as building upstream dams and diversions (Mount, 1995). Further impacts were results of hydraulic gold mining which showed negative effects on anadromous fish populations or of industrial and agricultural activities such as the disposal of trace elements or pesticides.

The San Francisco Bay Plan was completed in 1968 and sent to the California Legislative and the Governor in 1969. After finalizing the studies and, there upon, the Bay Plan the BCDC was designated as responsible agency for maintaining and carrying out the provisions of the law and the Bay Plan.

The following compilation on the San Francisco Bay Plan is based on the report “San Francisco Bay Plan by the San Francisco Conservation and Development Commission” (BCDC) reprinted in 2012 (BCDC, 1969). Here, a short description of the important items of the Bay Plan will be given; further and detailed information can be found at specific websites.¹ Due to the fact that the Bay Plan was developed on the (urgent) issue of Bay filling the major conclusion and policies are touching these points (see BCDC, 1969):

The Bay The Bay is a single body of water, and a Bay Plan can be effectively carried out only on a regional basis.

Uses of the Bay The most important uses of the Bay are those providing substantial public benefits and treating the Bay as a body of water, not as real estate.

Uses of the Shoreline All desirable higher priority uses of the Bay and shoreline can be fully accommodated without substantial Bay filling and without loss of large natural resource areas. But shoreline areas suitable for priority uses – ports, water-related industry, airports, wildlife refuges and water-related recreation – exist only in limited amount and should be reserved for these purposes.

To enable economic and societal development around the Bay one conclusion touches the point of justifying Bay fill: “Some Bay filling may be justified for purposes providing substantial public benefits if these same benefits could not be achieved equally well enough without filling.” The explanation of justifiable Bay fills encompass six items such as ports, routes, airports and recreational features. Thereafter, the *effects of filling the Bay* regarding the previously mentioned items are described. So, these items have to be considered as minimum requirements in the application of planned Bay filling. The Commission already acknowledged that the *pressure to fill* the Bay might increase over time. However, the main conclusion concerning the pressure is that the Bay is vulnerable to filling and diking because of the historical development. Approximately 40 % of the Bay was lost due to

¹ For example, www.bcdc.ca.gov

land reclamation and filling of former tidal areas and marshes. If it was decided to fill on areas for a certain reason the Bay Plan asks for safety measurements to secure people and the infrastructure against various hazards. Although the Bay Plan is not directly dealing with the reasons and effects of water pollution either by point or by diffuse sources, this point is addressed by making links to existing regulations and responsible organizations and administrative bodies.

Acknowledging the various triggers on the situation in the San Francisco Bay and the consequences if envisaged developments will not happen the BCDC consists of a variety of interest groups and representatives of different governmental and administrative levels. The BCDC has jurisdiction over a certain area that does not only include the water body of the Bay, but also a 100 feet buffer landward the mean high tide line (for an exact definition, see [BCDC 1969](#)). The BCDC and the Bay Plan are still working.

On national US level, starting in the late 1950s, the view of politicians and researchers turned from land to sea side. The ocean got more and more into the focus: *We are just at the threshold of our knowledge of the oceans . . . (This) knowledge is more than a matter of curiosity. Our very survival may hinge upon it. (Letter to the President of the Senate and the Speaker of the House of Representatives in 1961 cited in [Merrell et al. 2001](#))*

This statement was an important stimulation to raise the funding for ocean and marine investigations. Several years later, in 1966, the Act on the marine resources and engineering development was signed by President Johnson and came into force. Based on this Act the Commission on Marine Science, Engineering and Resources was established. This Commission, known as “Stratton Commission,” released a report on *Our Nation and the Sea* “that was a comprehensive, forward-looking report that reviewed the status of most areas of American Ocean policy and offered 126 recommendations . . .” ([Merrell et al., 2001](#), p. 14). Besides the recommendation to establish a national agency for the administration of the ocean and atmosphere (known as NOAA) the Stratton Commission recommend to develop a national *Coastal Zone Management (CZM)* program. Finally, in 1972 the USA enacted the *Coastal Zone Management Act (CZMA)*.

(The) Congress declared four basic national Coastal Zone Management policies in the CZMA ([Archer and Knecht, 1987](#), pp. 104–105):

- To preserve, protect, develop, and where possible, to restore or enhance the resources of the coastal zone of the United States
- To encourage and assist the states to develop and to implement CZM programs meeting specified national standards
- To encourage the preparation of “special area management plans” to protect nationally significant natural resources, to ensure “reasonable coastal-dependent economic growth” and to provide “improved protection of life and property in hazardous areas and improved predictability in governmental decision-making”
- To encourage the participation and the cooperation of public, state and local governments, interstate and other regional agencies, and federal agencies in achieving the purpose of the CZMA.

The core point of the CZMA is that the states are recognized as the *key player* for the development and implementation of CZM programs. Through the CZMA the federal government provides funding for the development of state CZM programs. By the federal consistency doctrine it should be assured that federally permitted activities are consistent with the approved state CZM programs.

Based on the CZMA a federal office was established that oversaw the development and implementation of state CZM programs. According to the CZMA the federal office was responsible for the supervision of the federal funds, to provide support for the development of state CZM programs and to ensure that the states administer their programs as approved. The state CZM programs have to be reviewed and approved by the secretary of the federal agency and, furthermore, to stimulate innovation states could use a certain amount of federal grants for significant improvements as determined by the federal office ([Archer and Knecht, 1987](#)).

2.1.2 Port Phillip Bay (Australia)

More or less at the same time on the other side of the earth, in Australia, the Port Phillip Bay Authority started an investigation on the Bay development in 1966. At the Port Phillip Bay the city of Melbourne with approximately 3.7 million inhabitants is located. The catchment area is of approx. 10,000 km² ([VCC, 2014](#)). The main trigger to conduct the first environmental study between 1968 and 1971 was the reduction of pollution problems either by diffuse or by point sources ([NRE, 2002](#)). On the other hand, the shorelines around Port Phillip Bay experienced erosional trends. Alongside the Bay recreational facilities were allowed to be established and, though, ought to be protected by hard structures such as groynes and sea walls ([Gourlay, 1996](#)). In the middle of the 1970s the protection of the foreshore was complemented by sand nourishment. Nevertheless, one of the major problems was the pollution of the Bay by nitrogen and contaminant load from the sewage treatment plants in the catchment area. The upgrade of the sewage treatment plants and the approach of *continuous improvement* of processes in the Australian economy showed success and improved the ecological status of the Bay.

This process held until the 1990s when the second comprehensive study was started – the Port Phillip Bay Environmental Study. It was conducted by the CSIRO and was finished in 1996.² The results and recommendations of this study became a relevant part of the ongoing management of the Port Phillip Bay (see [NRE, 2002](#)). Consequentially, the following environmental risks have been identified for the Port Phillip Bay: deterioration of waters, presence of litter, exotic marine organism, physical disturbance of habitats and harvesting activities.

The Port Phillip Bay Authority, established in 1966, consisted of representatives of government agencies and community groups ([Gourlay, 1996](#)). The Bay Authority “had

²csiropedia.csiro.au/port-phillip-bay-environmental-study/

the responsibility for coordinating development on public land 600 m to seaward and 200 m inland” (Gourlay, 1996, pp. 20–21). Until the 1980s administration and planning was scattered to many agencies and also on different levels. With the publication of the Victorian Coastal Management Act in 1995 two levels of agencies were established to implement the objectives of the Act: the *Victorian Coastal Council* (VCC) and the *Regional Coastal Boards* (RCB).

The VCC is the “statewide lead agency ... whose primary role is to prepare for the Government the major strategic planning document for Victoria: the *Victorian Coastal Strategy*” (Wescott, 2004, p. 97). The RCBs consist of representatives from local governments and three members of the RCB are sitting in the VCC to ensure a strong link between state and local level. “The RCBs role is to implement the Coastal Strategy regionally and to ensure local input to decision-making is received” (Wescott, 2004, p. 97).

An important document is the Victorian Coastal Strategy (VCS, recently 2014) which should bridge the international, national and regional (i.e., Victorian) approaches of coastal planning and management. In the VCS 2014 it is said that “ICZM is the basis for coastal planning and management in Victoria and is achieved through formal and informal collaboration and coordination between all different groups who use and manage the coast” (VCC, 2014, p. 11).

Further information on Victorian ICZM approach and the Port Phillip Bay can be found at specific websites.³ A comprehensive description of coastal management in Australia can be found in Harvey and Caton (2010).

Exercise

The rough descriptions of the first steps in (I)CZM in the USA (San Francisco Bay) and in Australia (Port Phillip Bay) show different reasons (sedimentation, erosion and water quality problems) and different triggers (bottom-up and top-down⁴) to start such a process. Given the provided sources of information and the available information on respective websites in the Internet prepare a comparison of both approaches.

- What are the differences and similarities of both ICZM approaches?
- What about the current status of the Bays?
- What are the shortcomings and barriers for the implementation of these ICZM approaches?
- What are the lessons learned based on the result of this comparison?

³www2.delwp.vic.gov.au/, ccb.vic.gov.au, www.vcc.vic.gov.au

⁴*Bottom-up* is understood as initiative by stakeholders with no legal status, for example, private persons; *top-down* is understood as action initiated by, for example, governmental bodies or from a central point upper in a hierarchy.

2.2 Brief Outline of International ICZM Steps

Since the first steps were taken, many initiatives and efforts have been started over the world – see, for example, [OECD \(1993\)](#) and [Sorensen \(2000\)](#). Significant events happened and several relevant international and national agreements were signed for the proliferation of ICZM since then. The following listing is an excerpt of what happened according to ICZM worldwide; further information on international conventions is listed in, for example, [FAO \(2006\)](#):

- 1948/1958** UN Convention in Geneva for the adoption of the International Maritime Organization (IMO), entry into force in 1958.
- 1965** Establishment of the San Francisco Bay Conservation and Development Commission to conduct an integrated management approach for the protection of the Bay.
- 1966** Establishment of the Port Phillip Bay Authority for the coordination of developments on a certain strip around the Port Phillip Bay.
- 1968** Stratton Commission in the USA released the report *Our Nation and the Sea* containing the recommendation for the initiation of a national coastal zone management program.
- 1969** Bonn Agreement for cooperation in dealing with pollution of the North Sea by oil (replaced in 1983 by a new agreement covering also other harmful substances).
- 1972** US Coastal Zone Management Act was enacted.
- 1972** Oslo Convention adopted in 1972 was to control the dumping of harmful substances from ships and aircraft into the sea.
- 1972** United Nations Conference on the Human Environment resulting in the “Stockholm Declaration” containing 26 principles concerning the environment and development.
- 1972** RAMSAR Convention on wetlands of international importance, especially waterfowl habitat.
- 1973** MARPOL is the international Convention for the prevention of pollution from and was modified by the protocol of 1978.
- 1973** Resolution on the protection of coastal areas by the Council of Europe.
- 1974** Paris Convention on land-based sources of marine pollution.
- 1974** Helsinki Convention on the protection of the marine environment of the Baltic Area (renewed and signed in 1992).
- 1976** Barcelona Convention for protection of the Mediterranean Sea against pollution.
- 1982** United Nations Convention on the Law of the Sea (UNCLOS) defines the rights and responsibilities of nations with respect to their use of the world’s oceans.
- 1984** First Conference on ICZM in South and Central America.

- 1985** Workshop in the USA to define the term ICZM.
- 1987** Publication of the report *Our Common Future*, known as *Brundtland Report* ([WCED, 1987](#)), from the UN World Commission on Environment and Development.
- 1988** Establishment of the Intergovernmental Panel on Climate Change (IPCC) by the UN World Meteorological Organization (WMO) and the UN Environment Program (UNEP).
- 1990** Publication of the First Assessment Report (FAR) of the IPCC.
- 1992** UN Conference on Environment and Development (UNCED), known as Earth Summit Rio 1992, where the *Agenda 21* and the Rio Declaration on Environment and Development were adopted. The Agenda 21 contains different chapters with recommendations and statements to several issues, especially Chap.17 is relevant for ICZM. It provides statements according to the protection of the oceans, all kinds of sea, including enclosed and semi-enclosed areas, and coastal areas and the protection, rational use and development of their living resources:

... International law, as reflected in the provisions of the United Nations Convention on the Law of the Sea referred to in this chapter of Agenda 21, sets forth rights and obligations of the States and provides the International basis upon which to pursue the protection and sustainable development of the marine and coastal environment and its resources. This requires new approaches to marine and coastal area management and development at the national, subregional, regional and global levels, approaches that are integrated in content and are precautionary and anticipatory in ambit, as reflected in the following program areas: (a) Integrated management and sustainable development of coastal areas, including exclusive economic zones ... (e) Addressing critical uncertainties for the management of the marine environment and climate change, (f) Strengthening international, including regional, cooperation and coordination ([UN, 1992](#), Chap. 17, p. 238)

- 1992** Adoption and ratification of the OSPAR Convention which is the combination and the update of the Oslo and Paris Convention.
- 1993** On the *World Coast Conference (WCC)* in “Noordwijk (The Netherlands) the “Noordwijk Guidelines on Integrated Coastal Zone Management” were developed and adopted by participants from 90 coastal nations, 20 international organizations and 23 NGOs (see [IPCC, 1994](#)).
- 1994** The European Union requested the Member States in the Council Resolution of 6 May 1994 on a Community strategy for integrated coastal zone management (94/C135/02) (see also [EC, 1995](#)).
- 1996** The European Commission initiated a Demonstration Program on Integrated Coastal Zone Management from 1997 till 1999 ([EC, 1999](#)).
- 2000** Getting into force of the European Water Framework Directive (WFD) ([EC, 2000](#)).

- 2002** The recommendations on ICZM (2002/413/EC) were approved by the European Parliament and the Council and published in June (EC, 2002).
- 2007** Getting into force of the European Flood Risk Management Directive (FRMD) (EC, 2007b).
- 2013** The European Commission released a proposal on the establishment of a framework for maritime spatial planning and integrated coastal management (EC, 2013).

Exercise

- Categorize them according to *binding* and *non-binding* documents.
- Find out which instruments exist if signatories do not obey the content of these documents.

2.3 European Developments

Certainly the occupation with coastal issues started on European level also in the 1960s or earlier. The first visible document is the *Resolution on the protection of coastal areas* by the Council of Europe in 1973 (CEC, 1973). Therein, it was concluded that “the situation is liable to deteriorate still further in the future, having regard on the one hand to the scarcity of coastal areas and the vulnerability of the concentration of human activities on those areas”. Furthermore, “the protection of the coast can only be effective if multiple interests and problems are taken simultaneously into account (maintenance of the ecological and biological balance, preservation of the beauty of landscapes and conservation of natural resources, promotion of economic and tourist development, safeguarding of the hinterland)” (CEC, 1973, p. 96).

Based on these conclusions the resolution contains 16 recommendations on how the European Member States should orientate their coastal policies.⁵ Here, only a few are highlighted:

- Institute appropriate machinery to co-ordinate the various actions concerning the coastline whether they are initiated by the State or local authorities
- Regulate development in coastal areas:
 - by issuing development bans applying to appropriate strips of land along the seafront and
 - by subjecting the granting of development permits to particularly stringent conditions
- Review systematically the uses to which public land in coastal belts is put, in order to further the policy of protecting and improving those areas
- Adopt special measures to protect coasts from erosion and landslides:

⁵The entire list of these recommendations can be found in specific websites; see, for example, <http://ec.europa.eu/environment/iczm/background.htm>

- by stabilizing sand dunes,
- by regulating excavation and the removal of sand,
- by prohibiting the cutting and uprooting of vegetation
- Undertake a vigorous campaign to inform and stir public opinion in regard to the protection of the seafront and encourage all public and private initiatives to safeguard the coastline, especially in the form of the creation and management of protected areas
- Co-operate closely with one another where their coastal areas adjoin, with a view to:
 - harmonizing their various sets of regulations and co-ordinating action with regard to the protection of sites, flora and fauna and to pollution control,
 - undertaking where appropriate joint action such as the management of international parks or the pooling of supervisory and pollution control services

The excerpt of these recommendations shows that the resolution from 1973 contains also far-reaching and cross-sectoral approaches for the protection and management of coastal areas in Europe. Some of the Member States already established sectoral administrative bodies and regulations, but the resolution tried to motivate to go beyond the activities of that time.

Follow-ups of this resolution were European Community action programs which focus on the planning and management of coastal areas. These action programs led to the *European Charter of the Coast* in 1981 (CRPM, 1981). The Charter contains ten objectives for coastal zone development in the European Union. Subsequently, in 1982 a *Resolution on the European Coastal Charter* was adopted by the European Parliament (CEC, 1982). In this resolution it is stated that the responsibility for the implementation of the notion of the Charter is with the national, regional and local governments, but that the European level should support these actions.

The resolution indicates three fields where EU institutions should provide support: knowledge, planning and control. In the field of knowledge they promoted the co-operation and exchange between different research centers and initiated an information campaign. In the field of planning the European Parliament encouraged to prepare a “Community program for the integrated development of coastal regions taking into account the need to restore the balance between the hinterland and the coast ...” (CEC, 1982, p.125). Furthermore, attention should be put on the protection of people and infrastructure in coastal zones which were at risk of flooding. And, for example, the European institutions should provide necessary coordination and finance for the pilot operation mentioned in the Coastal Charter. Regarding control the institutions should devote on a state-of-the-art investigation on existing rules and regulations for coastal areas in the Member States, to improve navigational safety and to reduce land-based pollution of coastal zones. Also the motivation of public participation in coastal planning was touched.

Between the late 1970s and the beginning of the 1990s the European Union established several Directives which touch the coastal zone and show specific focal points – see, for example, Wild Birds Directive from 1979 (oldest European Directive 79/409/EEC current codified version 2009/147/EC), the Flora-Fauna Habitat Directive from 1992 (92/43/EEC) or on Environmental Impact Assessment (EIA) (85/337/EEC).

In 1992 the European Council adopted the Council resolution on the future Community policy concerning Europe coastal zones in which they concluded that "...there is a clear need for a Community strategy for integrated planning and management of coastal zones based on the principles of sustainability and sound ecological and environment practice" (CEC, 1992). The resolution demanded "a strategy for integrated coastal zone management which will provide a framework for conservation and sustainable use".

Two years later, in 1994, the Council recalled the necessity for a European strategy for integrated coastal zone management and made clear that the Commission should come up in a certain time span with "a view to strengthening coordinated action...[for] a Community strategy for the integrated management of the whole of the Community coastline..." (CEC, 1994).

Consequently, from 1996 to 1999, the EU Commission ran a Demonstration Program on integrated coastal zone management. In total 35 projects contributed to the cross-cutting thematic studies which dealt, for example, with (see EC, 1999): legislation and regulatory instruments, participation, sectoral and territorial cooperation, role of EU policy.

Subsequently, a group of specialists on Coastal Protection (PE-S-CO) was established in 1995. The group was charged to draft a Code of Conduct and to draft a Model Law on Coastal Protection which defines the concept of integrated management and planning based on the principles on sustainable development.

The result was published in January 2000 as "Model Law on Sustainable Management of Coastal Zones and European Code of Conduct for Coastal Zones" (see CEC, 2000). The first part was the proposed Model Law which contained 17 titles dealing with the definition of terms and general principles concerning coastal zones or setting up appropriate bodies to facilitate ICZM. Distinct descriptions were made for each of the 83 articles in the Model Law. The second part contained the Code of Conduct for Coastal Zones that should provide "practical guidelines for the conservation of nature and biodiversity in coastal areas, fully recognizing that socio-economic development in these regions will continue to occur" (CEC, 2000, p. 31). The main intention of the Code of Conduct was to provide practical assistance and guidance to achieve the sustainable development of European coastal areas: "It is intended that this approach will lead to a better dialog within and between the sectors, and with those promoting a more integrated and sustainable form of coastal and marine management and use" (CEC, 2000, p. 32).

In the first part of the Code the principles of the Pan-European Biological and Landscape Diversity Strategy (PEBLDS CEC, 1996) were used to define some key elements for the coastal zone. Each sectoral description was followed by respective guidelines for the sector in coastal areas. Within the Code the process of EIA was seen as a relevant instrument for the sustainable management of coastal zones because it already contained basic and important steps for an integrated management: "The ICZM approach is meant to enhance development and planning models which treat single issues separately, or are implemented by individual administrative units. It is a continuous process active before, during and after sectoral planning" (CEC, 2000, p. 98).

In 2000 the European Commission released a proposal for a European Parliament and Council recommendation concerning the implementation of ICZM in Europe (COM(2000) 545 final) which finally led to the Recommendation on the European Parliament and of the Council of 30 May 2002 concerning the implementation of ICZM in Europe (2002/413/EC). Within six chapters the Commission elucidated the lessons learned from out the projects of the Demonstration Program. The ICZM recommendations were adopted in 2002 (for detailed description, see Sect. 3.2). The important point is that Member States should prepare national ICZM strategies 4 years after the adoption of the ICZM recommendations and that the Commission will propose approximately 1 year later a review of the Recommendations (see [EC 2002](#)).

In the following Environmental action program (2002–2012, 1600/2002/EC) emphasis was also laid on ICZM in article 3.10 (...promoting best practice with respect to sustainable land use planning which took into account of specific regional circumstances with *particular emphasis on ICZM program* ...) and in article 6 (2g) (...promoting integrated management of coastal zones ...) in order to achieve sustainable use of the sea and conservation of marine environment.

Next important step for ICZM in the EU was the set-up of the protocol on ICZM in the Mediterranean as additional document to the Barcelona Convention from 1976 ([EC, 2009](#)).

Currently, the latest development was the proposal for a Directive establishing a framework for maritime spatial planning and integrated coastal zone management (COM(2013) 133 final, [EC, 2013](#)). This action is the result of the adoption of the Integrated Maritime Policy in 2007 ([EC 2007a](#), COM(2007) 575 final) in which the principles of the ICZM recommendations were recalled (see [EC, 2007c](#)).

Exercise

- Get the cross-cutting summary reports from the EU ICZM Demonstration Program and read the lessons learned carefully. What are the main statements and findings?
- How are these statements and findings represented within the Model Law and the Code of Conduct?
- Are the Model Law and Code of Conduct helpful producing or supporting national ICZM strategies?
- What could be the barriers why a Law on ICZM has not been further developed?

2.4 ICZM in Selected Member States of the EU

In this chapter selected ICZM strategies of Member States will be introduced. Detailed information on the available ICZM strategies in EU Member States can be found on the

website of the European Commission Directorates-General (DG) Environment.⁶ An extensive evaluation of European ICZM efforts was conducted in 2006 by Rupprecht Consult and the International Ocean Institute – see [Rupprecht Consult \(2006\)](#) and in Sect. 3.3.2 on p. 43. As stated in the EU recommendations on ICZM reporting periods were set for Member States. The first period was until 2006 and the second from 2006 to 2010. Here, these periods will serve as the basis for descriptions. Three Member States were chosen to indicate the differences in the approach of implementing ICZM. Furthermore, the description of Spain should elucidate the difference between the status planning systems and existing regulations in different EU countries.

2.4.1 Germany

Reporting Period 2002–2006

The national strategy on ICZM for Germany was conducted responsibly by the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety. Germany published the national strategy in March 2006.⁷

The report on the national strategy on ICZM was a stock-take of existing land and sea uses and regulations for the German coast (for example Fig. 2.1), that is, North and Baltic Sea. The first part of the strategy report finished with the description of the status of the coastal environment and the effects of climate change. The second part of the document



Fig. 2.1 View over a salt marsh to the harbor of Bremerhaven, Germany. ©Frank Ahlhorn

⁶For the European Union: <http://ec.europa.eu/environment/iczm/home.htm>

⁷For Germany: <http://ikzm-strategie.de/>

was focusing on the description of what ICZM was and what not. The report summarized the ongoing activities on national as well as Federal State level. Finally, the report ended with the question “who is in charge to implement ICZM in Germany?”. It was stated that the implementation process should be based on a “top-down” and a “bottom-up” approach. The federal system of Germany led to several laws and regulations on national and Federal State level which are intertwined. Mainly, the national policies are setting the framework for Federal State laws and regulations which include detailed implementation rules. For specific themes only national regulations apply, for example, marine spatial planning outside the 12-nm zone.⁸ For other sectors, for example, coastal defense, the Northern Federal States established their own laws and regulations.

Within the national ICZM strategy it was suggested that an ICZM secretariat should further moderate and facilitate the implementation process. Since the publication in 2006 further activities on national and Federal State were conducted, a joint information platform should have been installed, but not a responsible body so far. The ICZM process was accompanied by an ICZM advisory board consisting of different national and Federal State representatives of ministries and authorities.

Reporting Period 2006–2010

Germany prepared a progress report on ICZM according to the ICZM recommendations in 2010. Within the first part of the progress report it was discussed how different activities in several fields contribute to the further implementation of ICZM in Germany. It was mainly concentrated on the EU Marine Strategy Framework Directive and the implementation of maritime EU policies into German law. An important step within ICZM in Germany was the designation of a considerable area in the Economic Exclusive Zone (EEZ) under the NATURA 2000 regulation. The proposed ICZM secretariat has not been fully installed, but the so-called Küsten-Kontor has facilitated the progress in the respective reporting period.

The second part of the progress report contained the description of project-based implementations of ICZM in the German Federal States. Some of these Federal States incorporated ICZM in their spatial planning regulations and laws. An extensive elaboration on several ICZM-related research projects finished this part of the report.

Another part of the progress report contained a compilation of barriers to further implement ICZM in Germany. On the one hand, it stated that European regulations and their intentions have further to be harmonized. On the other hand, obstacles also in the German federal system and the questions about the provision of an additional benefit by ICZM to the existing system of planning, management and laws were drawn. Nevertheless, at the end it was concluded that ICZM is a worthwhile process, but difficult to be implemented.

The progress report ended up with the description of future potential of sustainable coastal development.

⁸ 1 nm (nautical mile) = 1.852 km.

2.4.2 The Netherlands

Reporting Period 2002–2006

As for the German approach to fulfill the requirement of the reporting according to ICZM recommendations by the EU, the Dutch report⁹ was also divided into three parts.

First part of the summarizing document was about the status of the coastal zone. The relevant pressures and uses of the Dutch coastal zone are described. It was stated that the development and preconditions for the use of the Dutch coastal zone differ between the Wadden Sea and the Delta area in the province Zeeland. The contribution, for example, of settlements and facilities for tourism and recreation is more densely located in the Delta area and sandy coast of South Holland. The assessment of the status, on the one hand, and the development of the Dutch coastal zone, on the other hand, was conducted in an integrated way applying the proposed sustainability indicators by the EU ICZM expert group. The main focal point for the status description was the safety against flooding by the sea and subordinate other types of land use. Wherever possible it was striven for the beneficial combination of both safety and ecological, social and economic development, for example, by applying the approach of sand nourishment along the approximately 350 km long sandy coast between Rotterdam and Den Helder (Fig. 2.2).

Within the second part the organization of coastal zone management and policy was described. The administration and management of the Dutch coastal zone was also distributed over several national organizations and institutions as well as in responsibility of the coastal provinces. It was stated that some of the policies and the management were organized according to related sectors, but other sectors were also organized according to the area concerned. For example, until the early 1990s coastal defense was solely striving for the protection of people and infrastructure against flooding based on the recommendations of the Delta Commission I – see [Delta Commission \(1961\)](#) and [Correlje et al. \(2010\)](#). The approach originated from the experiences of the disastrous flooding event in winter 1953. The implementation of the Delta Plan took a long time and is an ongoing process, but the



Fig. 2.2 Beach near the Schelde in the Province of Zeeland, The Netherlands. ©Frank Ahlhorn

⁹For The Netherlands: www.rijkswaterstaat.nl

view on how to safeguard and develop a safe coast, especially in the upcoming light of an integrated management, got broader – see [MVenW \(1990\)](#); [TAW \(1998\)](#); [RIKZ \(1999\)](#); [TAW \(2000\)](#) and [Vergouwe \(2015\)](#).

Since 1990 a set of policies and regulations were developed for the coastal zone in The Netherlands starting with the first policy on coastal areas (Eerste Kustnota) which aimed to achieve a “sustainable flood protection and preservation of functions in the dune areas” ([RIKZ, 2005](#), p. 13) and ending in 2005 with the policy on coastal areas included in the National Spatial Strategy. An important statement which already reflected on the ICZM principles is that reviewing many coastal projects it was striven to solve (urgent) problems in an integrated way taking into account some of the ICZM principles. But none of “the sample projects addressed all of the sectors specified in the ICZM recommendations” ([RIKZ, 2005](#), p. 14).

The third part of the document compiled the important national policies and the general principles for an integrated management of the Dutch coastal zone. The relevant “building blocks” were ([RIKZ, 2005](#), p. 15):

- “the National Spatial Strategy which establishes a national strategy for integrated spatial planning policies in general
- the Third Policy Document on Coastal Areas which provides an integrated framework for coastal zone management and policies on coastal areas.”

The implementation of the spatial policy should be achieved by the basic principle of *de-centralize wherever possible, centralize only where necessary*. That means that the national government was providing frameworks and guidelines and, thus, the implementation was the task of regional and local governments.

Finally, the document provided some examples of how an integrated approach could be achieved. For example, by sediment-based measures for the sandy coast or by comprehensive stakeholder involvement on different levels in decision-making processes. A suggestion to establish a special institution or organization for integrated coastal zone management in The Netherlands was not specified.

Until 2007 the National Institute for Coastal and Marine Management was responsible for the compilation and preparation of information on (i) sustainable use of estuaries, coasts and lakes and (ii) knowledge for flood risk management. Subsequently, in 2007 the National Institute was dissolved and parts joined the Rijkswaterstaat and other parts were merged with a new institute called Deltares.

Reporting Period 2006–2010

The Netherlands published a progress report on ICZM in 2010 where first of all the new arrangements according to the national governmental bodies were clarified. Ministries were merged and the responsible ministry is now the Ministry of Infrastructure and the Environment where Rijkswaterstaat with the Center of Water Management took over the tasks from the former National Institute for Coastal and Marine Management.

Relevant steps according to the implementation of an integrated strategy in The Netherlands were the introduction of the Spatial Planning Policy Document in 2006, the Coastal Policy Guideline in 2007 and the National Water Plan in 2009.

The National Water Plan was developed for the period of 2009–2015 and substituted the National Spatial Planning Policy Document. The Water Plan incorporated the final recommendations of the Delta Commission released in 2008 ([Delta Commission, 2008](http://www.deltacommissie.com)).¹⁰ Furthermore, the Water Act (went into force in 2006) drew on the allocation of functions and coordination between spatial planning and management of surface and ground water as well as on water defense.

Within this reporting period several communication activities were started not solely concentrated on the coastal zone but on general water issues including the coast, for example, the initiative “The Netherlands living with water.”¹¹

The final part of the progress report concentrated on the description on ICZM in practice which means that conducted and currently running projects were introduced. These projects mainly focus on the sector of safety against flooding where further sectors or requirements were attached such as nature conservation. For example, by implementing the so-called sand engine in the fore shore zone which was linked to the approach of *building with nature* (Fig. 2.3).



Fig. 2.3 Dunes and holiday houses on the beach at the Schelde, The Netherlands. ©Frank Ahlhorn

¹⁰www.deltacommissie.com

¹¹See e.g. www.helpdeskwater.nl

2.4.3 Spain

Reporting Period 2002–2006

The Spanish report was divided into four parts.¹² The introduction of the Spanish coast was followed by an exhaustive description of the situation today and the national stock-take. The report ends with the elaboration on how Spain wanted to develop and implement an integrated management strategy for the coast (see [MERM, 2006](#)).

Within the section “the situation today” the main coastal problems were described in the fields of environment, socio-economic and legal-administrative system. Regarding the environmental problems at the Spanish coast it was stated that urban development and the increase of touristic infrastructure within a one kilometer strip along the coast led to severe degradation of natural coastal habitats and dynamics. Furthermore, some parts of the Spanish coast suffer erosion and low-lying areas adjacent to river deltas also were at risk of flooding. Taking the ecological and chemical status of coastal rivers into account water quality has also to be improved in many water bodies.

The problems mentioned in the socio-economic sector at the coast were linked to urban and touristic development, the fishing and aquaculture and to maritime transport. The touristic sector, for example, concentrated in the recent years mainly on quantity rather than quality. Consequently, the coastal zone suffered increased and, in some places, uncontrolled construction of infrastructure ([MERM, 2006](#), p. 19-20). According to fishing and aquaculture the Spanish fishing fleet had to deal with the entry into force of the UN Convention on the Law of the Sea (UNCLOS). Many coastal states claimed an EEZ under this International law which impedes the free entrance and use of the fish stocks in these areas by foreign fishing fleets.

Within the reporting time Spain had no big maritime logistic hub, although it was recognized that the logistic sector will increase in future time. For the 47 smaller ports along the Spanish coast, administered by national port authorities, the development of a national port strategy was required.

Based on the history of the Roman Law in Spain the coast falls under the status of Public Domain which was defined in the Spanish Constitution from 1978 as follows (Article 132): “The law shall regulate the legal regime of property in the public domain and communal property, based on the principles that such property may not be subject to embargo, divestment and prescription. The areas deemed to belong to the public domain shall be determined by law and shall, in any event, include the maritime-terrestrial zone, beaches, territorial waters and the natural resources of the economic zone and the continental shelf.” Ten years later the Spanish Coastal Law defined the above-mentioned areas: “The shores of seas and rias,¹³ including maritime-terrestrial zone from low tide to high tide line as well as beaches, dunes, cliffs, marshes and other low-lying wetlands; the terrestrial seas and inland waters, including their beds and undergrounds; the natural resources of the economic zone and continental shelf” ([MERM, 2006](#), p. 10).

¹²For Spain: www.magrama.gob.es/es/costas/temas/default.aspx

¹³Estuaries.

According to the right of Public Domain it was difficult to ensure the protection and conservation of the natural environment at the Spanish coast. One of the reasons was that conflicts arose and incompatibility existed with private interests in the coastal zone.

Like other European Member States also in Spain several administrative bodies were responsible for the planning and management within the coastal zone. A complex vertical and horizontal distribution of responsibilities existed. To avoid further disorder of the administration system a general framework for development was needed, especially according to an integrated management at the coast (MERM, 2006, p. 30).

Despite the above-mentioned barriers a variety of networks, organizations and communication platforms existed, for example, the National Commission for Nature Conservation, the Environment Advisory Council or the National Water Council. Within the report it was suggested that a similar cross-sectoral organization should be established for the coast.

Reporting Period 2006–2010

The ambition of drafting a strategy for sustainable coastal management was hardly achieved due to several reasons. These reasons were comprehensively explained in the progress report. One of the reasons should be highlighted in this paragraph:

By definition, if we are aiming to achieve integrated management of coastal resources, we must reject purely sectoral strategies, which seek to maximize the gains of the sector concerned, even if that causes other sectors with interests on the coast to suffer losses exceeding those gains. The objective of integrated management is to achieve an optimal pattern of exploitation for all sectors. This is where the first difficulty becomes apparent. It is impossible to include all sectors. A decision has to be taken as to which sectors are the important ones and then discussions have to be opened with them to achieve integration, but deciding which are the important sectors is no easy task.

Furthermore, there are sectors that are clearly important but that would prefer to avoid integration so as not to be restricted in their exploitation of a particular resource (this is the case with urban development and land management), other sectors are not important but would like to be considered so and a decision to include a sector as important will always be debatable and disputed. Even when we reach agreement on which sectors are important, including all of them would be totally unmanageable. (MERM, 2010, p. 3)

Consequently, it was concentrated on three, so-called, essential sectors: (i) the public-owned coastal strip, (ii) urban development and town and country planning and (iii) environmental resource. Based on a three-step approach the development of an integrated management approach should be achieved: (i) gathering information and diagnosis, (ii) drafting sectoral plans and (iii) combining sectoral plans to an integrated strategy. These steps were conducted in specified *integrated management units* which are coastal strips with a more or less uniform characteristic (MERM, 2010, p. 4). Step (i) and (ii) were finished to greater or lesser extent, step (iii) was not initialized until 2010. Important steps on the way to an integrated management strategy were cooperation agreements between the responsible national ministry and regional governments.¹⁴

¹⁴More detailed description of the results in, for example, Sano et al. (2009).

Despite the fact that Spain ratified the Protocol on ICZM in the Mediterranean (see Sect. 2.3 on p. 23) which might support the efforts of integration the progress report states that “even though completely integrated management of all sectors with interests on the coast may not be achieved, the integration of four, three or two sectors can always be attained, leaving agreements open to other bodies or authorities representing those sectors not initially included to sign up” (MERM, 2010, p. 8).

Exercise

In the respective section references are provided to get more information on the Member States' ICZM strategies. Take a look at the EU and the Member States' websites.

- The EU Recommendations provide a framework for the reports on national ICZM efforts. Compare the three different approaches of Spain, The Netherlands and Germany. What are the similarities, what are the differences?
- What are the main differences according to the problems and challenges the three Member States are facing at their coast?
- According to the integration process what are the major challenges for the planning and management of the respective coastal zone?

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