



**WG ICZM**

**5th Meeting**

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**Proposal:** **The meeting is invited to discuss the document**

## Introduction

At the WG ICZM-4 meeting it was decided to analyse several cases for their "ICZM content", as a first step in making ICZM more tangible. The analysis will be the basis for a WSF workshop on ICZM.

During the period October 2007 – January 2008, three meetings of an ad-hoc group, consisting of Herman Verheij, Andreas Kannen, Marcus Lange (GKSS), Maarten Wegen (Ministry LNV, NL) and Folkert de Jong have been held, discussing the methodology of the analysis and commenting draft texts.

The actual work was carried out by Marcus Lange and Maarten Wegen.

In the following the results of their work is presented.

This document does not contain Danish cases. It was agreed that for Denmark the Danish National Parks and the Varde Aa would be analysed. These tasks will be carried out by the secretariat of the Danish Wadden Sea municipalities.

The analyses have been structured according to the eight EU ICZM principles for which the cases have been tested. Each case is preceded by a short overview and finalised by preliminary conclusions. The conclusions have not been discussed by the project group.

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### Trilateral Wadden Sea Cooperation (TWSC)

MARCUS LANGE

In 1978 the basis for a common cooperation between the three Wadden Sea states The Netherlands, Denmark and Germany was laid. The objective of the cooperation is the protection and the conservation of the Wadden Sea. By this the cooperation stressed not to divide the area according to national borders and to see it as one ecological system. On the political field the Ministry of Agriculture, Nature and Food Quality in NL, the Federal Minister for the Environment, Nature Conservation and Nuclear Safety in D and the Minister of the Environment DK decided to meet on the Trilateral Governmental Conference (highest decision making body) held every 3-4 years (11 conferences at this time). The conferences and resulting declarations made it possible to work on detailed ecosystem targets and the strengthening of selected actions. The Joint Declaration agreed upon at the 3<sup>rd</sup> conference in Copenhagen in 1982 can be seen as a starting point of common activities and measures to implement international legal instruments on EU level in the field of nature and environmental protection and to see the Wadden Sea as a whole.

As an important supporting, initiating and coordinating body the Common Wadden Sea Secretariat was established in 1987 in Wilhelmshaven.

EU ICZM Principle	Trilateral Wadden Sea Cooperation (TWSC)
<p>(a)</p> <p><b>A broad overall perspective (thematic and geographic), taking into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas</b></p>	<p><b>Broad overall perspective (geographic):</b>                      The TWSC was established with the specific aim to address a coherent ecosystem across national boundaries, i.e. to take a perspective broader than the national one.                      The area covered by TWSC is the Wadden Sea proper (Wadden Sea Area), which is on the mainland limited by the main dikes (with the exception of some areas in DK). The coastal zone bordering the Wadden Sea is not included in the TWSC.</p> <p><b>Broad overall perspective (thematic):</b>                      The three Wadden Sea states have agreed on the overall aim of a harmonised protection the WS ecosystem, laid down in the Joint Declaration (1982) and the Guiding Principles (1991).                      The focus is on nature protection and, to a lesser extent, on environmental protection. The Wadden Sea Plan (WSP) also addresses human activities in the area, but only from the perspective or their impact on natural values and environmental quality.                      Thematic information is brought into the process by discussions at meetings through workshops, the internet platform and conferences involving stakeholders, external scientists, CWSS staff and the public. Stakeholders are closely involved in finding a balance between nature protection and human use (see further principle [f])</p>

	<p><b>Disparity and interdependence</b></p> <p>The need to protect the WS ecosystem and at the same time take due account of the right of inhabitants to live, work and recreate in the area have been comprehensively laid down in several Ministerial Declarations and in the Wadden Sea Plan (WSP) (see also [b]). The latter can be seen as a key procedural element in the overall protection, management and the sustainable use of the Wadden Sea (process outcome). Together with the QSR as well as the discussion about the World Heritage site status of the Wadden Sea, the Wadden Sea plan stimulated further development of the TWSC.</p> <p><b>There is no overall planning</b> in use which addresses all relevant aspects, developments and activities in the coastal zone both land- and seaward. Such planning could take into account the complicated legal and management situation under one coordination frame. Similar proceedings are in a small extent pursued in the WSF which involved and provided a successful mechanism for improved trust and bilateral cooperation between stakeholders.</p>
<p>(b)</p> <p><b>A long-term perspective which will take into account the precautionary principle and the needs of present and future generations</b></p>	<p>The <b>long-term perspective</b> has been laid down in the Guiding Principle of 1991 "to achieve, as far as possible, a natural and sustainable ecosystem in which natural processes proceed in an undisturbed way".</p> <p>The implementation of this aim will be based upon 7 common principles, amongst which the <b>Precautionary Principle</b> (1991) is the most relevant.</p> <p>The Guiding Principle has been specified through common Targets (1994).</p> <p>The <b>needs of present and future generations</b> have been addressed in the Shared Vision (1997), listing the aspirations of the TWSC:</p> <ul style="list-style-type: none"> <li>• A healthy environment which maintains the diversity of habitats and species, its ecological integrity and resilience as a global responsibility.</li> <li>• Sustainable use.</li> <li>• Maintenance and enhancement of values of ecological, economic, historic-cultural, social and coastal protection character, providing aspirations and enjoyment for the inhabitants and users.</li> <li>• Integrated management of human activities which takes into account the socio-economic and ecological relationship between the Wadden Sea Area and the adjacent areas.</li> <li>• An informed, involved and committed community.</li> </ul> <p>Therefore visions and objectives of the cooperation are long-term orientated (precautionary) in cooperation process.</p>
<p>(c)</p>	<p>The quality status of the WS ecosystem is assessed and evaluated</p>

<p><b>Adaptive management during a gradual process, which will facilitate adjustment as problems and knowledge develop. This implies the need for a sound scientific basis concerning the evolution of the coastal zone.</b></p>	<p>on a regular basis. Every 4-5 years a comprehensive quality status report (QSR) is drafted, based upon data from the trilateral assessment and monitoring programme (TMAP) and best expert knowledge.</p> <p>QSRs also contain an overview of human activities and intensities, as well as their impact on the WS ecosystem. In addition, trilateral scientific conferences are held every 3 years, as well as ad-hoc expert workshops on topical issues. The above scientific sources are the basis for Wadden Sea policy and management.</p> <p>Evaluation of policies is done every 3-4 years at governmental conferences, on the basis of so-called policy assessment reports, and are adapted if necessary and politically feasible. Above the TWSC was subject to an External Evaluation including a SWOT analysis in June 2007 which can be seen as an element to adapt to certain governance structures and processes if necessary. They might also allow changes in funding structures, which can be seen as a chance, but also as a risk.</p>
<p><b>(d)</b></p> <p><b>Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures.</b></p>	<p>The TWSC provides a strategic political framework for the conservation of the WS ecosystem, consisting of common principles, targets, monitoring and evaluation.</p> <p>WS riparian states have jurisdiction in their part of the WS and are responsible for day to day management.</p> <p>This results in differences in management over the area, partly as a result of cultural and legal differences, as well as historical developments, and partly due to differences in local conditions.</p> <p>Decision Making is driven by governmental regulations. The civil society approach focussing on implementation through diverse sets of instruments by different stakeholders is brought forward through the WSF. Activities at local level are partly build upon cooperation, e.g. linking the National parks in Schleswig-Holstein with tourism, also some negotiation based implementations (e.g. mussel fisheries in Schleswig-Holstein) can be observed.</p>
<p><b>(e)</b></p> <p><b>Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run.</b></p>	<p>The main objective of TWSC is conservation of the ecosystem. However, human activities are possible if they are compatible with the targets (see also [a] and [b]). Focus of the TWSC is on protection of the ecosystem and thus strongly related to natural processes. Integrating other users might request compromises, but compared to the past, such compromises were related to work with natural processes as well. As e.g. salt marshes in Schleswig-Holstein were implemented through negotiations between National Park Authority and coastal defence institutions.</p> <p>The past decades showed that several activities, which were considered not to be compatible with the objectives of the TWSC (and/or national conservation objectives), have been phased out. Examples are cockle fisheries, commercial sand mining and hunting.</p> <p>Other activities have adapted to the needs of WS protection, either</p>

	<p>by reducing the intensity or by changing working methods. Examples are oil- and gas mining, mussel fisheries, boating, agriculture, shipping.</p> <p>The focus of these changes has been on making human activities more environmentally friendly, but not necessarily more socially responsible or economically sound.</p>
<p>(f)</p> <p><b>Involving all partners concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.</b></p>	<p>The TWSC is focussing on governmental structures for environmental protection for implementation. NGOs have attended TWG meetings since 2000. The trilateral cooperation <b>involved</b> nature protection NGOs in its communication processes. Following the TGC 2001, the Wadden Sea Forum (WSF) was established with the remit to develop scenarios for sustainable development. WSF is an independent platform of local and regional governments, commercial organisations, as well as nature NGOs. It produced a consensus based vision of future development for the Wadden Sea area and drafted sustainable development strategies in its report "Breaking the Ice". This report has not been adopted by TWSC as a supplementary basis for its work. As a small part and instrument of the cooperation the WSF follows up an exemplary approach of using management tools recommended by the EU (development of indicators, using the EU principles, stakeholder involvement, formulation of common objectives). In the framework of the evaluation of the TWSC, also the role of stakeholders is discussed. In this framework it may be possible that WSF will be given a more institutionalised role as consultation body.</p> <p>TWSC has developed along several generations of governance (as defined by Olsen and Nicholson 2003), which show a gradual adaptation of the management/governance process. From purely governmental the cooperation moved to include nature protection NGOs and since 2002 other stakeholders exemplary through the WSF. The WSF was an adaptation to increased local resistance against missing acceptance of nature protection measures in the local population as well as by stakeholders from non-environmental sectors including tourism.</p>
<p>(g)</p> <p><b>Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the</b></p>	<p>Although the TWSC basically is a cooperation of national governments, in practice, only ministries responsible for WS nature protection are involved.</p> <p>There is some <b>horizontal cooperation</b> with ministries or departments within the same ministry, responsible for environmental quality, shipping safety, fisheries and cultural heritage.</p> <p>There has been increasing <b>vertical cooperation</b> in Germany between federal and state level.</p> <p>There is some <b>vertical cooperation</b> between the national and the regional level within the Danish and Dutch delegations, which</p>

<p><b>aim of improved coordination of various existing policies. Partnership with and between local, regional and national authorities should apply when appropriate.</b></p>	<p>include regional representatives.</p> <p>Through the so-called Interregional Wadden Sea Cooperation (IRWC), which has existed from 1994-2005, there was a certain level of vertical cooperation with TWSC.</p> <p>There is no <b>vertical cooperation</b> with municipalities with the exception of Denmark, where the municipalities now have several of the mandates of the disbanded regional administrative level.</p>
<p>(h)</p> <p><b>Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.</b></p>	<p>The TWSC is a political cooperation and has no own legal mandate. Its main purpose is to harmonise the implementation of international and national legal instruments and to coordinate the requirements resulting from different legal instruments. This concerns mainly instruments relevant for environment and nature protection and to a much lesser extent instruments that regulate human use.</p> <p>TWSC participates in other international activities, e.g. North Sea Conferences and in the consultation process for the ICZM strategies. These are instruments which are designed on the political level. Links between ICZM strategies and EU marine policies and the TWSC are still weak. On the other side public-civil-society involvement is being hold.</p>

## Conclusions

The TWSC over time followed up an approach which was basing on the conservation and the protection of the Wadden Sea. Since the TGC 1997 and TGC 2001 the cooperation added strategic elements and formulated sustainability targets.

Basing on the analysis being done one has to remark that the **perspective** in the beginning of the cooperation **was mainly broad** in the field of activities meant to protect the Wadden Sea. While working on these issue the integration of all dimensions of sustainability and both land and seaward interactions were lacking. Management was limited to protection of the ecosystem and in lesser extent to environmental protection.

The human dimension became more pronounced by the ministerial conference in 2001, the outcomes of the Wadden Sea Plan and the implementation of the Wadden Sea Forum. The integration of these elements can be seen as an adaptive element responding to lacking issues as characterized. Aims to use ecosystem services in a gentle manner and the ecosystem targets were stressed. By this the cooperation tried to bridge the gap between ecosystem protection and human activities. Therefore the principle of a broad **thematically perspective** is partly stressed.

Past and recent developments show that the practice of a territorial cooperation works very well. As a result the **geographic perspective** can be seen as an exemplary case for cooperation across national borders on a high political level (ministerial level).

Needs of present and future generations are integral parts of sustainability targets. To a great extent the cooperation is still focussing on the precautionary principle of ecosystem protection.

**Long-term perspectives** are basically applied in the sustainable principles brought into the

cooperation by the Wadden Sea Forum. This forum is only a small part but it's the only one in which sustainable elements become an integral part. Therefore the long-term perspective is pronounced in a small extent.

Instruments for measuring ecosystem changes and the state of the environment like the monitoring programs, scientific reports and the Quality Status Reports lay the basis for an **adaptive management**. In addition every 3-4 years evaluations of policies are made. However an adaptive management also includes the application of the outcomes of the results and the process and policy adaptation to ecosystem shift and changes. In the cooperation process political decisions responding to problems are only partly achieved. The implementation of the WSF as a small part of the cooperation can be seen as an exemplary response towards a lacking stakeholder involvement. This can be the starting-point for a gradual process. Stakeholders from different sectors of present social, economic and ecological developments in the Wadden Sea Region are involved. For that reason the principle is partly being pronounced.

The political framework of the cooperation lays the basis for **local specificity** on a high political level. In addition the trilateral structure of the cooperation creates a process which is adjusted to the requirements of the ecological system as a whole. Differences in regional management strategies which follow up the certain national jurisdictions over their parts of the WS are a sign for specificity as well. As an example regional tourist concepts in the German part of the WS are held in close coordination with nature protection activities and National Park regulations. Therefore the principle can be measured to be an integral part of the cooperation and so achieved in an extended manner.

Main focus of the cooperation is the WS ecosystem. For that reason every strategic element is in line with that focus. In particular this includes the **work with natural processes and resources**. Therefore intensities and the compability of human activities with the targets are appreciated. As an example there are compromises in operation between stakeholders from industries, like (mussel) fishermen, and environmental bodies. This lay the basis for an achievement of that principle.

Again one has to take in consideration the high level of political acceptance (ministerial level). By the implementation of the TGC the cooperation made a big step forward to **stakeholder involvement**. On the other hand there is only a small involvement of partners from both social and economic sectors and other ministries. For that reason political involvement can be measured as partly being achieved.

On lower levels stakeholder involvement is still lacking. Local authorities, stakeholders from regional development sectors and practitioners are only involved since the establishment of the Wadden Sea Forum. Members from local and regional governments, organisations as well as nature NGOs take part in this forum. The targets of this assembly have not being adopted by the TWSC so far. For these reasons involvement is partly stressed and decisions are only partly based on shared responsibilities. The principle has not being broadly achieved.

Cooperation on the **territorial and national level** is formally in practice. Therefore certain **administrative bodies** are involved in the political process and strategic decisions. Frameworks are often based on decisions for natural protection. But what about involving outside standing bodies of the certain ministerial circles? Involvement of relevant (as well as non-relevant) authorities from spatial planning and the economic sector as well as NGOs is still limited. Therefore horizontal cooperation between ministries and inside them is only to a small extent developed. This also affects the cooperation between federal governments, municipalities and bodies from local tourist sectors. For that reason the principle is only partly stressed.

The cooperation pays attention to a strategy **combining instruments responding to policy objectives** and the coherence between planning and management. Results of this can be seen in the adoption of monitoring programs, evaluation and scientific reporting. The combination is also stressed by the use of EU recommended instruments (indicator development and testing, monitoring, progress evaluation etc.), national regulations (Ramsar convention etc.) and sectoral

policies. By this the cooperation harmonises international and national legal instruments. As a result the combination of these elements is in practice to a large extent.

Assessing the outcomes of this analysis the strategic elements of the TWSC fulfill the general principles of ICZM in an expanded manner.

## **Documents**

De Jong, F. (2007): Bedeutung des integrierten Küstenzonenmanagements (IKZM) für die nachhaltige Entwicklung in der Wattenmeerregion. In: Neues Archiv für Niedersachsen (publ.): Management von Häfen und Küsten, Neues Archiv für Niedersachsen Nr. 1, 2007, pp 122-133.

De Jong, F. (2006): Nature conservation and coastal development: a(n) (un)happy marriage? The case of the international Wadden Sea. In: Tubielewicz (Ed): Living Marine Resources and Coastal habitats. Littoral Conference Report, pp. 77-84.

De Jong, F. (n.y.): Ökologische Qualitätsziele im integrierten Ökosystem-Management des Wattenmeers und der Nordsee. Pp. 1-24.

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Olsen, S. & D. Nickerson, D. (2003): The Governance of Coastal Ecosystems at Regional Scale- an Analysis of the Strategies and Outcomes of Long-Term Programs.

Volmer, M. & F. de Jong (2004): Das Wattenmeer als besonders sensibles Gebiet und Strategien zum Integrierten Küstenzonenmanagement. In: BBR (Publ.): Informationen zur Raumentwicklung, pp. 475-484.

Wadden Sea Forum (2005): breaking the ice - final report.

Several declarations and strategic papers of the TWSC

## **Methodical documents**

International Oceanographic Commission (IOC) (2006): A handbook for measuring the progress and outcomes of ICOM. Manual and Guides, 46; ICAM Dossier, 2, Paris, France.

Olsen et al. (1999): A Manual for assessing progress in Coastal management. Coastal Management Report No. 2211, University of Rhode Island.

Schuchardt, B. et al. (2004): Retrospektive Analyse größerer Planverfahren in der Küstenzone unter der Perspektive "IKZM Tauglichkeit". Coastline Reports 2004-3.

European Commission (1999): Towards a European Integrated Coastal Zone Management (ICZM) Strategy – General Principles and Policy Options.

### Insel- und Halligkonferenz

MARCUS LANGE

Found to work on different field of issues and to speak with one voice on the political agenda of the municipalities of the North Frisian Islands and Halligen the ‚Insel- und Halligkonferenz‘ (IHKO) was found in 1999. In the beginning it was a loose cooperation between municipalities as one response to the trilateral Euregio - The Wadden Cooperation.

Today members of the assembly are the mayors of the 26 municipalities, 2 cities and Helgoland. As part of its organizational framework the assembly get it’s funding from several projects and programmes of the regional development initiative “Regionen aktiv” raised by a governmental Ministry of Food, Agriculture and Consumer Protection. Outcomes of this were the opening for other stakeholders and the common capacity of the thematic working groups. Main task of the initiative is the strengthening of rural areas under consideration of sustainability targets. In 2005 the establishment of a regional management board under the roof of a Regional Development Bureau resulted in coordinated activities and a gradual refinement of the cooperation between members.

Main targets of the assembly are a better improvement of cooperation between the members and the coordination of the projects which are basically linked to funding. Coordinated action is ensured by the bureau on the one and the engagement of active members.

EU ICZM Principle	Insel- und Halligkonferenz
<p><b>(a) A broad overall perspective (thematic and geographic), taking into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas</b></p>	<p><b>Broad overall perspective (thematic):</b>                      The overall perspective is pronounced in a regional specific choice of thematic issues; classified into the most <b>important fields for regional development:</b></p> <ul style="list-style-type: none"> <li>- coastal defence,</li> <li>- traffic infrastructure and connection (mobility),</li> <li>- tourism,</li> <li>- agriculture,</li> <li>- natural protection and newly climate change.</li> </ul> <p><b>Broad overall perspective (geographic):</b>                      As part of the Euregio cooperation IHKO focuses on one particular ecosystem through inclusion of responsible municipal institutions in the North Sea region<sup>1</sup>. The installation of the IHKO over time shows, that the municipal bodies align with each other to solve problems in the certain fields of issues<sup>1</sup>.</p>
<p><b>(b) A long-term perspective which will take into account the precautionary principle and the</b></p>	<p>Visions and objectives of the cooperation are <b>long-term orientated (precautionary)</b> and less short-time. As a matter of fact the main target is the strengthening of rural areas under consideration of sustainability objectives. Focus is laid upon short-time success</p>

<p><b>needs of present and future generations</b></p>	<p>schemes and benefits to stimulate the cooperative process <sup>1</sup>. Project targets are pursued beyond end of project duration (10). Needs of generations are pronounced in the development of an IHKO platform achieving awareness of ICZM elements. Therefore the assembly implemented approaches for an ICZM and arranged public meetings (in cooperation with members of IHKO working group coastal defence) (10). Learning approaches (as transported in meetings) are continued after the project has finished. An initiated <b>advisory board</b> takes care of that (10).</p>
<p><b>( c) Adaptive management during a gradual process, which will facilitate adjustment as problems and knowledge develop. This implies the need for a scientific basis concerning the evolution of the coastal zone.</b></p>	<p>Within the IHKO a <b>gradual process</b> is being held in the development of visions in the different field of issues. The information used is based on local valuations. Due to the fact that the IHKO consists of politicians (the majors are elected) the management-process is a political decision-making-process. Occasionally they place an order to consultants. Background information is introduced by the management staffs that have an academic (scientific) background. Important and progressive stakeholders are the main engines for development and fundraising.</p> <p>Normally source of information are brought into the process by the regional management staffs, sometimes by external scientists and less by members knowledge (by presentations at workshops or meetings). Outputs are working and strategic development packages in the field of the thematically broad issues. By this different actors are involved (1). Every 2<sup>nd</sup> month newsletters (introduced in 2007) give an insight into the <i>state-of-the art</i> regional development.</p> <p>Ideas and proposals for new projects to be implemented are made by the involved mayors and the regional management staff <sup>1</sup>. There are approaches observably using elements and strategies recommended by the EU, explicit as recommended in the EU ICZM papers. For that reason the IHKO works on the harmonisation of EU recommendations and adopts its management to the elements.</p> <p>Interactions in the human-environmental system are accepted but reaction is limited and therefore achieved to a small degree.</p>
<p><b>(d) Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures.</b></p>	<p>Increasing activities in the field of stakeholder and public participation is intended to stress by IHKO. Especially the funding by ‘Regionen Aktiv’ demanded the involvement of civil society, NGO’s and local economy. Programmes are adapted to the special needs of Islands and Halligen.</p> <p>Concerning <b>specific measurements</b> towards certain processes there are no tools for integrated information processing established. The regional management office is responsible for collecting and distributing data and information. The decision-making-process is organised as followed: Within the IHKO majority voting is applied. Decision making is driven by municipal (governmental) regulations and needs. Projects are aligned with the ability to do successful fundraising. The IHKO is linking their cooperation to needs of the economic sector (tourism and agriculture). Because the unique</p>

	<p>landscape is their greatest value (in respect to tourism) nature protection is of great interest as well (National parks in Schleswig-Holstein).</p>
<p><b>(e) Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run.</b></p>	<p>Needs of the economic sector, especially tourism and agriculture, base on the <b>carrying capacity</b> of the Wadden Sea region and the ecosystem as its greatest value.</p> <p>Other thematic fields are related to the energy sector and development of rural areas which are basically orientated in <b>long-term run perspective</b>. In cooperation with the Federal Investment Bank Schleswig-Holstein the IHKO developed an “Energy Vision for the Uthlande Region”. Therefore several studies were made and meetings for the public were held (37). The funding by the federal program ‘Regionen Aktiv’ focussed on sustainable rural areas. Especially the agricultural sector and direct marketing measures were promoted. Scientific knowledge is used for the project IHKO “Sediment changes in the Wadden Sea” (media and map analysis, questioning, transport and stability of sediment masses, monitoring of shell banks and possible construction of artificial shell banks). Scientific knowledge is also used for projects in tourism-sector. Given that the IHKO aim to become a model region (Modellregion) for climate change adaptation there is a big need for scientific support.</p> <p>The IHKO stressed ICZM by implementing elements (multiple uses and interlinkages) in practice. The basis was laid in a project analysing the development of the train track “Bahndamm Morsum” as a traffic lane on the one and a coastal defence construction on the other hand (12).</p> <p><b>Outcomes</b> of the members work on different issues give a comprehension of ecosystem based information including assessments of human impacts and a comprehensive overview of human activities in the Uthlande region. Particular management which addresses a choice of relevant aspects, developments and activities in the coastal zone both land- and seaward.</p>
<p><b>(f) Involving all partners concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.</b></p>	<p>Especially the funding by ‘Regionen Aktiv’ demanded the involvement of civil society, NGO’s and local economy and opened the process for other stakeholders. All stakeholders form the ‘regional partnership’. Bringing in stakeholders from local (governmental) level as well as chambers of commerce and economic stakeholders helps to show up linkages in the communication process.</p> <p><b>Joint visions</b> are the strengthening of rural areas under consideration of sustainability targets. The latter are based on local perceptions. Besides a better cooperation and coordinated action is intended to bring forward. Within the establishment of the inter-municipal cooperation and the regional partnership Uthlande joint visions and an overall concept was developed (See: Regional Development Concept (REK Uthlande)).</p>

<p><b>(g) Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of various existing policies. Partnership with and between local, regional and national authorities should apply when appropriate.</b></p>	<p><b>Vertical cooperation:</b>                  The cooperation itself is not formally embedded in vertical cooperation.                  But they are informally communicating with all administrative levels. At the strategic level a comprehensive management for the region Uthlande is stressed by the IHKO. Therefore participants of the member towns, agencies and municipalities cooperate in the IHKO to take action and to make the effort to get funding from the federal governments. An initiated advisory board takes care of achieving public awareness for ICZM elements.</p> <p><b>Horizontal cooperation:</b>                  Members from the IHKO are elected municipal officers. The cooperation (IHKO) is an inter municipality cooperation. It was built upon the establishment of a circle consisting of the mayors of the 26 municipalities and 2 towns<sup>1</sup>. The members selected certain thematic fields. The selection is based on land-sea interactions, conflicts between different spatial decision-making levels and special issues. These were brought into the process by many people concerned e.g. local stakeholders and the public<sup>1</sup>. Municipal institutions and stakeholders allied to work on thematic issues in working groups. Horizontal cooperation is therefore pronounced by bringing in the perspective of a wide range of regional stakeholders, less by thematic experts.</p>
<p><b>(h) Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.</b></p>	<p>The cooperation itself can be seen as an informal instrument to harmonising the regional development. The development of the IHKO over time shows, that the municipal bodies align with each other to solve problems in the certain fields of issues.</p>

<sup>1</sup> **information is explicitly taken from:** Bruns, A. (2007): Die ‚Insel- und Halligkonferenz‘: Eine interkommunale Kooperation der nordfriesischen Inseln und Halligen. Organisations- und Prozessanalyse. Zukunft Küste - Coastal Futures-Arbeitsbericht. Geesthacht.

**Conclusions**

The greatest value of the Insel- and Halligkonference is the local specificity and the ability to receive funding from different programs for sustainable development.

Regional specificity is being pronounced in the choice of different field of issues. **Broadness in the thematic perspective** is therefore being held. Similar to the Trilateral Wadden Sea Cooperation

the cooperation focuses on the development and treatment of one ecosystem to solve problems. Therefore the principle is achieved to a great extent.

**Precautionary elements** of the EU principles are stressed and became pronounced by the formulation of the main target and the strengthening of rural areas under consideration of sustainability objectives. Short-time success schemes as well as long-time targets are being supported by staff and active members. The approach behind this focuses on the wide acceptance of the members for recommended ICZM elements. This helps to stimulate the cooperation process. Nevertheless the structural cooperation is effective on only to a small extent. Therefore the principle is achieved only to a small degree.

The whole process can be measured as a gradual one. Especially activities to aggregate funding are broadly pronounced. For that reason the cooperation earns its acceptance. Therefore the management follows up an approach which is output orientated. The latter is basing on the acceptance by showing the members benefits of the cooperation.

Local perceptions and local valuations are the basis for the political decision-making process of the IHKO. Therefore decisions are specific to the needs of the area. For that reason **adaptive elements** are achieved in the use of regional specific needs. **Local specificity** and the adoption to needs of the region can be pronounced as the most important base for public acceptance of the IHKO. **Civil society and mayor involvement** work well, so that shared responsibilities and integrating knowledge lay the basis for identification and accepted and implementable decisions. For this reason these principles can be measured to be the biggest challenge of the cooperation, broadly pronounced and effective to a great extent.

Pointing out that the conference is focussing on information and aggregating funding shows that sustainability issues are stressed only to a small degree. Process design is mainly focussing on a few aspects of sustainability. For that reason the EU principles are only partly achieved.

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**Ems-Barrage**

MARCUS LANGE

The barrage is a completely installed construction at the Ems at Gandersum (current kilometre 32,2). It is 476m long and is connected to a main dike. The 50 and 60m wide flood gates allow ships of smaller and larger extent to pass the barrage. Thereby general shipping transfer is possible as well as the crossover of larger ships having up to 8,50m draft (multifunctional coastal defence construction). Responsible bodies of the project were the province Weser-Ems at first and the Lower Saxony Federal Water Supply and Coastal Defence Administration.

The construction was planned to adapt the Ems region to storm surges and to keep it from flooding. On the other side it offers the opportunity to transfer new built cruise ships from the Papenburg-Meyer-Shipyard to the open sea. The installation was built upon a legal spatial planning process with an Environmental Impact Assessment and a legal revision. The process started in 1997 by foundation of the project team “Construction of an Ems-Barrage. A scoping followed and the public presentation of the project in early and late 1998. Several judgements initiated by nature protection stakeholders (BUND) and regional interest groups (local fishermen) resulted in temporally construction stops. In 2002 the building was opened and the lawsuit was refused.

EU ICZM Principle	Ems-Barrage
<p>(a)</p> <p><b>A broad overall perspective (thematic and geographic), taking into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas</b></p>	<p><b>Broad overall perspective (geographic):</b>                      The main focus of the approval was laid upon coastal protection and economic issues. In the approval process natural concerns were stressed by an environmental impact assessment and the acceptance of interference (52). Stakeholder involvement representing public concerns (nature assembly and the church of Gandersum) took place in the legal phase of process.</p> <p><b>Broad overall perspective (thematic):</b>                      Cooperation and adjustment was practiced in the legal phase of approval on territorial scales by international consultations (50), the participation of public and nature assemblies in the Netherlands (61).</p> <p>In general a broad overall perspective was mainly brought into the process by the legal instruments of approval. These were surveys assessing aspects of nature specific issues (52) which can be seen as a basic source of information and 15 days in early 1998 of presenting the project, the outlay of the plans and <i>scoping</i>. With regard to land-sea interactions, the cooperation is limited. E.g. in Germany terrestrial areas are only included with the islands in Lower Saxony.</p> <p>In addition there is no tool, overview database or reports available helping to measure the interdependence and disparity in the human-</p>

	<p>environmental system e.g. in form of modelling or GIS overlays. No reports are available dealing with conflict solving instruments or strategies e.g. recommended by the EU (see above).</p>
<p>(b) <b>A long-term perspective which will take into account the precautionary principle and the needs of present and future generations</b></p>	<p><b>Structures and goals:</b> Strategic planning was in the hands of the federal government and state Lower Saxony, which was the responsible and planning body and the basic funding source (51). The construction fundamentally based on a political decision. In the process of development sectoral approaches were dominating and planning was more taken place on a sectoral base than on integrative planning (57).</p> <p>A main <b>outcome</b> was an adjudication which provided the legal basis of the project (2004) in the long-term run. The result can be seen as the key procedural element, a conceptually complete planning and conflict solving instrument in the formal planning procedure (76). It enhanced the terms and conditions of the regional (shipyard) industry and protection of coastal communities (50) for future generations. The precautionary principle is therefore pronounced in both coastal defence and the regional economic development. The used instruments seem to be efficiently in this dimension but inefficient in an integrative management perspective while process ended in court procedure (ending in negative annoyance). Public had to form its resistance with the help of initiatives and intervening NGOs (WWF; BUND; NABU).</p> <p>(Political not desired) alternatives were under examination whenever potential conflicts became visible. The process was a pure approval process in which no structure were in place which regularly evaluate the future development and future problems <b>precautionary</b>. The precautionary principle was therefore not pointed out enough and alternatives to be rejected early (62).</p> <p><b>Learning Approaches:</b> No continuous process and no learning approaches (simulation or planning games) participating and informing public were held.</p>
<p>(c) <b>Adaptive management during a gradual process, which will facilitate adjustment as problems and knowledge develop. This implies the need for a sound scientific basis concerning the evolution of the coastal zone.</b></p>	<p>There are indications of an <b>adaptive management</b> in the phase of the operation of the barrage. In this case the maximum time and height of the water slack flow (Aufstauhöhe) will be limited to 52 hours per opening for shipping transfer. Transfers are only allowed two times the year. If negative effects are visible duration and number can be changed.</p> <p>An adaptive approach can be seen in the choice of location of the construction. Gandersum for that reason is the best and the most effective location of a coastal protection barrage.</p> <p>Information leading to such decisions will be taken from scientific surveys (EIA). They will be used as the only knowledge based information. The process was designed to be a pure approval process.</p>

	<p>There are no structures in place which regularly evaluate the future development and future problems precautionary, main outcomes are unclear.</p>
<p>(d)</p> <p><b>Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures.</b></p>	<p><b>Information:</b>                  Scientific studies were used for decision making. Surveys functioning as a measurement tool for problems and possible fields of conflicts. In case of storm surges above 3,70m the building provides for defending the Dollart coastal areas from flooding (surveys from the 1994th January storm surge). The process was government driven with economic interests. The outcome was pushed forward by government and regional specific economic interests (Papenburg-Meyer Shippyard) (WWF statement). The shipyard industry has a long tradition. Therefore this industry can be seen as a great identification for public.</p>
<p>(e)</p> <p><b>Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run.</b></p>	<p>Scientific and expert knowledge was brought into the process by surveys assessing specific aspects (50). E.g. ICBM, University of Bremen, was broadly testing the oxygen conditions in the phase of a 12hour river impound. The results showed that a 12hour impound has no impact on the oxygen conditions of the waters. The Federal government of Lower Saxony responded to that and stated that no ecological risk will occur on the one and no more deepening of the Ems river will be needed so far on the other hand.</p> <p>Working with the natural dynamics in case of storm surges the choice of location of the construction felt on Gandersum which offers the most effective adoption towards high waters.</p>
<p>(f)</p> <p><b>Involving all partners concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.</b></p>	<p><b>Horizontal cooperation:</b>                  The process has been carried out by the core members of the legal planning and approval process consisting of governmental and public institutions. Active identification and broad involvement of members has been stated (50). In this case process steps were held as required (53). Members were representatives of the most visible affected issues (53). The process was information driven. Therefore discussions about how to deal with the project were held but not if the project was desired (no valuation of pros and cons).</p> <p><b>Public-Private-Civil Society involvement:</b>                  Individuals and citizen group initiatives were involved within the legal public involvement process (50). Typically there are no proponent statements integrated (51). Conceptual alternatives were brought into by important opponents from natural protection fields (52).</p> <p><b>Information:</b>                  Regional and thematic media information gave an insight about main fields of conflicts carried out by the local and regional media. Information about project design, benefits, demand and consequences</p>

	<p>were carried out in legal binding extent (public consultation etc.); additional information of the complex planning was made available for participants (53). No data availability of internal economic data (54).</p> <p>The process was not performed as an open institutional process; the focus was laid upon the approval process and the settled outcome which was linked to regional development. Process was highly focussed on market driven interests which causes negative perceptions of some public initiatives.</p>
<p><b>(g)</b></p> <p><b>Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of various existing policies. Partnership with and between local, regional and national authorities should apply when appropriate.</b></p>	<p><b>Vertical cooperation:</b></p> <p>There are inconsistent approaches/styles of participation of involved authorities to remark (according to RETRO report) (57). No surveys resuming territorial effects of the operation and valuating to which degree interest groups of the Netherlands would be affected were carried out.</p>
<p><b>(h)</b></p> <p><b>Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.</b></p>	<p>There was only use of participation elements in the legal process of approval and sectoral approaches. EIA including several surveys. There is a combination of Sectoral policy stressing the requirements of coastal defence and shipping industry. Coherence between both was pronounced to an extended degree.</p>

## Conclusion

The project in itself emphasised coastal protection and economic issues to be the main reasons for barrage construction. So conclusion is mainly focused on the development and planning procedures before operation phase. As a matter of fact analyses are stressing the legal approval process, communication structures, designs and possible responds.

The **perspective** was stressed **thematically broad** to a legally required extent. Only several surveys were made assessing aspects of nature specific impacts of the construction as well as the operation phase. Surveys assessing the socio-economic effects (e. g employment situation) were not carried out. For these reasons focus of the development phase was clearly on economic issues and especially on the technical chances and risks. In this context surveys, the outlay of the plans and a *scoping* were held. Beyond no modelling was made dealing with conflict-solving instruments and showing the interdependence and disparity in the human-environmental system.

The territorial cooperation in the form of international consultations and regional assemblies can be stressed as remarkable to have a **broad geographic perspective**. Stakeholder opinions from both the Netherlands and Germany were brought into the approval.

But again the overall strategy can only be concluded as a legally binding element of the process. There were no inside messages handed out to inform e. g. the church of Gandersum (group of resistance and public support) about the main funding sources or the story behind the funding (multifunctional coastal defence construction). In regard to sustainability issues there were no elements existing outreaching legal binding structures. For that reason the principle has not been fulfilled.

The project procedure was a pure planning process. For that reason management or an integrative planning were neglected. The basis for development was laid in a political decision. The outcome was obviously not public friendly while process ended in adjudication. Decisions were not in line with opponents of the project. For that reason the outcomes in the short-time run were not precautionary. On the technical side the construction is in line with the precautionary principle by protecting future generations from storm surges (long-term perspective). Applied to economic effects long-term perspective is pronounced by the multifunctionality of the building. Strategies assuring employment in the long-term run can be measured as precautionary as well. By this the **precautionary principle** is partly being achieved.

The procedure in the phase of operation can be seen as a small indication for an **adaptive management** (limitation of maximum time and height of the water slack flow (Aufstauhöhe)). Adopting opening times to negative effects takes care of arising problems for that reason. The choice of location was adapted to the special needs of the barrage as well. Main source of information for these effects were surveys. On the other side no structures are in place which broadly evaluates future developments and effects precautionary. For that reason the principle is partly being achieved.

The shipyard industry has a long tradition in the Ems region. It seems as if all information for constructing the multifunctional building at this location were stressing specific solutions to the problems appearing in this region. The choice of place and the combination of economy and coastal protection functions laid the basis for **local specificity** to a great extent and so achieving requirements of principle d.

Following up only few surveys assessing the effects of a 12hour river impound were made. It seems as if there are only small effects on the water conditions of the Ems. Natural processes in the Ems region (delta region) in close combination with the technical construction provide the opportunity to protect the hinterland and to support the regional development. In the long run, the barrage will seemingly respect the **carrying capacity of ecosystems**. For that reason the principle is broadly being achieved.

The information driven process provided the opportunity to give the public an impression of the project. Information and discussions had a broad thematically perspective. Compared to the decision much earlier **stakeholder involvement** and the integration of public and opponents pros and cons were lacking. So the information building process can be measured as a partly positive response to the principle. Lacking territorial cooperation can be assessed in the field of **involving interest groups** and concerned from the Netherlands. Therefore the principle is partly stressed.

Project planner's paid attention to the multiple components of two uses. Altogether the idea stressed the **combination of (two) different sector policies** and was intended to follow up an interdisciplinary approach. From this point of view the principle has being achieved.

Assessing the outcomes of this analysis the strategic elements of the Ems-Barrage can be assessed not to be fulfilled in relation to most of the EU principles.

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**Jade-Weser-Port (JWP)**

MARCUS LANGE

The feasibility study for the planned deep water terminal close to Wilhelmshaven pointed out that there are basically positive effects for the economic development of the region. The study was completed in 2000. From this year on both mayors (Hamburg and Bremen) and Lower Saxony’s president agreed on the location of the project at the German Bight. The decision also included a desire for a new joint seaport policy.

By now the local governments of Lower Saxony and Bremen reinforced their commitment for the JWP while Hamburg decided against taking a 20 % stake in investment in 2002 and withdrew from the cooperation. Several studies and research were carried out which highlighted the different aspects and social, economic and ecological impacts of the project and which were integrated into the different planning phases. Two different approvals could be distinguished. The legal waterway approval was finished by the spatial planning resolution in March 2007, the legal mining law approval in October 2006. Presumably in 2010 the construction phase of the terminals and the connection of the hinterland will be finished.

Wilhelmshaven is suffering from a high unemployment and a shrinking population. Future developments are also expected to approve this trend. The reason for that is the specialisation on a monostructure like the naval industry which is dependent on governmental subventions. The latter were reduced consequently ending up in insecure employment situation and debasing life conditions. The JWP with its adventures and qualities of the only deep water terminal could help to work against negative economic developments in the Wilhelmshaven region. Comparably there are to be due ecological as well as social impacts (noise exposure, tourism etc.) in the phases of construction and operation.

EU ICZM Principle	Jade-Weser-Port (JWP)
<p>(a)</p> <p><b>A broad overall perspective (thematic and geographic), taking into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas</b></p>	<p><b>Broad overall perspective (thematic):</b>                      The whole development was based on a formal approval process. Focus of the approval was laid upon the economic development of the region and of the western ports belonging to the so called North Range in Germany.                      In the approval process natural concerns were stressed by an environmental impact assessment (EIA) and the acceptance of public interferences. Although certain reports were written conflict solving instruments (from EU perspective) are missing.</p> <p><b>Broad overall perspective (geographic):</b>                      Developing infrastructure to connect the hinterland with the terminals can give rise to positive economic effects not only for Wilhelmshaven but also for the whole northern part of Lower Saxony (Bremen and Oldenburg), as well as for other industries apart from the shipping industry (positive employment development). Therefore not only the</p>

	<p>local perspective was stressed but also the regional (coastal Lower Saxony).</p> <p>In the first phase stakeholders from Hamburg as the most important port in the German Bight cooperated with the JWP developers and the federal governments. The cooperation stressed that there is no need for dredging at Wilhelmshaven while the Elbe need to be dredged for expansion. Above there is no longer space for expansion in Hamburg. Former agreements between Hamburg and Bremen therefore can be seen as a positive alternative towards the ecological worsening of Elbe delta and a future (ecological) discharge for Hamburg. As a start Hamburg resigned from its involvement.</p> <p><b>Disparity and interdependence:</b> Environmental impacts of the project are being estimated by the planners and compensations are recognized as needed to preserve the ability of nature. Only ideas to harmonise interests of tourism and industry were made. Together with missing non-statutory participation tools this leads to the conclusion, that the perspective of the project was limited to economic concerns and to a minimum degree the mitigation of ecological impacts.</p>
<p>(b)</p> <p><b>A long-term perspective which will take into account the precautionary principle and the needs of present and future generations</b></p>	<p>Social issues are strengthened by measures that help to work against population loss, unemployment and building vacancy and decline. Therefore not only the local perspective was stressed but also the regional (coastal Lower Saxony). Public interests had to form up and definitely formed in an initiative named “Antiport-Protest-Group”; by the development affected public has to work beyond administrative decision-making levels. <b>Long-term visions are precautionary in the field of economic development</b> (long-term growth of JWP and the German part of the North Range harbours). Strategies are fixed on the development of feeder and local industries, sectors (chemical companies and energy suppliers) and infrastructures. Company EUROGATE stated to employ as much person as possible and to recruit as much person from Wilhelmshaven and the region. Focus is on economic development as well as the strengthening of the economic structure of the town which was formerly concentrated on the naval industry. Long-term perspectives of these sectors have been taken into account. More different from that the tourism sector will be presumably affected in a more negative way.</p>
<p>(c)</p> <p><b>Adaptive management during a gradual process, which will facilitate adjustment as problems and knowledge develop.</b></p>	<p><b>Adaptive management</b> in the context of an adaptation to arising problems is just in place in the phases of the pure approval process. Above (in the phase of operation) there is no opportunity to rebuild the terminal constructions. In addition there are no information available assessing ecological problems to adapt to. Costs for that are always too high. To a small extent elements of an adaptive management are possible in</p>

<p><b>This implies the need for a sound scientific basis concerning the evolution of the coastal zone.</b></p>	<p>the phase of operation. Several compensation ideas for natural area losses can be seen as elements of this management. But indeed there are no structures in place which regularly evaluate the future development and future problems precautionary. Only the numerous economic reports on feasibility of the JWP often in comparison to the other main ports of the North Range are published.</p>
<p>(d)</p> <p><b>Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures.</b></p>	<p>Market driven forces are pronounced promoting even a sustainable economic development. Economy should have been developed in the region and the western ports of the North Range in Germany. Scientific studies were used for decision making. Surveys functioning as a measurement tool for problems and possible fields of conflicts in the economic field. Other <b>local specificities</b> have been stated by the Hafenwirtschaftsvereinigung by positioning a clear distinction between harbour development and tourist areas (e.g. Hooksiel) which both will presumably not be interfere with each other.</p>
<p>(e)</p> <p><b>Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run.</b></p>	<p>Main objective of the JWP project is the economic feasibility. A basis for that is the reaction towards <b>natural dynamic processes</b> as for example sedimentation, erosion and accumulation. Therefore the waterways close to the terminals will have to be treated from sediments. The project is not yet realised so the development will show which problems arise and need to be solved.</p> <p>In general the natural processes of the Jade channel lay the basis for the mechanism of a deep water area at Wilhelmshaven. So developers use this natural dynamics and the processes of the sea to afford shipping activities in this area in a large extent. Therefore almost no dredging is required on the estuary waterway. In addition the waterway to the loading bridges is very short and for that reason the risk of an accident is minimized.</p>
<p>(f)</p> <p><b>Involving all partners concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.</b></p>	<p>Regional and thematic media information gave an insight about fields of conflicts. Statements and arguments were carried out by the local and regional media. Public discourse is transported by the “Wilhelmshavener Zeitung” (often pro-port arguments). Other important elements were the numerous events which were arranged by members from port developers and initiators. This can be measured as a clear indication for an <b>informal</b> information flow. By this the process was performed as an open and transparent process with the possibility to <b>public information building</b>. Anyhow focus was laid upon the approval process and the settled outcome which was linked to regional development.</p> <p>There are little elements visible which fulfil the requirements of an expanded stakeholder involvement above informal resistance initiatives. Inclusion of stakeholder from different perspectives and concerns therefore seems to be limited and the overall perspective is</p>

	<p>limited to the formally required issues. There is a close cooperation between Bremen and Niedersachsen since the idea of the port. Several initiatives are a sign for this cooperation. Outside the approval there was no cooperation between port developers and nature protection bodies.</p> <p>Besides there are no reports available dealing with conflict solving instruments or strategies e.g. recommended by the EU. There is no tool or overview database available helping to measure interactions in human-environmental system in form of modelling or GIS overlays. But indeed there are many reports and surveys disseminating information and perspectives about the potentials (often positive effects are stressed beyond risks) of the project (based on surveys from several economic institutions) and ecological impacts from the economic point of view.</p>
<p><b>(g) Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of various existing policies. Partnership with and between local, regional and national authorities should apply when appropriate.</b></p>	<p>The project had strong political support from the governments of Niedersachsen and Bremen as well as from the national government. The reasons for that can be seen in the exhausted capacities of the southern North Sea German ports.</p> <p>The government of Hamburg as one of the national competitors early in the process resigned from its involvement. Main actors of the former process are no longer part of the process.</p>
<p><b>(h) Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.</b></p>	<p>There was basically use of participation elements in the legal process of approval and sectoral approaches. In addition developers and certain actors arranged information events.</p> <p>Feasibility study consists of four steps: A planning of the terminal infrastructure and funding, B planning of the terminal buildings and funding, C environmental impacts and water research assessment and D analysis of potentials and benefits. Tool of the natural assessments was an EIA including several surveys.</p> <p>The integration and participation in discussions concerning EU regulations like the Maritime Policy designed by the EU show a wide interest of sustainable strategies.</p>

## Conclusion

The process of the Jade Weser Port was a legal approval process. By means of this most of the elements can be seen as requirements of the formal approval which were mainly achieved for the legal requirements. Some elements helping to support flow of information from developers to the public can be measured to be informal on the one and in addition to legal requirements on the other hand. The assessment is focussing on the process arising so far, while construction of the port has only for a short time began.

The process was designed to be **economically broad**. As a matter of fact cooperation between Lower Saxony and Bremen was stressed. This cooperation is still in practice. Hamburg took part in the first phases and then resigned. Local concerns were stressed as well as regional. Developers and other stakeholders took into account a wide range of economic development as well as social effects (e. g. employment) of the project. The latter effect functions as one basic argument for the economic strengthening of the region in the **long-term** run.

The port can presumably give rise to an **adaptive management**. Traffics could be limited and shipping lanes be made as narrow. But this time there are only trends to hold the routes as close to the deep water than on shallow waters of the Wadden Sea. For that reason the principle is achieved to a small remarkable extent.

Other aspects namely of ecological concerns were just paid attention to in the legal phase. For that reason the complexity of the system was only partly covered. So the principle was weakly being stressed. In general the natural dynamics requires almost no dredging. This is the greatest benefit the location offers. **Working with natural processes** from the economic perspective is broadly achieved. The short shipping waterway to the open sea is another adventure. On the other side there are no elements obvious supporting ecosystem capacities or its preservation. Therefore this principle is only achieved in economic terms.

Public assemblies were used to inform the public and listen to its special needs and criticism. Biggest conflicts will presumably arise between shipping and natural concerns. The results or the assessment of future conflicts were not presented in advance of the legal phase. By this reason **involvement of all partners** beyond legal involvement is limited to the economic actors. Integrating arguments of opponents was not hold. Therefore the principles were only partly pronounced.

By means of a legal approval process which set the starting point for the Jade Weser Port the possibilities for stakeholders to use informal instruments is limited. This is because funding is focused on the development process and e. g. not particular on nature conservation. Informal elements were used but to a small degree. For that reason the EU principles are not achieved to a great extent.

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### Mussel Fishery Schleswig-Holstein

MARCUS LANGE

Mussel fishery in the Schleswig-Holstein part of the Wadden Sea takes place inside the Wadden Sea National Park. In 1995 a five-year lasting ecosystem research project documented the impact of mussel fishery on mussel banks in the area. As a result a draft strategy for the protection of the stocks was developed. Two years later the Ministry for Environment, Nature and Forestry, the Ministry for Rural Regions and the Mussel Fishery Association found a final agreement which is basing on a juristically binding contract.

A great number of restrictions have been in practice since that day. Main focus is the protection of nature. On the one hand, the contract is valid for ten years. Thus, the mussel fishermen gain planning and production safety over a long period, which is important for investments and economical development. On the other hand, the nature protection elements of the contract, the limitation of the fishery intensity and the end of dredging in the intertidal lay the basis for a broad public acceptance.

EU ICZM Principle	Mussel Fishery Schleswig-Holstein
<p>(a)</p> <p><b>A broad overall perspective (thematic and geographic), taking into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas</b></p>	<p><b>Broad overall perspective (thematic):</b>                      A broad overall perspective was stressed by the decisions made in 2000 when the federal ministries developed an extended regulation catalogue for the mussel fishery industry. Policy objectives were therefore linked to sustainability targets. Focal point of the process lies on the protection of the natural mussel stocks. However the regulations should respond to economical as well as social welfare. This ensures that ecological, economic and social interests have been taken into account. Cooperation and responsibilities are being held in the structures of the Ministry for Rural Areas, the Ministry of Environment, Nature and Forestry (upper fishery agency) and the Mussel Fishery Association. Public is involved by campaigns held every season to inform about the state of the mussel industry.</p> <p><b>Broad overall perspective (geographic):</b>                      Main target of the federal government is the economic welfare of the population on-site of the mussel fishery area Schleswig-Holstein. This includes the processing on-site and the achievement of positive employment effects. Therefore subventions for processing companies were made and are planned in the future. Adjustment is being held by the guidelines of the national park laws.</p> <p><b>Outputs of the process</b> are based on the acceptance of the fishery industry and the National Park Office. Protests basically come from outside the mussel industry circle.</p>
<p>(b)</p>	<p>A few key structures and goals were brought under way in 1997 by the</p>

<p><b>A long-term perspective which will take into account the precautionary principle and the needs of present and future generations</b></p>	<p>formulation of a juristically binding contract. Results were regulations and prohibitions for the mussel fishery industry. Therefore since than landings of wild mussels were prohibited as well as the export of half grown and seed mussels. Above the intertidal zone (eulitoral) was closed for every kinds of mussel fishery because these are areas where natural banks developing (according to a reduction of 37 % of the area). The minimum period of residence was fixed to ten months. Besides the ministries implemented closed seasons for mussel landings. By this visions and objectives of the process are <b>long-term orientated (precautionary)</b> and less short-time. As a matter of fact the main target is the strengthening of wild mussels and natural banks and the economic development under consideration of sustainability objectives in the given ecological boundaries.</p>
<p>(c) <b>Adaptive management during a gradual process, which will facilitate adjustment as problems and knowledge develop. This implies the need for a scientific basis concerning the evolution of the coastal zone.</b></p>	<p>A maximum of eight mussel fishery licences are allowed every year. At the end of the seasons all regulations and monitoring assessments are put together and strategies for the following season is being fixed. The black-box model can be seen as a controlling system in the field of an <b>adaptive management</b>.</p>
<p>(d) <b>Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures.</b></p>	<p>Local specificities like the growth of wild mussels in the Waddensea area are protected by certain regulations. Landings of these mussels on the natural mussel banks are prohibited. In addition the residence time on the banks is limited. Specific regulations exist for different mussel species.</p>
<p>(e) <b>Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and</b></p>	<p>Permanent control of mussel stocks by monitoring assessments and a satellite supported “black box system” is driven forward (240.000 DM yearly expenditures). They are dealing with ecosystem changes and <b>natural processes</b>. Besides documentations of all fishing and cultivating activities are carried out (detailed fishing and landing quantities). To respect the carrying capacity of nature -which in the case of the mussels is the most diverse and productive elements of the Waddensea -sea ducks are not allowed disturbing. Therefore the industry has to pay a annual fee of 460.000 DM.(before that 30.000 DM). Monitoring is being held in close coordination with the Fishery</p>

<p><b>economically sound in the long run.</b></p>	<p>Office and especially the National Park Office.</p> <p>The basis for the decisions made was a five-year interdisciplinary ecosystem research project. The knowledge out of this laid the basis for a draft program for the mussel fishery in 1995.</p> <p>Permissions for landings exist for mussel banks that will presumably washed away by winter storm and extreme surges.</p> <p>The regulating issue to leave out the mussels from the eulitoral results in a more intensive and concentrated fishery of the sublitoral sometimes far-off the former banks. This raises the transport distance of landings and limits the ecological benefits.</p>
<p><b>(f)</b></p> <p><b>Involving all partners concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.</b></p>	<p><b>Horizontal cooperation:</b></p> <p>Public information campaigns are being held at the beginning of each mussel season about the situation of stocks and fishery. In the planning and operation phases the experiences of local mussel fishers are taken into consideration. The main body (National Park office) is involved intensively.</p> <p>The contract was concluded by the responsible bodies of the Ministry for Environment, Nature and Forestry, the Ministry for Rural Regions and the Mussel Fishery Association.</p>
<p><b>(g)</b></p> <p><b>Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of various existing policies. Partnership</b></p>	<p><b>Horizontal cooperation</b> across administrative body boundaries is limited. As the upper fishery agency the ministry is making the regulations (indeed in close collaboration with the local fishery industry) cooperation between other agencies or involved municipalities is limited.</p>

<b>with and between local, regional and national authorities should apply when appropriate.</b>	
<b>(h) Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.</b>	Policy instruments of the mussel fishery process in Schleswig-Holstein are basically grounded on the regulations for the mussel fishery industry in the Waddensea National Park, the federal fishery law and the regulations of the National Park Office. So there is a linkage between environmental as well as economical policies and EU regulations.

## Conclusion

The most remarkable element of the process behind the development of a new mussel fishery policy was a consensus based decision. This has a broad acceptance of the local fishermen and the public. The result is a broad conservation policy for the regional stocks which offers the fishermen the possibility to economically survive from the captures. On the other side the protection of a particular ecosystem service was driven forward. The process was opened while decision-makers and stakeholders were involved. The approach behind was a mixture of bottom-up and top town.

By responding to these broadly and strongly pronounced developments one can remark a high degree of achieving the goals of the EU principles.

## Documents

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## Gas Exploitation Netherlands

MAARTEN WEGEN

The Dutch government wants to realise a policy for the Waddensea that aims for sustainable development of the Waddensea as a nature reserve maintaining the open landscape. This means that the focus lies on nature protection, with limited human activities. In the third spatial planning decision the Dutch government states that economic development is one of its principle aims. The government decided that gas exploitation in the Waddensea area is necessary to (1) achieve sustainable energy development, (2) secure access to energy sources and (3) yield economic profit. It decided to exploit gas from three locations: Lauwersoog, Moddergat en Vierhuizen. The gasfields largely lie under the Waddensea and Lauwersmeer.

By testing the extent in which gas exploitation fulfills the requirements of the general principles of ICZM recommendation we can see to what extent the Dutch gas exploitation policy can be said to be integrated and sustainable. This research is necessary and useful because (1) the national governments decided to implement the ICZM recommendation and should, then, follow the policy implications that flow from the recommendation, (2) there should be similar policy arrangements in Germany and Denmark regarding the policies and activities that are taking place in the Waddensea area and (3) by comparing several case studies recommendations and conclusions can be drawn about the compatibility of ICZM and the coastal activities.

EU ICZM Principle	Gas Exploitation
<p><b>(a) A broad overall perspective (thematic and geographic), taking into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas</b></p>	<p>The policy objectives and the organisation of governance can be described as having an overall perspective. Sustainability was the core objective of the Dutch Waddensea policy. This means that the focus lies on the ecological dimension with limited human activities. This is the overall Dutch objective for the entire Waddensea area. Together this ensures that ecological, economic and social interests have been considered in the decision to exploit gas from under the Waddensea.</p>
<p><b>(b) A long-term perspective which will take into account the precautionary principle and the needs of present and future generations</b></p>	<p>From the Dutch policy objectives for the Waddensea it has become clear that gas exploitation in the Netherlands can only take place within the ecological boundaries. By monitoring the effects of gas exploitation, and limiting or ceasing all activities if negative effects become apparent, the precautionary principle has been taken into account. The ecological boundaries that limit the extent of gas exploitation, also show, that the needs of future generations have been accounted for. Gas exploitation is undertaken by the Dutch government to secure access to energy sources, to make use of the infrastructure that is in place today and to make economic gains. The Dutch policy for gas exploitation is based on the 'small field policy'. This policy aims to ensure that small gasfields are exploited first. Possible extra</p>

	costs and differences in supply and demand are compensated by the Dutch government by making strategic use of the largest Dutch gasfield, the 'Groningerveld'.
<b>(c) Adaptive management during a gradual process, which will facilitate adjustment as problems and knowledge develop. This implies the need for a scientific basis concerning the evolution of the coastal zone.</b>	An environmental impact assessment has been carried out to research to what extent gas exploitation could result in (lasting) negative effects for the Waddensea area. It has been agreed that monitoring and control of the gas exploitation and its effects will take place regularly. An audit commission, consisting of scientists, has been created to achieve this. The effects will thus be measured and monitored on a scientific basis. The outcomes will lead to policy changes if necessary. Additionally, it has been agreed that gas exploitation will be limited or ceased altogether when negative effects are foreseen.
<b>(d) Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures.</b>	The gas reserves are located under the Waddensea, however the extraction facilities are located on the mainland. The Waddensea area is a unique area. It is the objective in the spatial planning decision of the Waddensea to keep it unique. An environmental impact assessment has been carried out to investigate to what extent gas exploitation could result in (lasting) negative effects for the Waddensea area. The conclusion was that effects will not have a significant effect on the environment. For that reason, and under the condition that the exploitation is done from the land (deviated drilling) a permit has been given. In addition it was agreed that in the event that significant negative effects are detected, gas exploitation will be limited or even stop immediately.
<b>(e) Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run.</b>	From the formulated Dutch policy objectives it is apparent that the focus lies on nature and ecological protection, without neglecting the social and economic processes. The fact that in sustainable development, nature and ecological conservation determine the limits of social and economic development shows that this objective has been satisfactorily met. In addition, the policy has been done on the basis of much research regarding the effects on flora- fauna and geological processes. (for example the increase or decrease of sand in de Waddensea area).
<b>(f) Involving all partners concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in</b>	In the entire process from planning till implementation (and in court) stakeholders such as the NAM, Natureprotection organisations and private people have been consulted, heard and involved. Also, the monitoring and auditing will be done by an independent commission.

<p><b>the management process, for example by means of agreements and based on shared responsibility.</b></p>	
<p><b>(g) Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of various existing policies. Partnership with and between local, regional and national authorities should apply when appropriate.</b></p>	<p>The indicator concerning vertical cooperation has shown that in the gas exploitation case cooperation between ministries has taken place. There has been extensive consultation between the ministry for Spatial Planning and Environment, the ministry for Agriculture and Nature and the ministry for Traffic and Water. Secondly the Dutch municipalities and provinces have an active role in the management of the Waddenpolicy. Lastly, the Dutch parliament has been engaged actively in the process leading up to and beyond the decision to exploit gas.</p>
<p><b>(h) Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.</b></p>	<p>As has become apparent in the analysis of the level of sustainability and governance structure, many different instruments have been used. The instruments include the following: the spatial planning decision, national and international nature legislation such as the Bird- and Habitatdirective, control, monitoring and evaluation of the environmental effects of gas exploitation. More detailed arrangements are made in the Waddenmanagementplan, which includes the Dutch municipalities and provinces.</p>

## Conclusions

- The Dutch gas exploitation policy (theoretically) meets the requirements of sustainable development to a very large extent. The conclusion that it ‘theoretically’ meets the requirements is based on the fact that ecological, economic and social effects and consequences of gas exploitation are not yet fully known or measured, due to the recent start of gas exploitation (September 2007). The measure of uncertainty regarding the effects of gas exploitation on geologic processes, flora and fauna has been accepted by the highest Dutch court. This however, makes the monitoring of effects and possible ceasing of activities essential.

The legislation and policy covers all social, economic and ecological aspects. The ecological aspect, including nature protection, is largely covered by legislation. The

social and economic aspects are mainly covered by policies. This means that the ecological aspect is guarded by strict legislation that can be enforced, whereas the achievement of the social and economic policy aims remains to be seen.

- The process of decisionmaking and implementation can be said to be 'integrated'. Horizontal cooperation between different departments, vertical cooperation between municipalities, provinces and government and stakeholder inclusion have taken place. Secondly, sustainable development and the balance between the ecological, social and economic aspects have been taken into consideration.
- We can conclude that gas exploitation has fulfilled the general principles of ICZM in a satisfying manner. All of the principles have been considered and fulfilled. Gas exploitation can be said to be compatible with the ICZM recommendation, even though there is no official Dutch ICZM strategy.

## Mussel fisheries Netherlands

MAARTEN WEGEN

Mussel fishery policy is part of the larger and more general policy for shellfish fishery. In the 'shellfish fishery policy decision' the Dutch government formulated the policy aims for 2020. The government aims for a shellfish fishery policy that ensures a economic remunerative fishery sector, that maintains or improves flora and fauna. For mussel fishery in particular the government want to create conditions that ensure that the dutch mussel fishery sector maintains its national and international market position. To achieve economic and ecologic sustainability in 2020, the sector must invest in sustainable production techniques. The policy will be evaluated several times.

By testing the extent in which mussel fishery fulfills the requirements of the general principles of ICZM recommendation we can see to what extent the Dutch mussel fishery policy can be said to be integrated and sustainable. This research is necessary and useful because (1) the national governments decided to implement the ICZM recommendation and should, then, follow the policy implications that flow from the recommendation, (2) there should be similar policy arrangements in Germany and Denmark regarding the policies and activities that are taking place in the Waddensea area and (3) by comparing several case studies recommendations and conclusions can be drawn about the compatibility of ICZM and the coastal activities.

EU ICZM Principle	Mussel fishery NL
<p><b>(a) A broad overall perspective (thematic and geographic), taking into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas</b></p>	<p>The guidelines for activities in the Waddensea area are given in the spatial planning decision for the Waddensea. Ecological and nature protection is the leading guideline, however limited human activity is allowed. The allowance of human activities is the policy basis for fishery in the Waddensea (Pkb Waddenzee). To limit the effects that fishery has on the Wadden ecosystem, the Dutch government has made it clear that innovation and sustainability of the shellfish sector are the most important aims of the Dutch shellfish-fishery policy until 2020 (Beleidsbesluit schelpdiervisserij 2005-2020). A substantial amount of the responsibility to achieve this aim lies with the shellfish fishery sector itself.</p> <p>In her response to the shellfish-fishery policy 2020, the Wadden advisory Board (Raad voor de Wadden) has concluded that the policy objectives for 2020 are not clear enough and too little to achieve sustainability and innovation in 2020. According to the Wadden Advisory Board the current innovations are taking place are on a problem-solving level rather than on the basis of clear policy objectives.</p>

<p><b>(b) A long-term perspective which will take into account the precautionary principle and the needs of present and future generations</b></p>	<p>In the policy decision 2005-2020 the Dutch government has formulated policy objectives for the shellfishing sector. The objectives are: a perspective for the future, sustainability of economic activities to develop ecological, economic and social functions and innovation. These objectives are long-term objectives. For example, the recent experimental mussel-seed installations (MZI's) are to developed to a commercial level by 2020. There is a shortage of musselseed due to bad 'harvests' in recent years and due to limitations of musselseedfishing. MZI's are considered a sustainable alternative to the traditional fishing of mussels, because musselseed is grown in installations which makes fishing for musselseed less necessary.</p> <p>One of the problems encountered in achieving a sustainable level of fishing in the Waddensea are the short term licences that are given. Sustainable development needs investment. Investment needs security regarding the future. Short term licences do not provide the security needed to fund investments.</p>
<p><b>(c) Adaptive management during a gradual process, which will facilitate adjustment as problems and knowledge develop. This implies the need for a scientific basis concerning the evolution of the coastal zone.</b></p>	<p>The implementation of the policydecision 2005-2020 will be evaluated in 2008 and 2014. In the field the management of mussel fishery will be regulated and controlled by issuing half-yearly licenses. In addition the licensing procedure requires a sound scientific basis. Research is carried out by Probus, an initiative of the ministry of agriculture and the mussel fishery sector itself. Probus looks at the effects of shellfish fishery on sublittoral mussels and the carrying capacity of the ecosystem. It aims support sustainable development of shellfish fishery. Control and monitoring are taking place through the licences and in the field. Some matters that are taken into consideration are: the carrying capacity of the ecosystem, the needs of shellfish eating birds and the natural function of mussels in the Waddensea.</p> <p>The adaptive management is taking place on the best available knowledge. This knowledge is provided by the fishing industry during the licence proces and by independent research. The difficulty is relating causes and consequences; hence the large amount of research being done..</p>
<p><b>(d) Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their</b></p>	<p>The policy decision is based on the EVAII research that looked at the effects of shellfish fishing in the Netherlands in particular. Stakeholders were also included in this process. Secondly, the Waddensea is a Bird- and Habitatdirective area. This makes the licensing-procedure compulsory, which takes into account the</p>

<b>practical needs with specific solutions and flexible measures.</b>	local and natural characteristics of the area. The management plan for the Waddensea (beheerplan Waddenzee) will further develop policy guidelines regarding the local and natural characteristics in detail.
<b>(e) Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run.</b>	Mussel fishery is taking place in the area that is covered by nature-protection legislation, including the relevant EU-directives. These directives are decisive factors in the policy decisions that are taken. The legislation results in a compulsory licensing procedure. In this procedure a distinction is made between spring and autumn fishing and the exact location where fishery is taking place. In addition the necessity for food by birds is taken into account when setting fishing-quota. In addition, MZI's will be used as an alternative to mussel seed fishing.
<b>(f) Involving all partners concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.</b>	<p>In planning stage of the policy decision 2005-2020 research into the effects of shell fishing was done. Stakeholders such as nature protection organisations and the mussel fishing sector were included. In addition, when the policy decision was formulated, stakeholders such as the EVA II policy advisory group (Beleidsadviesgroep EVAII), the Wadden advisory Board (Raad voor de Wadden) and the general advisory group for Wadden policy Adviesgroep Waddenzeebeleid, were heard.</p> <p>The Dutch government has involved the mussel fishery sector in the shellfish policy. It has made the sector responsible and accountable for development of innovation and sustainability. In response the sector has established a foundation for sustainable development of the shellfish sector.</p>
<b>(g) Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of various existing policies. Partnership with and between local, regional and national authorities</b>	<p>Horizontal cooperation has been agreed in the spatial planning decision, and is taking place between the ministry for Spatial Planning and Environment (VROM), the ministry of Agriculture and Nature (LNV) and the ministry for Traffic and Water.</p> <p>To a small extent vertical cooperation is taking place. The role for municipalities and provinces is limited. The Wadden Advisory Board concludes that a more important role should be given to municipalities and provinces. Especially when regarding sustainable social-economic of the region.</p>

<p><b>should apply when appropriate.</b></p>	
<p><b>(h) Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.</b></p>	<p>In the policy and management of mussel fishery several different policy instruments are used. Nature protection legislation from the Bird- and Habitat directive is used when licenses are issued. The most important policy instruments are the Spatial Planning decision, and the policy decision for shellfishing 2005-2020. For example some areas are designated where fishing is allowed whereas other areas, such as the eastern part of the Waddensea, are closed to fishing. Lastly, scientific research is used, such as the evaluation and experimental use of mussel seed installations and Prodis.</p>

**Conclusions**

- A conclusion that can be drawn on basis of the above is that mussel fishery policy partly fulfills the general principles of ICZM. The principles regarding adaptive management, working with natural processes and local specificity and the use of a combination of instruments are covered well.
- To a lesser extent the holistic perspective and long-term perspective are fulfilled. This is also the critique by the Wadden advisory board. The policy objectives for 2020 are too vague and too little. Secondly the developments to achieve innovation and sustainability seem to be more ‘problem oriented’ than based on a clear vision for the future. What is lacking most is a strong motivational force that forces developments along. Today developments are mostly the consequence of external factors, such as the Bird- and Habitat legislation from the EU.
- Mussel fishery is a difficult topic for research. Firstly the reasons for this is the difficulty in establishing a causal connection between activities in the Waddensea and the effects on mussel banks. There can be several external effects that can influence the number and quality of mussels. Secondly the mussel fishery policy needs to be seen within the larger context of shellfishing policy.