



Plans and Measures

Findings of Work Package 7



Introduction

The SUStainable COastal Development (SUSCOD) project aims to make a step change in the application of integrated coastal zone management (ICZM). One of the work packages focusses on translating strategy and policies into action. This report describes the final outcomes and learning points of this work package.

Work package 7 focusses on the uptake of policies and strategies into real plans. It relates to work package 3 'state of the art inventory' of this project, and has a close relation to the findings of work package 6 'integrated concepts and strategies'. Per project partner, an analysis was made of their status on ICZM (ref: the ICZM report). This analysis served as a starting point for the project partners to enhance their ICZM implementation. Per partner, progress has been reported and overall conclusions on the partner's progress has been formulated.

Last, but not least, three detailed studies on specific case study challenges have been made by the partners of Fife, Sjealland and Bohuslän. These results can be found in the last chapter of the report.

We wish you a pleasant and useful reading,

On behalf of the project partners,

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Agency for Maritime and Coastal Services

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sustainable coastal development



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1 | Summary

Measuring progress is a difficult thing. Especially when working with processes that cannot be measured by numbers. To grasp the progress made by partners on their implementation of ICZM in depth discussions were needed. The State of the Art Inventory (WP3) analysed the state of ICZM in the participating partner regions with a concrete focus on the implementation in their case study areas. WP7 used this information as a baseline, from where progress could be measured. Consistent with the approach in WP3, the eight ICZM principles were used to guide the discussions.

The progress of the individual partners was discussed during regular meetings for the duration of the project. Per meeting, 2 to 3 partners were asked to present their cases, and elaborate on progress and problems they had encountered. This fed a fruitful discussion among the partners. Partners learned from each other's process and approach, and got valuable feedback in return.

The meetings were often combined with a meeting of work package 6, on 'Integrated Concepts and Strategies'. In the project's opinion, one should follow the other. Whereas WP6 focusses on the definition of goals, concepts and strategies, WP7 focusses on the actual uptake and evaluation of the devised strategies under WP6. It's a cyclical process, where adaption can be aided via a learning process (WP7) – accepting that situations do change and changes of strategies (WP6) can be necessary.

In addition, three detailed studies on specific case study challenges have been made by the partners of Fife, Sjealland and Bohuslän.

All the results can be found at www.iczmassistant.eu.

2 | Methodology

The progress of the individual partners was discussed during regular meetings for the duration of the project. Per meeting, 2 to 3 partners were asked to present their cases, and elaborate on progress and problems they had encountered. This fed a fruitful discussion among the partners. Partners learned from each other's process and approach, and got valuable feedback in return. The discussion was based on the suggestions done during the State of the Art Inventory. The coordination centre on ICZM evaluated each partners' status on ICZM. Feedback was also given by the other project partners. Therefore, this was acknowledged to form a sound basis for further analysis. The same process, following the eight ICZM principles, was applied to structure the follow-up of the progress by the partners.

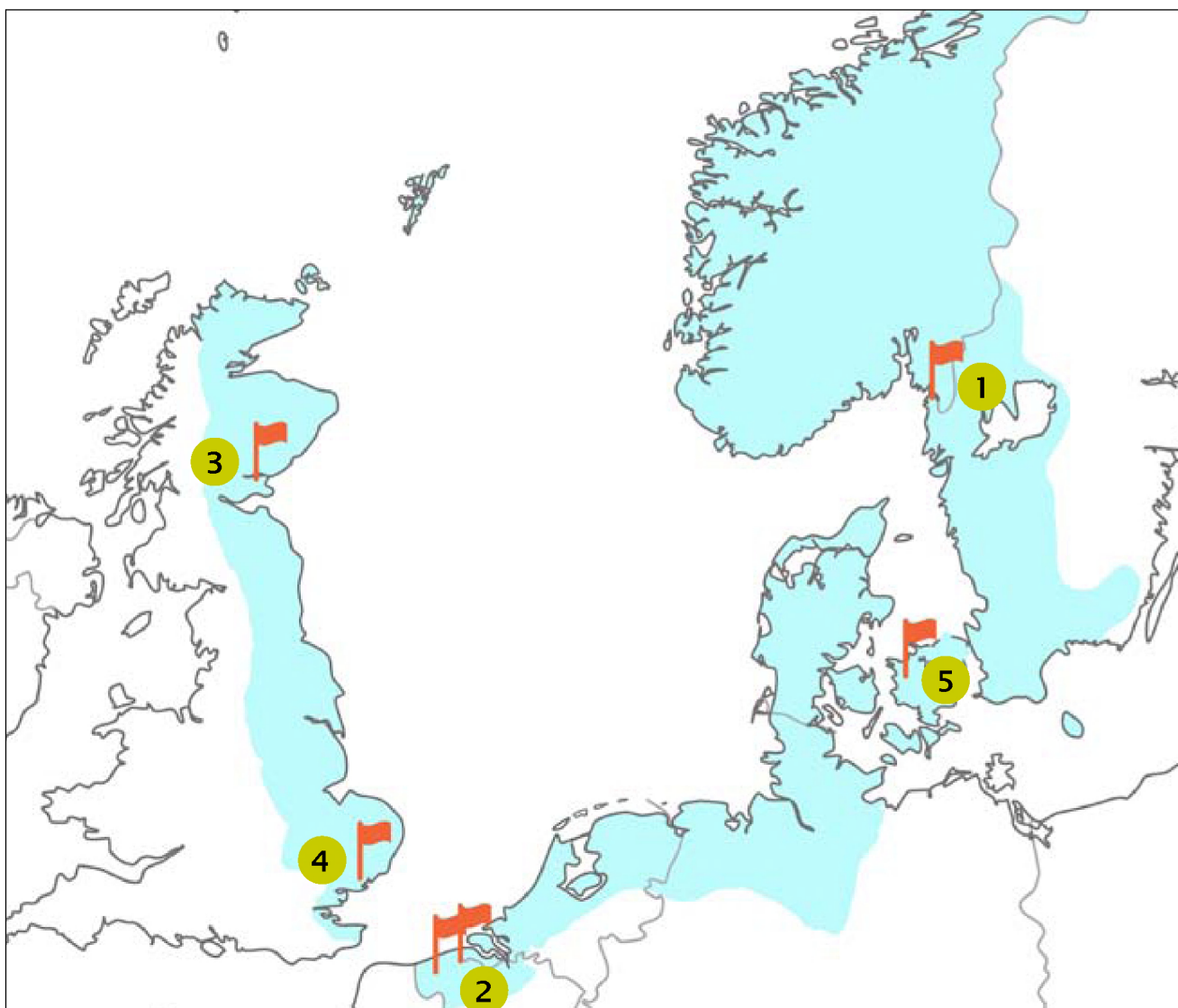
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The partners involved were:

- Belgian Case: the Agency for Maritime and Coastal Services (abbreviated as MCS)
 - Working with the Coordination centre for Integrated Coastal Zone Management (CCICZM)
- Swedish case: the city of Stömstad (abbreviated as CoS)
- Scottish case: Fife Coast and Countryside Trust (abbreviated as FCCT)
- English case: Essex County Council (abbreviated as ECC)
- Danish case: Region Sjaelland (abbreviated as RS)
 - Working with Lolland Municipality and Odsherred Kommune.

The Dutch partner, the Province of North-Holland, participated as an active observer. Officially they were not involved in work package 7, but they participated in the feedback giving process. As a 'thank you' the partners reviewed one of their cases unofficially in return.

Region, Country	Partner	Contact
1 Bohuslän, Sweden	Municipality of Strömstad	Lena Boman boman.ark@gmail.com
2 Flanders, Belgium	Agentschap voor Maritieme Dienstverlening en Kust (MDK) – Afdeling Kust	Michaël Pauwels, michael.pauwels@mow.vlaanderen.be
3 Fife, Scotland, UK	Fife Coast and Countryside Trust	Julian Inglis, julian.inglis@fifecountryside.co.uk
4 Essex, England, UK	Essex County Council	Hilary Rowlands, hilary.rowlands@essex.gov.uk
5 Sjaelland, Denmark	Region Sjaelland	Mikkel Østergård, mo@regionsjaelland.dk



Eight Principles of Good ICZM

Principle 1: A broad overall perspective (thematic and geographic) which will take into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas.

Principle 2: A long-term perspective which will take into account the precautionary principle and the needs of present and future generations.

Principle 3: 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.

Principle 4: 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.

Principle 5: 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.

Principle 6: Involving all the parties 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.

Principle 7: 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 the various existing policies. Partnership with and between regional and local authorities should apply when appropriate.

Principle 8: Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.

3 | Progress and lessons learnt per partner

Per partner a description of the case study will be provided, before continuing to the progress, and lessons learnt. The progress has been measured against the state of ICZM reported on in the state of the art inventory.

Bohuslän – Sweden

Introducing the Bohuslän case

The five municipalities in northern Bohuslän have been working together since 2004 dealing with questions of sustainable coastal development. Contacts have been established and a network has been formed across the borders of the municipalities. Spreading the knowledge and developing and deepening skills in the various municipalities and agencies has been essential. Also, there is a need to exchange experiences and knowledge between national, regional and municipal levels, and to bring existing projects and research results to operational levels.

One of the milestones for the SUSCOD project in northern Bohuslän is to promote the common strategy document for sustainable coastal development. The strategy represents the overall conclusions of the coastal zone management and rural development project. The chairmen and the opposition of the municipalities, who together form the steering group for “Growth of Bohuslän” (Tillväxt Bohuslän), produced the agreements in the autumn of 2009.

In the SUSCOD project the focus has been on developing an action plan based on this strategy document from 2009. In practice, the SUSCOD cases have been a resource in the implementation of the strategic plan and in the field of sustainable growth for the north of Bohuslän. The goal has been to create an atmosphere throughout the municipalities that will live beyond the project.



Good communication between the municipalities and the stakeholders/public has been essential. The ongoing development of the action plan as a tool for municipalities to steer decision-making in a sustainable coastal development direction is needed to create long-lasting networks beyond any project. The action plan has been developed and updated during the process. One function for the action plan is to keep track of the projects and their purpose: do they meet the aims stated within the strategic plan? The action plan has been developed annually during the SUSCOD project, and has been dealt with within Work Package 7 (plans and measures). Within the action plan developed, one project is defined to meet the stakeholders and spread knowledge and awareness concerning a sustainable coastal development. So far, this has been done by a fair, focusing on an all year living Bohuslän. This project falls under Work Package 8 (stakeholder involvement). More information on Bohuslän can be found at www.iczmassistant.eu.

Progress and lessons learnt in Bohuslän

The progress will be reported based on the suggestions made in the State of the Art Inventory (work package 3).

Principle 1: Overall perspective

Suggestions by the State of the Art Inventory:

- Build on the knowledge acquired in other projects and to make the link with the pilot area studied in SUSCOD. The different projects have to be looked at jointly to see and fine-tune the different perspectives and questions/ aim/ goals in common.
- Give special attention to the connection between the sea – the coast line - and the hinterland and to the link with the neighbouring areas.

Progress reported/lessons learnt:

- Reflecting on the comments given in the ICZM analysis the plan could have had a better thematic focus, maybe it could be narrowed down in the future. It could be a more thematically focussed document, currently the document touches upon too many subjects and themes at once.

Principle 2: Long-term perspective

Suggestions by the State of the Art Inventory:

- More need for long-term planning by the decision-makers, taking into account the impact of today's actions on the future generations. At present there still is the tendency to work with ad hoc solutions: what is best now, and how can we stimulate the economic interests now, focussing on the present and not of the future effects.
- The strategy is a good instrument for engaging the municipalities. Linking it to legislative instruments and existing policies could make it stronger.

Progress reported/lessons learnt:

- Reflecting on the comments, the ongoing development of the action plan - which correlates with the strategy document - works as a tool for municipalities to steer decision-making in a sustainable coastal development direction. This is needed to create long-lasting goals beyond any project.

It should be taken into account that Sweden's Planning and Building Act (Plan- och Bygglag, PBL) requires that

every municipality have to do an up-to-date comprehensive plan covering the whole municipality, considering national and regional objectives -together with detailed development plans and area regulations. The local self-government can therefore sometimes be difficult to match with the long-term planning in common projects in the organisation Growth of Bohuslän. Most often the municipalities in northern Bohuslän have similar goals though. After all, the municipalities are struggling with the similar problems, besides, there are many benefits for the municipalities working together. Through the common organisation Growth of Bohuslän – and through project SUSCOD in particular - the “voice” of the municipalities have become stronger and therefore been able to create an important network with operators on the regional and national level.

Principle 3: Adaptive management

Suggestions by the State of the Art Inventory:

- The statistics and measurements within the project can be used as a basis to develop sustainability indicators specific for the coast. At present, no indicators are used, but it seems the data is available to develop them.
- The SUSCOD partner in Bohuslän is very aware where the ICZM approach can be improved and mentions the shortcomings in the questionnaire. This could be used to set up a risk register, in which the obstacles or possible failings factors are recognised. The risk register is a good tool to improve, evaluate and monitor the progress of the ICZM process.

Progress reported/lessons learnt:

- Descriptive monitoring is used to watch the process and implementation of the plan. Perhaps indicators could be linked to monitor the process (more) objectively.
- A risk register has not been developed for the Bohuslän case. The Belgian partners (MSC) have developed a risk register for the masterplan for coastal safety. An inventory was made of the risks (e.g.: Is there a plan? How about communication? Budgets? policy level agreements? Do all the engineers know enough about the work they have to coordinate? ... etc.). 15 indicators were determined – which mostly focus on the implementation phase. This risk register feeds back every two years to the policy makers. It is a good check for your organisation. It is also recommended to have the risk analysis and register done by an external person – to prevent biased judgement. This could be used in the Bohuslän case as well.
- General comment: the Bohuslän case is a very good example of adaptive management. It keeps you sharp and targeted, they constantly check and revise.

Principle 4: Local specificity

Suggestions by the State of the Art Inventory:

- It is stated that the philosophy of the project in Bohuslän is “sustainable development”, and the structure plan for the coast and the country side development plan are used as a basis. It would be useful to specify how sustainable development is dealt with in these two documents – how are they linked to sustainable development. Is there an evaluation framework? The main focus seems to be on “economic sustainability” and in some cases environmental issues, but social aspects are only dealt with marginally.

Progress reported/lessons learnt:

- The document focusses on several types of sustainability, but the main focus seems to be on economic sustainability, and less on social sustainability. The latter could be useful for focussing the minds of politicians by using social sustainability indicators.

- In the future interviews will be held with people migrating away from the area (why do you go, where do you go, what do you lack, etc). The focus will remain on the 5 local municipalities.

Principle 5: Working with natural processes

Suggestions by the State of the Art Inventory:

- The partner mentions the importance of mapping conflicts and the need for balancing development and preservation/conservation => it is advised to conduct a conflict analysis and develop a framework for decision making.

Progress reported/lessons learnt:

- A conflict analysis was made in 2008¹⁾. This analysis from 2008 should be discussed within the Growth of Bohuslän and updated continuously, from which a framework for decision making can be made.

Principle 6: Involving all the parties

Suggestions by the State of the Art Inventory:

- The participation is mainly directed towards inhabitants. It is advised to also consult other stakeholders in the area such as NGO's, touristic actors, economic actors. A stakeholder analysis will help to define the main stakeholders and their importance.

Progress reported/lessons learnt:

- The information needed for the action plans came from the municipalities and the thematic groups. They were interviewed by the city of Strömstad, so the people provided all the input, not the city of Strömstad. This might be the reason why the action plan has been endorsed. The formulation of the action plan was very tangible and practical.
- Also the political opposition have been consulted. Many projects or people only talk to those in charge "at the moment". For long term plans it helps to include the opposition as well, as you never know how the political climate might change. The opposition also keeps the leader on track.

Principle 7: Involvement of relevant administrative bodies

Suggestions by the State of the Art Inventory:

- The county level works very actively with the municipalities (lower authorities) but the link and involvement of the higher authorities should not be forgotten (national, European framework).

Progress reported/lessons learnt:

- Policy makers are involved in the process having an influencing role. They signed up to certain statements and policies. Revising the plan and re-endorsing it will make them conscious of their previous statement and commitments. It is a quite intensive but vital part of the plan. This concerns the policy makers on county levels, the higher policy levels are not involved.

¹⁾ <http://www.tillvaxthohuslan.se/download/18.75bd920713d1b2edfb614af/1362393989021/Omvärldsanalys+för+norra+Bohuslän.pdf>

Principle 8: Combination of instruments

Suggestions by the State of the Art Inventory:

- No suggestions made.

Progress reported/lessons learnt:

- No developments reported.

Flanders - Belgium

Introducing the Flanders case

With a length of 67 km, Belgium has a limited coast of which each kilometre is intensively used. The existing sea defence structures in several coastal towns in Flanders have to be strengthened. One third of the coastline is insufficiently protected against erosion and storm impacts. The main reason for the low level of protection at the weak links in sea defence are low-lying sea dikes and quay walls. A master plan has been prepared which proposes general solutions to improve the coastal safety against flooding, with a time horizon up to 2050, and detailed plans with full application of the ICZM principles are being prepared. The execution of the master plan is planned in the period from 2010 to 2015.

Out of the ten coastal cities, the two very diverse weak links De Haan-Wenduine and Zeebrugge were selected as Flemish SUSCOD pilot cases. In both of them, mutual cooperation is needed to balance the needs of different interest groups in designing protective measures. Beside the inhabitants of both areas, two other main stakeholders are to be discerned in the steering groups for the pilot cases. The local government, which also co-funds the design process of the protective measures and at the same time is a strong communication link to the inhabitants; and the port authority and tourism industry, respectively for the commercial harbour of Zeebrugge, and De Haan-Wenduine.

De Haan-Wenduine is a small town with a roundabout seawards of the dike which is a popular place for fishermen. At De Haan-Wenduine the sea dike is low lying (one of the lowest at the entire coastline) combined with a partial seaward extension of the sea dike causing overtopping even during smaller storm events. During a storm event erosion and combined overtopping of the sea dike can cause major coastal flooding of the hinterland. Zeebrugge is one of Belgium's four harbours and a peculiar crossroads, as residential areas intertwine with industry and constant development. From a coastal protection point of view, this functionally low lying part of Bruges forms an interesting assignment as well, with its many simultaneously designed projects to consider and its strong need for accessibility.

In De Haan-Wenduine and Zeebrugge ICZM is ensured through stakeholder representation in the steering group for the design of the protective measures, as well as through instances of communication (using numerical and physical models) at crucial stages of the design process.

More information and background information can be found at www.iczmassistant.eu.



Progress and lessons learnt in Flanders

The progress will be reported based on the suggestions made in the State of the Art Inventory (work package 3).

Principle 1: Overall perspective

Suggestions by the State of the Art Inventory:

- The link coast (beach-dune strip)-hinterland is foreseen, but the marine and seaward effects of the strategic plan is considered to a lesser degree. However, the Plan will also impact activities in the marine environment. An integral approach is needed.

Progress reported/lessons learnt:

- Since the state-of-the-art report no more thought had been given to the marine and seaward effects.

Principle 2: Long-term perspective

Suggestions by the State of the Art Inventory:

- Budget costs for implementation and foresee budget from an early phase (not enough budget available for implementation of the plan). Pressure from outside helped in pointing out to the Minister that budget was needed.
- Time Horizon for the Plan is rather short (2050) – need for longer term perspective cf. The Netherlands consider 200 year perspective and more.

Progress reported/lessons learnt:

- The costs for dredging and future beach nourishments are considered, but in a different study. It could be integrated in the plan itself.

Principle 3: Adaptive management

Suggestions by the State of the Art Inventory:

- Monitoring and evaluation is mainly considered from a coastal defence point of view. It is recommended to also consider other effects such as natural effects, social etc.
- The goals are mainly set only from a coastal defence point of view (safety level).
- Social, economic and ecologic goals have been set, which is positive, however the coastal defence goals still dominate strongly (safety level). The ecological goals could be more ambitious, the plan has potential for an improvement of the natural habitat. Setting goals together with other sectors would improve the integrated character of the plan (principle 3 and 5).

Progress reported/lessons learnt:

- Other sectors have been involved when further developing the safety measures. For instance, the architectural design of the measures are considered very important. Gaining enough support of the community is important, therefore the design needs to have added value to contribute to the area. For the pilot project of Zeebrugge a definition of added value is being developed (dd August 2013). Zeebrugge is such densely used area that each area must have some added value for the community.

Principle 4: Local specificity

Suggestions by the State of the Art Inventory:

- The stakeholders, administrations and local communities are involved in the study phase of the master plan Federal and regional authorities, but they take a rather passive role instead of a proactive one. Instead of thinking along with the engineers and designers they wait for the proposals. One reason for this is possibly that local politicians expect that all measures will be paid for by the Flemish government thus giving them no right for expressing their wishes. Ways for stimulating active participation need to be considered.

Progress reported/lessons learnt:

- Actively involving other administrations/stakeholders remains a challenge. In both the pilot projects (Wenduine and Zeebrugge) the city councils have been actively involved, although one of them took a little longer and needed a bit more persuasion than the other (Wenduine). The council of Zeebrugge has been very active from the start when working on the design.

Principle 5: Working with natural processes

Suggestions by the State of the Art Inventory:

- Social, economic and ecologic goals have been set, which is positive, however the coastal defence goals still dominate strongly (safety level). The ecological goals could be more ambitious, the plan has potential for an improvement of the natural habitat. Setting goals together with other sectors would improve the integrated character of the plan.
- Natural processes have been taken into account mainly in terms of erosion, but this aspect could be worked out in an integrated way e.g. also looking at natural processes in dune areas, natural developments of beaches.

Progress reported/lessons learnt:

- When the dikes are broadened the beaches will be increased in width as well.

- There is a clear distinction between landline and marine policy. This is something Flanders could work on.
- Concerning designated areas and nature compensation (regarding nature and ecological aspects) MCS explains the way they work by using an example: for instance, more attention could be paid to a certain dune area. There is a bird habitat in Zeebrugge, a harbour area at the coast of Flanders. Beach nourishment requires for nature compensation. There are only four suitable sites for nature compensation along the Belgian coast. Flanders is doing research on the possibility of using lighter grain sand for beach nourishments. The benefit is that probably no nature compensation should be done, but the cost of nourishment will increase.
- International nature compensation is an interesting approach, but not always feasible for all partner areas. The Dutch-Belgian border area of Het Zwin is a successful example. The UK states that cross-county compensation possess a problem at times in their experience.

Principle 6: Involving all parties

Suggestions by the State of the Art Inventory:

- The discussion on safety measures often means 'a discussion about budgets'. Local communities wait for the proposal of safety measures by the Coastal Division before they communicate their wishes and their possible contribution to the budgets. They wait because they know the Coastal Division will finance their own proposal. Coastal communities will try to incorporate their wishes in a second step. The safety measures of the Coastal Division are designed as 'boring, grey' solutions to guarantee a minimum safety standard without an architectural consideration of the design. It would be better to start with integrated solutions, supported by all parties for which a budget plan is discussed directly.

Progress reported/lessons learnt:

- There should be a more integrated vision for the coast, this is now being considered via the European Coastal Communities 2150 project (2 seas programme). There should be more coordination and interaction between sectors.

Principle 7: Involvement of relevant administrative bodies

Suggestions by the State of the Art Inventory:

- No remarks

Progress reported/lessons learnt:

- It is unknown whether people are willing to pay for coastal protection. A survey was conducted a few years ago, but unfortunately of poor quality. Having knowledge about the willingness to pay could be interesting for future allocation of goods and services.
- Flanders has a history of the government always paying for coastal defence, totally different as to Denmark or the UK were (in some cases) the people have to pay. There is a changing attitude in the coastal municipalities, since now they are willing to pay as they have the benefits of it (i.e. opportunities for tourism).

Principle 8: Combination of instruments

Suggestions by the State of the Art Inventory:

- The process for the master plan for coastal defence is not imbedded in the spatial planning system, although spatial planning is important, for instance in relation to the present and future living areas. It is advised to link

the process to the spatial planning procedure in Flanders, the province of West-Flanders and at municipality (local) level.

Progress reported/lessons learnt:

- Although no official legislation has been changed some initiatives demonstrate that the further need for integration is acknowledged. For instance in November 2012 a meeting was held where people from various backgrounds (landscape architects, architects, spatial planners, and experts on coastal protection, marine life and tourism) joined forces while working on a vision on how the Belgian coast of the future could look like.

Fife – Scotland

Introducing the Fife case

Fife Coast and Countryside Trust (FCCT) selected North East Fife as its pilot project area, much of which is designated as the Firth of Tay – Eden Estuary Natura 2000 site. The area is part of a coastal sub-cell and, as a functioning natural unit, is well suited to the ICZM approach. The coastline is characterised by sandy beaches, sand dune systems and two river estuaries, and is one of the most important tourism and recreational areas on the East coast of Scotland. There is, however, no management scheme for the entire land, coastal and estuarine parts of the area. FCCT's objective is to contribute towards such a scheme through the SUSCOD project. Management plans exist for much of the area with the exception of the West Sands, St. Andrews, a key site for year-round recreation. The immediate task of the SUSCOD project was to focus on an integrated management plan for the West Sands area, including recreation.

The pilot project will apply, and further develop, best-practice techniques and experience from around the North Sea Region through a “hands-on” transnational team approach, and in particular contribute to the development and testing of the ICZM Assistant.

The six outputs from the pilot project address the specific needs of the project area:

- the development and implementation of a long-term management plan for the sustainable development of the West Sands beach and dunes
- the evaluation of options and recommendations for the protection and management of the closed landfill site and golf course at Out Head, using hard and soft engineering options and applying the model developed in the Interreg IIC project SUFALNET
- best practice for the design of a managed realignment in the Eden Estuary to increase intertidal habitat, meet local planning objectives and bring added economic benefits to local landowners through improved public access, recreation and interpretation facilities
- options for the innovative redevelopment of a major industrial site on the estuary to optimise economic benefits to the local area while maintaining the integrity of the Natura 2000 site
- detailed designs for “Gateway” visitor facilities at Guardbridge and Tayport to bring economic benefits to declining communities around the area
- a public information and education programme, and exhibits, to achieve responsible use of the dune area

More information and detailed plans providing background information can be found at www.iczmassistant.eu.



Progress and lessons learnt in Fife

The progress will be reported based on the suggestions made in the State of the Art Inventory (work package 3).

Principle 1: Overall perspective

Suggestions in the State of the Art Inventory:

- ICZM is practised with respect to coastal development projects in the project area. On the other hand, coastal development projects are generally handled through a sectoral planning approach. “The statutory framework for coastal management in the UK is primarily implemented through central government and the devolved administrations of Wales, Scotland and Northern Ireland. There is no overarching legislation that covers ICZM in the UK. Instead, the approach is currently sectoral.” There is need for overall ICZM approach. However, the sectoral plans could also integrate the ICZM principles voluntarily.
- In the pilot project Fife Coast and Countryside Trust is engaging with all of the stakeholders. At the Local Authority and National levels there is a need to engage with policy and development planning staff in both marine and land use planning sectors to better understand, and potentially influence, how coastal development can follow ICZM principles.
- The link between land and sea will require considerable work on the part of land and marine planning agencies, and this will be the acid test of how well ICZM will be taken forward in the future.
- The Shoreline Management Plan (SMP) is potentially a good instrument for supporting ICZM. The focus on coastal defence could be widened, and other aspects of coastal management could be drawn into the process. This could also lead to a more active involvement by the other parties. For the moment, the consulted parties just “come along” to the meetings, without real engagement.

Progress reported/lessons learnt:

- Fife choose a natura site, ecosystem based and contains all ICZM issues. There are two major estuaries in Fife, very economic important areas as well. Everyone was invited that FCCT could think of that had an interest in the respective sites. They wanted to form a partnership that could carry forward the project. About fifty people attended. The people created the action plan, aided by FCCT. The local politicians chaired the meetings. Details on the procedure can be found on the SUSCOD and FCCT website.
- It was unsure how local councillors would act on the plan. A partnership was set up: the West Sand partnership – which endorsed the 8 ICZM principles. FCCT wanted to make sure the users took their responsibilities and not just pose rules upon them. The physical dune restoration work that will be done in SUSCOD is a means of engaging the stakeholders. We worked with volunteers on the project. In March/April another Technical Workshop will be organised in light of the SUSOD project. FCCT is working a lot with Scottish Natural Heritage – they are the statutory body, it's in their responsibility. We want to show that our approach can be applied to other sections of the coast as well. We are setting up a coastal partnership to replace the coastal forum. Also work is done in cooperation with Abertee University to develop a programme that contains coastal indicators and climate change, to use as an instrument we can use in discussing with politicians.
- FCCT actively engages with land use policy and planning staff at all levels in the Local Authority (Fife Council - FC), and regularly engages with marine planning staff. The non-statutory SMP (shoreline management plan) was finalised in December 2011 by Fife Council. While it was subject to Strategic Environmental Assessment, took into consideration relevant EU Directives, and makes mention of ICZM, it was inevitably about policy recommendations on coastal defence measures, taking into account UKCP09 Marine & Coastal Projections.
- On engaging the public FCCT further explained: the SMP was done via a bid, an external consultant from the south of the UK did the review. The coast has been divided into units and different approaches (Hold The Line, Advance The Line, etc). The council choose often for NAI (No Active Intervention). People who are most involved are probably on the Steering Group of the plan already. The broader audience was not questioned or reached. Policy advice versus active involvement - you have to manage expectations. A person is needed that will carry the flag and promote the project. A respected senior person to push the process along. The Scottish coastal forum could have done more, they have all the knowledge. In FCCT the councillors have said they would raise this via the Scottish government and the MEP. More senior people should be paying attention.
- Linking to marine spatial planning: the targeted zone allows us to contact both land and marine planning experts. On the landside there is an awareness on ICZM. It is very closely linked to legislation and regulations – ICZM is not their job. MSP is done by Marine Scotland (Scottish government). Recognition of harmonization of MSP and SP, but it's just a notation – no progress yet. Land use planning goes to the low water mark, marine Scotland deals from the high water line. But they don't want to interfere with the local governments. It was pointed out by the SUSCOD partners that it is a common experience in the EU to link ICZM and MSP. People say they should be linked, but they are still struggling on how to do so.

Principle 2: Long-term perspective

Suggestions in the State of the Art Inventory:

- It is not known at this stage how the partnerships now in place will have the intended impact. Transnational cooperation will be invaluable as it will reinforce the need for long term perspectives and the need for a precautionary approach, particularly at a time of severe resource constraints. Once the Shoreline Management Plan is finalised, and the West Sands Plan reviewed by the Local Authority and statutory agencies, it will

be necessary to modify and improve the project. Planning is a process, so continuous modification and improvement is crucial.

- After Scottish Enterprise withdrew its funding due to “other priorities”, the protection of ecological sensitive sand dunes is jeopardised. Look for long-term engagement for financing ICZM.

Progress reported/lessons learnt:

- There has been made a pragmatic choice for a timescale up to 2025 for the SMP and other plans. Felt to be long term by the partnership. Things should remain in the realm of what we can deal with. A timespan of 20 to 30 years is found to be acceptable of other plans as well – it fits in. Is it a rolling long term perspective, regular reviews – and what after 2025? The IPCC reports form a basis for local decisions. Also, people tend to have fatalistic approach to plans that are too much long term. Why care if it will flooded anyway? So working with dates more tangible can improve people’s willingness to cooperate and work with the project. No consensus either in science, what is happening now and what will happen due to what in the future?
- Different action plans require different review cycles. Review cycles have been predetermined. The soft engineering approach leaves room for quick adaption when considered necessary. Note MCS: the ecological effects of repeated nourishments is not always better for the environment. It depends on grain size for effectiveness of the nourishments, but also the negative impact on the ecosystems by regular replenishments. Also different policy sectors have different main goals they want to achieve.

Principle 3: Adaptive management:

Suggestions in the State of the Art Inventory:

- The need is felt to establish a common platform for data sharing and the integration of the results from the many scientific and technical studies carried out in the area.

Progress reported/lessons learnt:

- The partners agreed that data sharing remains a problem. Not only private firms are unwilling to disclose information, getting the right data from public bodies can be a problem too. You really need to be specific on what you want from who and why. Also getting access to scientific information remains a struggle, you either need a subscription to a certain journal, or access to the University Library.
- There is an EU funded project (FLAGS) on discussion the Scottish Environment website. It provides basic advice, but not really useful. Downscaling the information on local level is hard. It’s hard to get publically funded information out the public. A lot is done via external consultants, so they’re not willing to share the information – you need a budget. Even though the data has been gathered with public funding.

Principle 4: Local specificity:

Suggestions in the State of the Art Inventory:

- No suggestions made.

Progress reported/lessons learnt:

- No progress to report, much has been covered under the Principle 1 and 2 discussion.

Principle 5: Working with natural processes:

Suggestions in the State of the Art Inventory:

- No suggestions made.

Progress reported/lessons learnt:

- No progress reported.

Principle 6: Involving all parties

Suggestions in the State of the Art Inventory:

- No suggestions made.

Progress reported/lessons learnt:

- Much has been discussed in the discussion on Principle 1.

Principle 7: involvement of relevant administrative bodies:

Suggestions in the State of the Art Inventory:

- Need for engaging with policy and development planning staff to better understand how coastal development can follow ICZM principles.
- Fife is looking at the future development of coastal partnerships. It is a pity they didn't pick up on developing an ICZM policy. Through spatial planning, ICZM can be used as an instrument to link up with the marine environment.
- At present there are no communications links established for improved horizontal (between sectors) and vertical (between authority levels) coordination. The links are foreseen through official procedures only. An additional (in)formal coordination mechanism could benefit the ICZM process. It can be considered what role coastal partnership or the coastal fora can play here.
- At present no formal links are made between spatial planning and ICZM. The links have yet to be established. There is no formal recognition of ICZM in any planning, legislation, policy or procedure. The Coastal Fora are voluntary partnerships e.g. the Tay and Forth Estuary Fora. It is likely that these will change as they will likely report to the Marine Agency through the umbrella group, the Scottish Coastal Forum, which advises the Marine Agencies policy directorate. New Coastal Partnerships will emerge together with the preparation of Regional Marine Plans. The boundaries for the marine regions have not been established and may not correspond with those of the current coastal fora.
- In the questionnaire it was mentioned that "UK-level analyses and guidance on ICZM and related matters can influence the direction that the Scottish Government takes e.g. on marine planning legislation". So additional to working closely with the coastal partnerships (bottom-up-approach), also a close working relationship with the Scottish and UK government is needed.
- The Local Coastal Partnership (LCP) is valued as an important networking and ICZM supporting structure. However, their structures, role funding mechanisms and working success vary. It is advisable to evaluate the LCP in Fife (and ultimately in Scotland and UK), in the light of their role in ICZM but also considering recent developments (e.g. Marine Bill and Marine Spatial Planning), and to look for a more streamlines approach for the LCP to give them a clear role and secure funding.

Progress reported/lessons learnt:

- No additional progress to report (see discussion under principle 1,2 and 3). In fact most of the relevant administrative bodies are involved in the West Sands Plan (which can be found at www.iczmassistant.eu). The future of the coastal partnerships under Marine Scotland is unclear at this point.

Principle 8: combination of instruments:

Suggestions in the State of the Art Inventory:

- Need to use the ICZM approach to reach the objectives for the Natura 2000 sites in the project area. The project should contribute to the development of a management scheme or strategy.
- The national planning framework takes forward spatial aspects and sets out a strategy for long-term development. At present certain coastal sites are singled out for their development potential and are subject to all environmental legislation. It would support sustainable development at the coast if coasts are recognised as particular areas, deserving special attention not only for development, but also for natural and social potentials at the coast.

Progress reported/lessons learnt:

- There are several but distinct planning initiatives. The different plans have been taking into account drawing up the vision. Also different approaches on involving the stakeholders different instruments are being used. SCF was very selective in who they consulted with.
- The development of the SMP entailed doing a cost benefit analysis as well.
- Partners have to formally sign on to the plan if they want to participate and put their logos on the document. How far will you push people to sign up? You don't want to lose them by pushing them too far. Partners advice that it would be good to pursue that line of thought. Getting a line in an official document could help.

Essex – England

Introducing the Essex case

Walton on the Naze is located in the north east of Essex and is one of the areas within which the SUSCOD project is being delivered. It is a real example of integrated coastal zone management, with a range of issues being tackled by a number of stakeholders. The responses are very much site-specific as the Naze is unique in terms of erosion, historical value and biodiversity, to name a few.

The Naze is an environmental heritage site designated as a geological Site of Special Scientific Interest (SSSI), which incorporates 55 million year old fossil bearing cliffs that are internationally recognised. On top of the cliff, there is also the Naze Tower; a unique grade 2* listed 18th century navigational tower. There are approximately 374,081 listed buildings in England. Grade I buildings are of exceptional interest, sometimes considered to be internationally important and only 2.5% of listed buildings are Grade I. Grade II* buildings are particularly important buildings of more than special interest. 5.5% of England's listed buildings are Grade II*. Finally, Grade II buildings are nationally important and of special interest and 92% of all listed buildings are in this class and it is the most likely grade of listing for a home owner. The Tower is therefore of significant national importance.

It is estimated over 140,000 people from the region, the UK and abroad visit the Naze site every year. Educational visits to the Naze by primary school to university and specialist groups are estimated at over 20,000 students per year. It was therefore considered necessary to have an holistic approach to the management and use of the site, in order to cater for and satisfy all stakeholders.

The Naze Heritage Project was set up to deliver projects at the Naze in order to tackle the coastal erosion, poor facilities for visitors to the area and an improved tourism offer, in order to attract increasing numbers of individuals to Walton. The Project is led by the Essex Wildlife Trust and partners on the group include the Naze Protection Society (the local community group), Walton Forum, Essex County Council, Tendring District Council, Frinton and Walton Town Council, local business and a local landowner.

Crag Walk is a 110m viewing platform along the beach, designed to enable visitors to look at the cliff behind it, as well as defend the cliff from further significant erosion. More than 16,000 tonnes of granite rock were used to construct Crag Walk which was officially opened in June 2012. As well as providing a viewing platform, it is expected the construction will slow the erosion of the cliff face behind to 20m (65.6ft) over the next 70 to 100 years, as opposed to the previous one to two metres each year.

Following the successful construction of Crag Walk, the Naze Heritage project (including all of the aforementioned partners) is now looking to deliver improved facilities for visitors to the Naze. These include a visitors' centre, for which the architect designs have been completed and public engagement is well underway. The planning permission for the building was submitted to the local Council in May 2013.

The Steering Group has also worked closely with the 'String of Pearls' project, also part of the SUSCOD project, to create attractive and informative walks around the Naze for visitors and locals. There are 3 trails which have been created through SUSCOD which include a Wildlife, History and Little Explorer Trail. Agreement on the routes, information to be shared on the sign boards and their designs were all agreed within a partnership led by the Walton Forum. Partners included Essex County Council, Essex Wildlife Trust, Tendring District Council and Natural England. Due to the overlap between these partners and those within the Naze Heritage Project, the two initiatives have been very closely linked and are seen as an integrated approach to improve the visitor offer in Walton.

In an attempt to further widen this work, learning has been shared between SUSCOD and a 2 Seas INTERREG IVA cross-border programme project 'Walls and Gardens'. This project looks to ensure the long-term conservation of architectural heritage, whilst also reinforcing its potential for accessibility. A history trail has therefore been created in addition to the aforementioned 3 routes. This has ensured that the varied aspects of Walton-on-the-Naze have been promoted and highlighted to visitors and locals and an improved understanding of the area (and its variety) should result.

More information and detailed plans providing background information can be found at www.iczmassistant.eu.



Progress and lessons learnt in Essex

The progress will be reported based on the suggestions made in the State of the Art Inventory (work package 3).

Principle 1: Overall perspective

Suggestions in the State of the Art Inventory:

- The definition of “coastal zone” will be decided through the Essex Coastal Forum. Although it is very important to have a common understanding of the “coastal zone” and to agree upon a definition, the discussion should not dominate nor slow down the ICZM process (there are examples of projects where 3 years of discussion on “coastal zone” led to no conclusion or progress at all). The partnership can build on existing definition e.g. by the European Commission. Also, it is advisable to work with a flexible definition, according to the theme/topic dealt with. For some themes the area considered will be different then for others (eg agriculture in the coastal zone versus recreational fisheries) (principle 1 & 7).

Progress reported/lessons learnt:

- Definition of coastal zone considered deemed not to be necessary at the County level. Every relevant organisation involved on the coast has their own definition of the coastal zone. For the purpose of the coastal forum, deciding on a definition was not seen as essential as it is not a decision making body.
- The coastal forum involves a lot of parties including Coastal Local Authorities, relevant Government agencies, landowners, RSPB (Royal Society for the Protection of Birds). Currently Essex is reviewing the representation on the forum. The coastal forum started due to a need for improved and more coordinated knowledge exchange. The coastal forum is a first step. It aids a coordinated approach in dealing with coastal issues. This year (2012) the focus of the forum will be on regeneration and economic growth in coastal areas. The next forum (2013) is to be held in September. Related stakeholder conferences are held once a year. The actions and priorities for the coast are taken from the stakeholder conferences.

- The final decision making power is with the chairman of the forum. Most decisions are based on consensus. The members are a combination of elected people and stakeholders.

Principle 2: Long-term perspective

Suggestions in the State of the Art Inventory:

- The goals and targets for the project elements have not yet been defined. This should be done in an early phase, in order to have clarity about the process and the role of all actors.
- Monitoring programmes should be set up, for the different phases of the process: start-up, during the implementation phase and after implementation (eg marina). “Monitoring” should be interpreted in the broad sense, going from monitoring the process, monitoring conflicts, scientific monitoring for impacts on wildlife when developing the visitor centre or marina, monitoring success etc.
- In terms of long-term planning, funds for the marina and for building the visitor centre need to be guaranteed. For the visitor centre, some funds already raised and further fundraising is underway. Some interest from national funding bodies has been expressed, but they are reliant upon the plans being drawn up and options considered. More rigorous funding opportunities will therefore need to be pursued.

Progress reported/lessons learnt:

- Developments along the pilot sites so far (December 2012):
 - Essex Coastal Forum – Long term perspective currently being determined through discussion around an Essex ‘action plan’ with agreement on quick wins and longer term actions.
 - Harwich – The Marina Location study is now complete and has built successfully upon the Harwich Masterplan and wider activity in the town. It has been agreed by public agencies and relevant private sector partners located in Harwich that due to the recession, this is not the appropriate time to progress this activity. The study will remain relevant post-recession, as it is space specific, rather than time specific in nature. Starlings site – Encouraging the long-term sustainability of the coastal commercial centre. All owners are now on board and a way forward is being agreed. This is significant progress for a key site within the town.
 - Walton-on-the-Naze – Long term defence, considering all stakeholders. Long term management and understanding of the defence and area enabled through the visitor centre proposals.
 - Wildlife studies –Newt surveys completed. These have informed the preferred proposed location for the visitor centre (now awaiting a planning decision)
 - Finance for the construction of the Naze visitor centre– been successful in stage one of funding nationally (known as ‘Coastal Communities Funding’).

Principle 3: Adaptive management

Suggestions in the State of the Art Inventory:

- No suggestions made

Progress reported/lessons learnt:

Harwich – the focus is on zone 4. The decision has been made to wait for studies concerning the station area.

Principle 4: Local specificity

Suggestions by the State of the Art Inventory:

- No suggestions made.



Progress reported/lessons learnt:

- Walton-on-the-Naze – Coastal defence works/ access/ interpretation/ allowing the area to erode due to SSSI status. The work is supported by the Naze Protection Society.
- The designs for visitor centre have been created. The challenge was not to block the view of the tower, nor from the nearby neighbourhood out to sea, as well as ensuring the building was not erected on the eroding part of the cliff etc. The engagement with local residents has started in an early phase. The final approval of the design was agreed by the Steering Group in July 2012. It is currently awaiting planning approval. How long it will take to build it depends on the funding that will be received.

Principle 5: Working with natural processes

Suggestions in the State of the Art Inventory:

- No suggestions made.

Progress reported/lessons learnt:

- Walton-on-the-Naze – The cliff is eroding. The positive aspect is that it is a site of archaeological interest due to all the fossils that can be found. However, the cliff can't erode too much as there is a village located just a short distance from the cliff edge.

Principle 6: Involving all the parties

Suggestions in the State of the Art Inventory:

- The Essex Coastal Partnership will be established through the SUSCOD project. Important preparatory steps are: stakeholder analysis, description of their role and responsibilities (now and within the partnership later) and competencies

Progress reported/lessons learnt:

- Essex Coastal Forum – Stakeholder review conducted prior to last year's (2012) conference.
- Review of attendees for the Forum at next meeting. The conference involves stakeholders at all levels and varied agendas. There are coastal actions, and the wardens scheme. This is done a few times a year on a voluntary basis to keep the local community involved.
- Harwich – Stakeholder engagement through every stage of the project
- Further stakeholder engagement to be conducted to agree the next steps – involving the local community and businesses.

Principle 7: Involvement of relevant administrative bodies

Suggestions in the State of the Art Inventory:

- No suggestions made

Progress reported/lessons learnt:

- No further updates.

Principle 8: Combination of instruments

Suggestions in the State of the Art Inventory:

- To gain an insight in the different aspects related to the development of the marina in Harwich and to take an integrated approach, several tools are available which have been used by other SUSCOD partners such as social cost-benefit analysis and a strategic environmental impact assessment. Another tool in the light of the development of a wind port on the East coast of England is a Seascope assessment, such as applied in Dorset within the C-Scope project (www.cscope.eu).

Progress reported/lessons learnt:

- Various initiatives and projects have been developed. There has been the development of a coastal website to inform/communicate with people.

Lolland, region of Sjaelland (DK)

Introducing the Lolland case

Lolland Municipality and the island of Lolland is characterized by a flat and low-lying landscape. About 1/3 of the total area is below sea level. In order to make the agricultural land useful the largest pumping station in northern Europe is placed at Kramnitze, centrally on the south coast. 20,000 ha of the earlier Rødby Fjord is pumped into the Baltic Sea by the station. The present pumping station was put into use in 1966 and pumps 20 m³ water/second. The population of Lolland Municipality is 45,036 and rapidly declining due to social problems (a majority of low income groups etc.). The municipality has an area of 892 km². The land is very fertile and the municipality has a 300 km coastline. Most agricultural production is industrialized but also organic production with an emphasis on local products occurs.

Challenges in the future are: a viable use of the development opportunities which the coming link to Germany will bring. The municipality also needs development of new settlements, the tourist industry, the climate industry and to ensure that agricultural land can be farmed in the future. Besides these challenges, the municipality is facing the adaptation to climate change in a positive way and doesn't necessarily see the future climate as a threat but also with a wealth of opportunities.

The SUSCOD case: a part of the south coast of Lolland is being artificially drained – to 2.5 m above sea level. The southern coastline is protected by a dyke, with a height of 4 m. The dyke was constructed after serious flooding in 1872. The south Lolland dyke is 70 km in length.



On the southern coast is the town of Rødby. This is the center of the tourist industry in the municipality – Hotel, resort and summer houses as well as a ferry route to Germany. A biking route has also been established along the dyke. The southern coast also has Natura 2000 areas both to the east as well as the west. The challenge is the future rise in sea level. The future sea level (100 year event) is expected to rise 40 cm at Rødby. The sea level for a 100 year event is now 1.69 m and is expected to be 2.09 in 2060.

More information on Lolland can be found at www.iczmassistant.eu.

Progress and lessons learnt in Lolland, Denmark

The progress will be reported based on the suggestions made in the State of the Art Inventory (work package 3).

Principle 1: overall perspective:

Suggestions in the State of the Art Inventory:

- Within existing urban areas the visual interference with coastal areas should be given particular attention. The Planning Act does not, however, require separate coastal zone planning – coastal protection considerations should be integrated into regional, municipal and local planning.
- Sea-based activities are mainly regulated by sectorial laws, e.g. the Marine Environment Protection Act, the Raw Materials Act, the Harbour Act and the Fishery Act. The Marine Management organisation in UK could serve as an example for integration.

Progress reported/lessons learnt:

- The WFD (Water Framework Directive) and FD (Flood Directive) have to be implemented in Denmark. The risks should be mapped. There is no legislation on ICZM in DK, although people work with the principles in the Planning Act. In the interviews the concept and principles of ICZM were explained. People work with stakeholders, holistic approach etc. They just don't call it ICZM – but nevertheless bring the principles into practice. It could have a more coastal focus. The municipalities are not working with it in a tool handed way. It depends on the tool or consultant they use, how ICZM's being implemented.
- The case of Lolland excels in the holistic principle. How to work with the climate change risk is a challenge. In mapping the risks, a selection of topic was made: the economic situation, nature, buildings, etc. It is important to also estimate the value of nature, but this is difficult.
- In Denmark, if a Natura 2000 area is a sea level rise (SLR) risk area, it's not necessarily a problem. If the nature can develop backwards, space for nature to expand when the sea level rises, can be reserved. A lot of the low laying areas have no high agricultural value, so those could be nature areas. But this is not acceptable for all farmers. The Natura 2000 areas are often a cross border problem (cross municipalities). There is a good climate network (municipality level, they invite the region, fitting the Climate Strategy) where all kind of issues are being discussed. This network could be used to put the coast on the agenda.
- For the tunnel construction at Rødby about 15million cubic meters of material (sand etc.), will be removed that could be used for other purposes. The private company constructing the tunnel proposed a plan to deposit the sand/debris on the right hand side of the tunnel for touristic purposes (map seen from South to North). The political level agreed with the plan. An Environmental Impact Assessment (EIA) has already been done. Another proposal was done in which the sand is re-used for beach nourishments which seems an interesting win-win situation. The local level is not considering this plan. How can this be put on the agenda?

- Suggestion: the region could do a cost/benefit analysis and an additional EIA for the 2nd proposal (using the sand for beach nourishments in flood prone zones).
- For the UK-Tunnel they deposited the sand in front of the Kent coast side. (UK side, French side unknown). Mostly chalk, this developed new areas for fisherman etc. An EIA also implements social effects. Could be very useful for the area.
- Suggestion: Bring the new proposal under the attention of the national level. Does the region have to approve the local plans? No, probably not. The tunnel digging has not started yet.
- Some new EU directives are active at the moment (water directive and flooding directive) and these directives need to be implemented in Danish ICZM. All municipalities in Denmark shall make climate change adaptation plans before the end of 2013. The plans should be based on mapping of flood prone area, value mapping and risk mapping. Lolland municipality do not have value mapping for the whole municipality – but up to COP 15 has the consulting firm COWI make a mapping of flooding risk areas and a blue point mapping.
- The case from the SUSCOD project will be incorporated in the climate change adaption plan and the new Municipality Plan for Lolland. The visionary case for the south cost of Lolland shows new ways to combine adaption to climate change with more nature, recreation and tourist development.
- Lolland Municipality is one of the most endangered areas in Denmark concerning climate change but focus has traditionally been at the west cost of Jutland. The SUSCOD project has highlight the challenge Lolland is facing in a positive way. Presentations at a national coastal conference in autumn 2011 and at the national climate change portal have contributed to a national understanding of the situation at Lolland.

Discussion:

- There are two scenario's we've had considered, and that we used to reflect on the ICZM principles. The scenarios deal with two geographical areas, both are being considered. One will use the dredging material from the tunnel; the other uses the material of the building projects. They could have used the sand to protect the coast instead of creating a touristic view from the sea. Material transport to the west could also be thought of as being too expensive, traveling upstream instead of dumping the sludge near the coast were it was retrieved. Raising the coast of southern Lolland is another option being discussed in the scenarios.
- For the development of the scenarios a lot of analyses were made. Among others an Environmental Impact Assessment was conducted and a new value map of the area was made of how the situation could be after realisation of the plans. As to people: they expect more people to move to Lolland, but perhaps they just travel through Lolland instead of provide extra income to Lolland. Danish people could identify with the artificial islands and the dike, the islands are Lolla, with is Danish for Islands, it connects to the identity of Lolland.
- Lolland wants to avoid situations like in Dover, where it's just a drive through port. Perhaps people from Germany will come to the coasts, Germany has a small coast now and opening the tunnel could attract more people. There is no cultural relationship between Lolland and Germany. Very different to Jutland where there is a relationship, people tend to speak each other's languages for example. Another issue is that Germans are forbidden by Danish law to buy second homes in Denmark.

Principle 2: long term perspective:

Suggestions in the State of the Art Inventory:

- No suggestions made

Progress reported/lessons learnt:

- The case area the south coast at Lolland has been chosen because we expect that a here and now action is not needed. The existing dike and water pumping system protect the coast for some years.
- Therefore it is possible to present a project that is visionary, long-term and sustainable concerning both nature, environment and local the economy. There will be time to discuss the project and integrate the ideas in coming planning as it is already happening now.

Principle 3: adaptive management:

Suggestions in the State of the Art Inventory:

- No suggestions made.

Progress reported/lessons learnt:

- The expected SLR is relatively low, but the coastline is very flat. The entire coast cannot be protected like in the Netherlands but measures need to be taken. Either the houses should be brought backwards or hard constructions could be installed.
- To ensure the uptake of a sound scientific basis Lolland municipality, the project organisations, the dike association and the consulting firm all work together thoroughly.

Principle 4: local specificity:

Suggestions in the State of the Art Inventory:

- Five challenges for ICZM have been identified. The ICZM challenge (1) is to better understand the different coastal environments in the region. Classification of the coastal areas/shorelines needs to incorporate mapping of the morphologies and process parameters derived from waves and surge levels (tides is not an issue in the Region Sjælland). Adaptation to climatic change is a step further.

Progress reported/lessons learnt:

- Adaption to climate change will be one of the most important challenges in the region. How it will be tackled has to be decided.
- The project is deeply based on the local specification, but the visionary scenarios can be used at the same type of coast all over Europe.
- The new plans that are being developed should be incorporated in the municipality planning plan for the future. Spatial planning is very sectorial in Denmark; the municipality plan is broader than just a spatial plan. Jurisdiction stops at the low water line. The plan links to the land-sea mark, especially in the 2nd scenario under revision. They area is also surrounded by Natura 2000 areas and link to the Water Framework Directive. The consultant looked at all different aspects

Principle 5: working with natural processes:

Suggestions in the State of the Art Inventory:

- Integrated coastal zone management has recently undergone a couple of changes in Denmark and Region Sjælland:
 - The strategic planning was traditionally executed at the regional level and this shifted towards the national level in 2007. This means that the strategy for ICZM is now coming from a limited amount of Environmental Centres and the Ministry of Environment. The municipalities, creating action plans, and the strategic planners on national level needs to adapt to this new situation;
 - Some new EU directives are active at the moment (water directive and flooding directive) and these directive need to be implemented in Danish ICZM. (...) This means that the municipalities in the Region Sjælland have to define action plans (see Planning Act) and that they have to consider the impact of climate change on coastal erosion and coastal flooding in their area. (...) The different coastal environments will not uniformly respond and will show different risks for erosion and coastal flooding, even under the same rate of sea level change.

Progress reported/lessons learnt:

- COWI performed value mapping on nature etc. They worked with weighed averages which resulted in a map. This is useful in working with stakeholders. The consultants created a value-map on conflicts in the region. Blue line shows and expected SLR of 90cm. ECC adds that in the UK value mapping is used as well. Plots of land are given certain economic values.
- The maps have not been used to communicate with the stakeholders yet. You need to think how you explain the weights etc. It should be clear it is just about economic value, and not ecologic value or valuing your stock.
- The project is based on a sustainable view of the natural processed, using the natural materials transportation along the coast. In the project new beaches, forest and meadows are suggested. There will be more recreation possibilities, more nature, and a better environment by retaining nutrients. Also Lolland might want to try to keep the water in their lakes, instead of bringing it directly back to the sea (about the incoming water, which is being pumped out now directly). There is no time being spend on the opportunity for recycling of surplus soil from the tunnel construction under the Fehmern Belt – It will be used at Rødby - but there is other solution as break down the dike at the west and let the natural materials transport maintain and create new foreland.
- The declining population in Lolland is a problem. Inhabitants leave for find work, have a higher education, and so on. The focus for the scenarios is now on the tourist industry. High education jobs have disappeared. Sjaelland needs a higher level of education (university). There is a college, but no university. Also Lolland has the best soil in Denmark, a lot of agriculture. This could be an opportunity too. For instance a knowledge centre exists on agriculture. The tourist industry should not be the only industry.
- The ministry of the environment has been consulted as they have jurisdiction, also they participated in the first workshop. The municipality has a good cooperation with them, for example the plans were presented on their conferences too. The national level is interested in new ways to adapt to CC. That's why we presented it at the climate portal. They are looking for new ways to cope. Many acts you have to check if the solution is possible. CC is the main driver for most Lolland region projects. Especially if you link it to tourist developments. These cases show that there are problems along our coastlines, and they do cost a lot of money if it floods. They should be prepared to dedicate some money to the region. The costs per inhabitant are very high. It's unaffordable to protect the entire coast.
- Discussion: does risk mapping lead to a discussion whether to defend or not? It could help the municipality to decide where to invest and how much. As an administration it can show how the future will evolve, what the future effects will be e.g. on nature and society.

- Partners discuss if their countries were working on climate adaptation plan. Belgium has developed the 'Belgian National Climate Change Adaptation Strategy' by the National Climate Commission in 2010. The exact legal status and execution phase of the document is unknown. The Netherlands have their Delta Programme, which contains room for climate change. The UK puts the focus on the development of flood plans, but is more about risk prevention than looking forward a lot.

Principle 6: involving all parties:

Suggestions in the State of the Art Inventory:

- Today the overall picture is that the State works out strategies and the municipalities implement these strategies. Perhaps a more "bottom up" approach would be appropriate. There is need to understand and work in harmony with natural and cultural processes operating at the coast. Lengthy research projects are not always needed to provide the understanding necessary to address every management issue.

Progress reported/lessons learnt:

- The process is mostly focused on big scale climate change. The challenge is to involve the political level. They have to be prepared to communicate better.
- (Remark on principle 6/7 combined): In the first project meeting, a number of potential stakeholders were identified, both locally, regionally and nationally that could help to qualify, develop and implement the project. It was further discussed which stakeholders could be strong supporters and opponents of the project's various phases. In this project the following key stakeholders were identified:
 - The Lolland dike association and dike engineer; municipal departments, for example. business and development, science, technology and environment and physical planning; landowners, farmers and forest owners (the State); holiday cottage owners, Fehmern Belt A / S; Danish Coastal Zone Authority; advisers; local businesses; Danish Nature Agency, Local Government Denmark, Region Zealand; SUSCOD project.
 It is recommended in a larger project to make a thorough stakeholder analysis as part of a risk analysis, whereby the stakeholders' different positions and relative strengths are uncovered. But there has not been a public discussion on the project and the local people have not been involved – there is also a need for a political discussion and decision – perhaps this can be done in the coming process for the municipality plan.
- The project has not been communicated to the broad public, they have not been consulted either. The people from the dike association have been asked because the association contains a lot of land owners from the area. No public meetings have been held. A stakeholder analysis was made when developing the plan. A selection of stakeholders has been heard, but not the broader public due to a lack of time.
- There is also a delicate balance between farmlands and nature areas. They would like to have compensation and are dependent from EU agricultural funding.
- A questionnaire survey among 15 municipalities showed that: 92% have established interdisciplinary cooperation forums (focused on climate change, but can easily be expended to ICZM) and 75% have incorporated climate change adaptation in the municipality planning.
- Most municipalities focus in their forums on rainfall flooding. It happens regular and is hard to handle. They could work with the coastline too, they stick together. The combined high tide and rain can flood the municipalities.

Principle 7: involving administrative bodies:

Suggestions in the State of the Art Inventory:

- No suggestions made.

Progress reported/lessons learnt:

- Progress is reported under principle 6.

Principle 8: combination of instruments:

Suggestions in the State of the Art Inventory:

- There are currently no formally trained coastal managers with the local authority. This needs to be addressed in the future.

Progress reported/lessons learnt:

- Since the project is a development project with many challenges and disciplines involved, Lolland municipality and NIRAS each created a transverse project structure and an overall project steering committee with representatives from the physical planning, technology, environment and development teams. The strength of the project was undoubtedly a good collaboration across internally in the organizations and between the involved organizations. They have learned from each other, although no formal training was provided. It was also strength, that the project team contained both landscape planners, economists, dike engineers, water engineers, biologists and GIS specialists, all with a transverse project experience.

4 | Overall conclusions

This chapter provides overall conclusions per principle (not per partner) as was done in the State of the Art Inventory (WP3, which served as a basis for the work conducted in this work package). General discussions during the workshops provide input for these conclusions, and were hence not presented in the previous chapter.

Principle 1: Overall perspective

Implementing the strategies using an overall perspective proves to be difficult for all partners. The main explanation for this can be found in the fact that all organisations have their own responsibility and their own budget. Even though often the willingness of the involved parties is there to cooperate, funding and political backing is difficult. This results in parties focussing on their specific area of interest, for instance the nature agencies will focus on nature issues and ignore coastal safety issues, whereas coastal protection agencies will focus mainly on keeping the coast safe – all other issues are circumstantial and not a priority (just the legal obligations are). The same analogy applies to cross geographical problem – relevant bodies have their own obligations and priorities, which may not coincide with those of neighbouring areas or agencies. This prevents the uptake and creating of a true overall perspective as meant in this ICZM principle.

Solutions can be found in actively applying principle 5 (natural processes), 6 (involving all parties) and 7 (support and involvement of all relevant administrative bodies). This can strengthen the cooperation, and perhaps show the different parties that there are cross benefits to using an integrated approach when planning for those issues they are obliged to handle.

Principle 2: Long-term perspective

Working with a long-term perspective has been applied differently throughout the partnership. A most common difficulty was about the tangibility of the plans. For many people, working on an abstract time scale presents difficulties. A proposed solution could be to work with plans on different scales: one long term plan (200 years) and several more adaptive ‘short’ term plans (i.e. maximum of 30 to 50 years, ‘a lifetime’). In that way it is clear to everyone how the short term plans feed into the long term plan and what that long term plan and goals should be (deductive reasoning). If we want to prevent problem X by year 200, what should plan X be up to year 50?

Principle 3: Adaptive management

Most partners apply adaptive management. Often this is a legal obligation, but also the cyclical approach of using short term plans ensure that plans are regularly updated.

The sound scientific basis that should be used is not always present. This can be caused by the problem of funding and the availability of data. Scientific data is not always easy to get by, or too expensive. (Scientific) research carried out by public funding of other parties in some instances are not publically unavailable, even though they have been paid by public funding in the first place. For instance when privately owned agencies are involved, or when datasets have very limited free of charge accessibility. Adding a ‘free usage of data for governmental bodies’ or ‘data collected will be handed over and owned by the funding organ’ clauses could partly diminish this problem. This problem was not present for all partners, but is seen as a serious threat in using a ‘sound scientific basis’.

It was found that the acknowledgement of whether or not climate change exists is a sore point among policy makers and politicians. When high end politicians deny climate change it is hard to adapt a long term plan to incorporate climate change. The same applies to getting those people or administrative bodies on board. The acceptance of climate change differed among the several partner regions.

Principle 4: Local specificity

The projects executed under SUSCOD all focussed on local projects, therefore local specificity was taken into account by all partners. As stated in the State of the Art Inventory: 'local specificity, a natural thing to do'.

Principle 5: Working with natural processes

As indicated in the State of the Art Inventory this was perceived very differently by different partners. When working with embedding natural processes in a non-natural process it seems having legal obligations was paramount in the ability to work with these processes. Often it is understood as 'a given fact': either you suffer from coastal erosion or you don't, either the waves will flood your coast or they won't. In one case using the natural processes would have significant benefits, since you could solve two challenges at once (deposing of sand debris and at the same time protecting the coast). How to actually apply this principle remains a challenge.

Principle 6: Involving all the parties

This principle touched the core of the SUSCOD project, together with principles 1, 2 and 7. Stakeholder involvement is considered very important, if not essential, by most partners. Even though it has proven its worth one partner remains sceptical, only applying stakeholder involvement when they absolutely must (legally obliged). The classical top-down approach has been used by many partners, although things do have changed (meeting frequency, focal points, bottom-up).

Getting the right people involved is a challenge some partners encountered. Keeping your stakeholders informed and involved is a concern most partners had. How do you ensure the people stay active even when your project has finished? How about funding? Money and man-hours are needed from official side, together with involved and responsible partners to keep stakeholder participation going; unfortunately this is easier said than done.

Planning when to communicate and how to communicate proved difficult for one partner. Other partners had more experience with engaging people and organisations. It helps when you have a high profile, a senior and very engaged person to keep non-professional stakeholders going. They should feel endorsed and useful. The project should be visibility backed-up by the responsible organisations. Significant events help, they live on. Also using creative ways to engage your stakeholders and interested parties help.

Principle 7: Involvement of relevant administrative bodies

Most relevant administrative bodies have been involved from the start. One partner had a little difficulty getting the local municipalities on board. This could be historically explained, as in the past they were never expected to actively cooperate and fund part of the work. This explains their passive attitude in the early stages of the project. A very useful suggestion was made by one of the partners to always include the political opposition. As you never know who is in charge after the next election. When possible, try to get them involved as well, so they endorse the project's work.

Principle 8: Combination of instruments

The partners learned from each other's instruments and how to apply those. As can be seen throughout the project, the suggestions given by the state of the art inventory have been acted upon. For most partners it remains a case of pure logic to base your strategies and plans of actions on more than one source, the same applies when trying to get people involved: you should fit the means to an aim.

5 | Detailed case study analyses

Work package seven contains three separate deliverables concerning an in-depth focus on three of the five case studies previously discussed. These in-depth analyses draw a more complete picture of the case studies, and their individual objectives and trajectory. These deliverables can be found as separate factsheets inserted in the pages below.

5.1 Development of a recreation guiding measure: Management of the West Sands, St. Andrews, Fife, Scotland

A detailed study by Fife Coast and Countryside Trust (UK)

Case Study Objective

Fife Coast and Countryside Trust (FCCT) selected North East Fife as its pilot project area, much of which is designated as the Firth of Tay – Eden Estuary Natura 2000 site. The area is part of a coastal sub-cell and, as a functioning natural unit, is well suited to the ICZM approach. The coastline is characterised by sandy beaches, sand dune systems and two river estuaries, and is one of the most important tourism and recreational areas on the East coast of Scotland. There is, however, no management scheme for the entire land, coastal and estuarine parts of the area. FCCT's objective is to contribute towards such a scheme through the SUSCOD project. Management plans exist for much of the area with the exception of the West Sands, St. Andrews, a key site for year-round recreation. The immediate task of the SUSCOD project was to focus on an integrated management plan for the West Sands area, including recreation.

The West Sands Partnership

A West Sands Partnership of key stakeholders was constituted. It was chaired by a local politician and coordinated by FCCT. The process, vision, and objectives for the plan were agreed in line with ICZM principles.

Vision: The West Sands will be the gold standard for the conservation and wise use of coastal landscapes in the North Sea Region.

The Partnership confirmed that the plan must be developed in the broader context of the pilot project area. The plan therefore functions on two scales: it addresses issues particular to the West Sands, and issues that can only be addressed in the larger context of the natural coastal unit within which the West Sands area is located.

Objective for Access, Recreation and Tourism: To provide an outstanding, year-round visitor experience for all-abilities with appropriate and well managed recreational opportunities, consistent with the landscape and conservation values of the area.

Action: Visitor facilities and recreational activities will be managed year-round consistent with the high international standing of the area, competing demands for space and in the interests of all users.

End Result

The draft plan was the subject of two public meetings, an online consultation, and several workshops. Fife Council approved the plan in 2012. A "West Sands Users Group" was established to advise on the management of the many

recreational interests. The group is supported by the FCCT Beaches and Coastal Officer and by Fife Council. The West Sands Partnership continues to provide support and leadership to implement the plan, with the assistance of Scottish Natural Heritage, the statutory authority for the countryside.

This summary should be read in conjunction with the full report on WP 7.6, which provides the context and the scope for recreational guiding measures in Fife, together with the approved Management Plan for the West Sands, St. Andrews 2012-2025 and the Fife Shoreline Management Plan (2011).

FCCT was an active participant in the development and review of the Fife Shoreline Management Plan (2011). This is a non-statutory document which forms the basis for coastal defence policy in Fife. The plan advises on three policy options for the short (0-20 years), medium (20-50 years) and long term (50-100 years). The options are: maintaining coastal defences (“hold the line”); managed retreat, or taking no action. Maintaining coastal defences translates into major financial obligations for Fife Council where public lands are concerned. The West Sands, St. Andrews is in public ownership, and the advice is to “hold the line”, largely through soft engineering. The Council is primarily concerned with threats to communities and infrastructure. The West Sands, with its championship golf courses and recreational interests, may not be a top priority for action in times of financial constraint. Furthermore, the spatial plan for St. Andrews and North East Fife makes little reference to the West Sands, considering it to be a public amenity area, with golf as the major economic interest.

The question then arose, “who should take a leadership role in addressing the serious coastal issues confronting this area?” These issues included clarification of roles and responsibilities for the management of the area; tackling the degradation of the dunes through encroachment and human disturbance; managing the eroding, closed landfill on the edge of the beach; resolving potential conflicts among the expanding recreational interests; controlling invasive species; returning the protected dunes to favourable condition, and access.

The SUSCOD project proved to be the catalyst for the development of an integrated plan for the area. The consensus-driven West Sands Partnership took responsibility for the work with FCCT providing a technical and coordinating role. Having a local politician chair the partnership ensured that the final plan would be adopted as Fife Council policy and that Council officers would actively participate. The process for the development of a plan was based on published guidance from IUCN-The World Conservation Union, inputs from an expert workshop, and discussions within the partnership. The urgency to take action was underscored by a major storm surge in March 2010. This reinforced the need to view the West Sands as part of a larger system, to confirm the significance of the sand dune system from the perspective of coastal defence, to recognise the status of the area as a landscape of national significance, and reaffirm its importance for the conservation of biodiversity, recreation and tourism.

To inspire confidence and support for the preparation of the plan it was important to take immediate action to address some of the pressing issues in parallel with the planning process. FCCT organised the funding of a dune restoration project to demonstrate what can be achieved through a planning partnership, and to give impetus to further restoration measures. Local people were encouraged to volunteer. They continue to do so. By publicising the project local people had a better understanding of the importance of the beach, accepted restrictions on access to the dunes and to cooperate on the recreational use of the area.

The partnership explored the options for recreation guiding measures. Public meetings were held to which all recreational interests were invited. The context for the measures are described in the full report and include the Land Reform (Scotland) Act and the accompanying guidance, the Scottish Outdoor Access Code (SOAC), and the criteria for Blue Flag and Seaside Beach Awards. Against this background the introduction of additional byelaws was debated together with an innovative proposal, the formation of a recreational users group. There are pros and cons for either approach but the partnership decided to trial the formation of a user's group rather than impose new regulations such as zoning the beach and imposing restrictions. The Dundee Port Authority Byelaws were discussed as an example of that approach. The user's group has met on several occasions and seems to be working, at least in developing a greater appreciation of all the interests in the West Sands.

The discussions in the partnership, and the willingness to continue on beyond SUSCOD, the presentations at public meetings, conferences and workshops, and publicity at the local level have all contributed to the support for a multifunctional approach. The adoption of the plan and its implementation suggests that politicians, statutory authorities, land managers and local people feel it is valuable.

Partnership working is essential to any ICZM exercise, but attracting and retaining key partners and sustaining interest is challenging. It was possible to engage with stakeholders at the Fife level, with the academic community and the local public but far more difficult to engage with senior representatives of organisations such as Marine Scotland (responsible for future marine planning partnerships and possibly ICZM) and Scottish Water (responsible for controlling discharge to the coast). Coastal management is seen largely as a local authority responsibility (i.e. Fife Council) notwithstanding that climate change, coastal erosion and flooding are national issues. St. Andrews is seen as an affluent community and the "Home of Golf" which can be a distraction when attempting to plan in what has been a largely neglected area.

While the West Sands plan is well supported it will be challenging to move toward the eventual objective – a management scheme for the entire pilot project area, one which would be an umbrella for all local management plans and harmonise them with a marine plan to be prepared by a local Marine Planning Partnership. The broader scheme would contribute to the complex task of bringing land and sea together in the planning process. Institutions and the general public have short memories, tend to focus on single issues and rely on a few dedicated individuals for guidance and continuity. Perhaps a few more storm surges would focus minds.

5.2 Sea level rise and infrastructural development

A detailed study by Region Sjealland (DK)

Additional analysis of case study Lolland concerning SLR and infrastructural development

Lolland Municipality and the island of Lolland Is characterized by a flat and low-lying landscape. About 1/3 of the total area is below sea level. In order to make the agricultural land useful the largest pumping station in northern Europe is placed at Kramnitze, centrally on the south coast. 20,000 ha of the earlier Rødby Fjord is pumped into the Baltic Sea by the station. The present pumping station was put into use in 1966 and pumps 20 m³ water/second.

The population of Lolland Municipality is 45,036 and rapidly declining due to social problems (a majority of low income groups etc.). The municipality has an area of 892 km². The land is very fertile and the municipality has a 300 km coastline. Most agricultural production is industrialized but also organic production with an emphasis on local products occurs.

Challenges in the future: a viable use of the development opportunities which the coming link to Germany will bring. The municipality also needs development of new settlements, the tourist industry, the climate industry and to ensure that agricultural land can be farmed in the future. Besides these challenges, the municipality is facing the adaptation to climate change in a positive way and doesn't necessarily see the future climate as a threat but also with a wealth of opportunities.

The SUSCOD case: a part of the south coast of Lolland is being artificially drained – to 2.5 m above sea level. The southern coastline is protected by a dyke, with a height of 4 m. The dyke was constructed after serious flooding in 1872. The south Lolland dyke is 70 km in length. On the southern coast is the town of Rødby. This is the center of the tourist industry in the municipality – Hotel, resort and summer houses as well as a ferry route to Germany. A biking route has also been established along the dyke.

The southern coast also has Natura 2000 areas both to the east as well as the west.

The challenge is the future rise in sea level. The future sea level (100 year event) is expected to rise 40 cm at Rødby. The sea level for a 100 year event is now 1.69 m and is expected to be 2.09 in 2060.

ICZM principles used in the case study:

Principle 1: Overall perspective

The case will be incorporated in the climate change adaption plan (has to be available in a draft version at the end of 2013) and the new Municipality Plan for Lolland. The visionary case for the south coast of Lolland shows new ways to combine adaption to climate change with more nature, recreation and tourist development.

Principle 2: Long term sustainable perspective

No immediate action is needed, and therefore it is possible to present a project that is visionary, long-term and sustainable concerning. This is relevant to nature, the environment and the local economy.

There will fortunately be time to discuss the project and integrate the ideas in future planning as it is already the case.

Principle 3: Adaptive management

The project organization at Lolland Municipality is deeply involved with the dyke association as well as the cross sector organization established under project. The consulting firm NIRAS has insured that a sound scientific basis concerning the evolution of the coastal zone has been founded.

Principle 4: Local specificity

The project is deeply based on the local specification, but the visionary scenarios can be used at the same type of coast all over Europe.

Principle 5: Working with natural processes

The project is based on a sustainable view of the natural processes. The project uses the natural material transportation along the coast. In the project new beaches, forest and meadows are suggested.

There will also be more recreational possibilities, more nature and better environment by retaining natural nutrients on land.

Principle 6: Involving all parties

Stakeholder involvement: In the first project meeting, a number of potential stakeholders were identified, both locally, regionally and nationally that could help to qualify, develop and implement the project.

It was further discussed which stakeholders could be strong supporters and opponents of the project's various phases. The following key stakeholders were identified: The Lolland dyke association (dyke engineer) and Kremnitze pumping station.

Landowners, farmers and forest owners (the State); holiday cottage owners, advisors; local businesses have also been involved.

Several municipal departments have been actively involved. Department for business and development, Department for science and technology as well as the departments for environmental and physical planning

Principle 7: Support and involvement of relevant administrative bodies

The Femern Belt A / S (Consortium); Danish Coastal Zone Authority; Danish Nature Agency, Local Government Denmark, Region Zealand and the partners and subpartners of the SUSCOD project have been actively involved.

It is recommended in a larger project to make a thorough stakeholder analysis as part of a risk analysis, whereby the stakeholders' different positions and relative strengths are uncovered.

Principle 8: Combination of instruments

Cross-cutting project organization : Since the project is a development project with many challenges and disciplines involved, Lolland municipality and NIRAS each created a transverse project structure and an overall project steering committee with representatives from the department for physical planning, technology, environment and development teams.

The strength of the project was undoubtedly good collaboration across the municipal organizations and between the involved organizations outside the municipality. It was also a strength, that the project team contained both landscape planners, economists, dyke engineers, water engineers, biologists and GIS specialists, all with a transverse project experience.

All in all, the project has been a success, giving the municipality the opportunity of looking at the coastal defence of the south coast of Lolland in a new way.

A spin off of the project has also been a new project on stakeholder involvement on the south coast combined with hydrological modelling is being carried out at the moment. The project is being funded by the Danish Nature Agency.

Analysis of the project:

How did the process evolve from pure coastal defence to a multifunctional (MF) use of the structure/ approach?

The coming tunnel to Germany east of Rødby Harbour has been an important input to the discussion of the future defence of the coast. Luckily there is time to discuss long term solutions as far as adaptation to climate change is concerned, as the dyke and the existing pumping system protect the coast as far as the near future is concerned.

What are the benefits and downsides of a multifunctional use?

The benefits are that one has to look at several different possible solutions. The traditional approach would have been to widen and heighten the dyke and increase the amount of water pumped from the hinterland. The fact that a lot of raw material will be “left over” from the construction of the Femern Link gave rise to a lot of new ideas on beach nourishment to the west, with the establishment of natural beaches in front of the dyke, new natural habitats etc. The downsides are to get the relevant partners involved in good time. A lot of different interest groups are involved: farmers, landowners and last but not least the Femern Belt Link Consortium. But there have not been any public discussion of the project and the local people has not been involved. There is also a need for a political discussion and decisions on the subject of future coastal defence. Perhaps this can be carried out in conjunction with the coming public process for climate adaptation plan and the municipality plan.

Other lessons learned:

There is the time being no opportunity for recycling of surplus soil from the tunnel construction under the Fehmern Belt Link. It will be used at Rødby. But there is another solution. Breaking down the dike to the west and letting the natural materials transport maintain and create new foreland.

It is recommended, that if a larger project is to be carried out, to make a thorough stakeholder analysis as part of a risk analysis, whereby the stakeholders’ different positions and relative strengths are uncovered.

Conclusion:

The project has shown that the south coast of Lolland and the hinterland is not just a “dull” low lying coast with at long protective dyke but has a lot of other possibilities for development. The project report concludes: “it is possible to carry out a development based on adaptation to the future climate. A development that ensures protection from inundation from the sea and extreme rain, at the same time creating unique nature and a holiday paradise on the southern part of Lolland”.

“Coast of opportunities” – development scenarios for southern Lolland

- natural regulation of the coast
- beach nourishment
- new forest
- new regulation of drainage - new lakes and meadows

- creating new recreation and tourist facilities
- international beach park
- opportunity for recycling of surplus soil from the tunnel construction under the Femern Belt.



5.3 Safeguarding and protecting area of historical value and sustaining coastal community

A detailed study by Essex County Council (UK)

Walton on the Naze is located in the north east of Essex and is one of the areas within which the SUSCOD project is being delivered. It is a real example of integrated coastal zone management, with a range of issues being tackled by a number of stakeholders. The responses are very much site-specific as the Naze is unique in terms of erosion, historical value and biodiversity, to name a few.

The Naze is an environmental heritage site designated as a geological Site of Special Scientific Interest (SSSI), which incorporates 55 million year old fossil bearing cliffs that are internationally recognised. On top of the cliff, there is also the Naze Tower, a unique grade 2* listed 18th century navigational tower. There are approximated 374,081 listed buildings in England. Grade I buildings are of exceptional interest, sometimes considered to be internationally important and only 2.5% of listed buildings are Grade I. Grade II* buildings are particularly important buildings of more than special interest. 5.5% of England's listed buildings are Grade II*. Finally, Grade II buildings are nationally important and of special interest and 92% of all listed buildings are in this class and it is the most likely grade of listing for a home owner. The Tower is therefore of significant national importance.

It is estimated over 140,000 people visit the site every year from the region, the UK and abroad. Educational visits to the Naze by primary school to university and specialist groups are estimated at over 20,000 students per year. It was therefore considered necessary to have an holistic approach to the management and use of the site, in order to cater for and satisfy all stakeholders.

The Naze Heritage Project was set up to deliver projects at the Naze in order to tackle the coastal erosion, poor facilities for visitors to the area and an improved tourism offer in order to attract increasing numbers of individuals to Walton. The Project is led by the Essex Wildlife Trust and partners on the group include the Naze Protection Society (the local community group), Walton Forum, Essex County Council, Tendring District Council, Frinton and Walton Town Council, local business and a local landowner.

Crag Walk is a 110m viewing platform along the beach, designed to enable visitors to look at the cliff behind, as well as defend the cliff from further significant erosion. More than 16,000 tonnes of granite rock were used to construct Crag Walk which was officially opened in June 2012. As well as providing a viewing platform, it is expected the construction will slow the erosion of the cliff face behind to 20m (65.6ft) over the next 70 to 100 years, as opposed to the previous one to two metres each year.

Following the successful construction of Crag Walk, the Naze Heritage project (including all of the aforementioned partners) is now looking to deliver improved facilities for visitors to the Naze. These include a visitors' centre, for which the architect designs have been completed and public engagement is well underway. The planning permission for the building is due to be submitted to the local Council in May 2013.

The Steering Group has also worked closely with the 'String of Pearls' project, also part of the SUSCOD project, to create attractive and informative walks for visitors and local alike. There are 3 trails which have been created

through SUSCOD which include a Wildlife, History and Little Explorer Trail. Agreement on the routes, information to be shared on the sign boards and their designs were all agreed within a partnership led by the Walton Forum. Partners included Essex County Council, Essex Wildlife Trust, Tendring District Council and Natural England. Due to the overlap between these partners and those within the Naze Heritage Project, the two initiatives have been very closely linked and are seen as an integrated approach to improve the visitor offer in Walton.

In an attempt to further widen this work, learning has been shared between SUSCOD and a 2 Seas INTERREG IVA cross-border programme project 'Walls and Gardens'. This project looks to ensure the long-term conservation of architectural heritage, whilst also reinforcing its potential for accessibility. A history trail has therefore been created in addition to the aforementioned 3 routes. This has ensured that the varied aspects of Walton-on-the-Naze have been promoted and highlighted to visitors and locals and an improved understanding of the area (and its variety) should result.

Actors and their objectives:

All partners in the Naze Heritage Project signed up to an agreed vision in 2008, which is split into two phases. Phase 1 involved the construction of Crag Walk which received SUSCOD funding (alongside that of other funders including Defra, Essex County Council, Tendring District Council, Frinton and Walton Town Council and the Naze Protection Society). Phase 2 involves improving facilities at the Naze for the visiting public. Both projects have benefitted from an established Steering Group that has worked to deliver a successful capital scheme in Crag Walk and has since delivered design drawings for the Naze Visitor Centre and bid for funding to support the eventual construction.

Alongside this, the String of Pearls project (now known locally as the 'Walton Trails') has been in development (from vision) for around 10 years. The local community have sought to improve the tourism offer in the town and highlight key points of interest. The Walton Forum has led this work and when the SUSCOD finances were received, the project could really get underway. Due to the timing of this delivery, at the same time as Crag Walk construction and drawing up of the visitor centre plans, enabled through SUSCOD, the stakeholders involved in both projects have been similar and linkages between the projects significant.

There was a genuine desire for a productive partnership to support this project. It was believed by all partners that greater outcomes could be achieved by working collaboratively than could be achieved by individuals and would achieve a well-rounded, site-specific solution.

The Naze Heritage Project partnership (and their functions/objectives) includes:

This partnership is being used for this question as it is the partnership delivering the majority of the activity in Walton. Stakeholders involved in the String of Pearls projects are also noted above.

- Essex Wildlife Trust – To head up the activity and provide a leading role.
- The Naze Protection Society – the local community group
- Walton Forum - The Walton Forum was established in 2001 and has a wide range of members including representatives from local business, services and communities groups. It was formed to steer the regeneration of Walton.

- Essex County Council – The County Council who has supported the scheme and leads on the SUSCOD project
- Tendring District Council – Planning authority, lead on the engineering works for the local authority
- Frinton and Walton Town Council – The local town council
- Local business – activity, particularly for the visitor centre, could potentially affect the local business owner. They have therefore been strongly engaged.
- A local landowner – the land for the visitor centre is adjacent to the owners land.

Meetings are held approximately three times a year. However, in addition to the full Steering Group meetings, Essex Wildlife Trust has met with a number of interested parties in order to take the project forward. These have included the Naze Tower owners, Walton Forum (a local voluntary group focused on regeneration of the town) and potential funders. There have also been numerous meetings between Essex Wildlife Trust and Tendring District Council Officers regarding progressing the project.

The Naze Heritage Project completed a series of consultation events regarding the Visitor Centre plans with key stakeholders – a two day public consultation, Walton business consultation and a schools consultation. All feedback was recorded and considered and the project has improved as appropriate as a result.

The ICZM principles the case study applies to:

Principle 1. A broad 'holistic' perspective (thematic and geographic)

The Naze Heritage project has included activity to create both a walkway/defence and also plans for a visitors' centre to serve visitors to the area. The geographic perspective has been significant in relation to the effect on coastal processes. The Walton Trails look to interpret the variety of thematic and geographic factors (both current and historical) in the area.

Principle 2. A long term perspective (ensure that decisions taken today do not foreclose options for the future)

The long term perspective in Walton has included both the physical infrastructure and community engagement. It has been key to the wider project that residents and visitors to Walton understand the coastal processes in the area, as well as the nature and history it supports. As a result, the trails look to educate individuals and ensure that they understand the area's diversity and uniqueness into the future.

The approach for Crag Walk was determined in order to secure the area into the future. The delivery of the walkway planned for the long term, as a necessity.

Finally, the visitors' centre designs look to satisfy the visitor needs to the area into the future. The centre plans look to include sufficient space and facilities for current and projected visitor numbers, as well as having it located far enough away from the edge of the cliff to avoid the effects of coastal erosion.

Principle 3. Adaptive management during a gradual process (integrated planning and management is a process that develops and evolves – good information provision is basis)

Adaptive management has been particularly key regarding the designs for the Visitors' Centre. The plans have changed to reflect additional information on species location, speed of cliff erosion and local preferences. The

design has also changed over time to accommodate resident and local business requirements, visitor needs and the nature of the local area. The approach has required good information and also good communication with all stakeholders.

Principle 4. Reflect local specificity

The projects have worked closely with local businesses and residents. The most significant local engagement has taken place through the Walton Forum and local resident engagement in the Naze Heritage Project.

Principle 5. Work with natural processes

The design and construction of Crag Walk was created to tackle the specific natural processes experienced at Walton-on-the-Naze.

Principle 6. Participatory planning

Participatory planning has been key to these projects (please see above and inform if more information is required)

Principle 7. Support & involvement of all relevant administrative bodies

A number of administrative bodies have been involved in these projects. They include the local Town Council, District and County Councils, Defra, English Heritage and English Nature. All are fully supportive of the projects being delivered.

Principle 8. Use of a combination of instruments

A variety of instruments have been required to deal with the multifaceted approach to the area. This approach has been supported by the specific skills and expertise that individual partners provide.

Can the implementation of the case study be regarded as a success?

Crag Walk is certainly considered a success. It has worked to satisfy the needs of all of the local and national partners, as well as the funding bodies. The walkway serves as a useful viewing platform to see the cliff and is also providing effective defence against the erosion of the frontage. The implementation also served to successfully bring all partners around the table, all of whom are still there engaged to deliver the visitor centre and wider area improvements.

How did the process evolve from pure coastal defence to a multifunctional use of the structure/ approach?

At the Naze there were several pressing needs (1) the need to protect the Naze Tower and the busiest part of the Naze Open Space (2) the need to provide interpretation on the outstanding geological and biological importance of the Naze – for both visiting school groups and the visiting public (3) the need to provide better visual access to the geological layers in the cliffs. It was clear from the start that a pure coastal defence approach was inappropriate and insufficient.

The activity to deliver Crag walk has worked to protect the Naze Tower and cliff frontage, as well as provide a viewing platform for the cliff (with interpretation boards along the length). Further interpretation has been delivered through the String of Pearls project (the Walton Trails) to interpret the area of the Naze and also Walton town. The interpretation boards delivered through the String of Pearls project work to link the residents in the town (and visitors) to the history, biodiversity and cliff frontage at the Naze. Finally, the delivery of a visitors' centre (for which the designs have been completed) will further support interpretation.

All of these solutions have been delivered through partnership. It was a genuine evolution that answered many demands.

What are the actual benefits and downsides of a multifunctional use?

The multi-functionality helped access funding as there are different strands of activity, budgets, ideas and stakeholders involved. It helped access support as it appealed to different interests in terms of political planning and public support etc. All stakeholders, representing different functions, are able to contribute their area of expertise and so become involved and take ownership. This supports a much more active, contributory, cooperative and coherent partnership as a result; it genuine added value to project outcomes

Multi-functionality means more partners have been involved in the project. This in turn has meant that the process was slower to complete, in order to give stakeholders adequate time to get involved and to make consultation meaningful. This was not an issue in practice, as the longer timescales required were factored in at the start and the value of this engagement is understood by all stakeholders.

Other lessons learned (by the lead of the Naze Heritage Project):

- You cannot do too much community consultation – the more learnt about a major project before it happens, the better. It has been found through the partnership that issue resolution has created a greater level of support for the project.
- The planning process for coastal structures is a major resource commitment – much more so than structures on land. Don't under estimate the number of hurdles to go through
- Partnership is invaluable
- The value of a project is viewed by different people in different ways – some only see Crag Walk as a coastal defence – some only see the interpretation – some only see the better viewing of the geology – fewer partners see the multi-functional benefits. Leads on the project have learnt not to assume that people see all the benefits from the project – you need to tell them.
- As the coast is a constantly changing place, if something new is introduced to the coastal system it is hard to see what effect, if any, it has on the coastal processes. In this case, after Crag Walk was built there was a lot of sand lost from the beach. We understand that the two events are not related but those with little knowledge of complex coastal processes assume the two are linked. It is therefore important to constantly keep the partners engaged, up dated on activity and informed.

