
Going Dutch II
towards a safe and sustainable future of
The Manhood Peninsula
Carolyn Cobbold
Renee Santema
THE MANHOOD
PENINSULA
PARTNERSHIP

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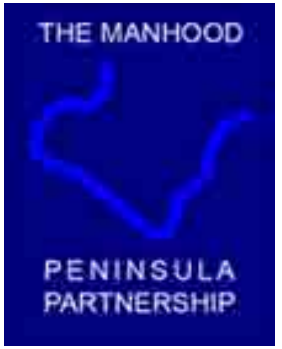

Carolyn Cobbold
Renée Santema

We would like to thank all the following organisations, authorities, businesses, groups and individuals without whose help this second workshop couldn't have happened.

The sponsors:
Chichester District Council, West Sussex County Council and The Environment Agency.

The providers of a brief or letter with concerns for the workshop participants:
Manhood Peninsula Partnership, Birdham Parish Council, East Wittering and Bracklesham Parish Council, Andrew Tyrie, Mark Hooper of Langmead Farms Ltd and Natures Way Foods Ltd, Chichester Harbour Conservancy, Natural England, National Farmers Union, Valerie Dribble, Manhood Peninsula Steering Group, Save Our Selsey.

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Workshop participants and chairmen
And of course to all the participants and the two chairmen and their assistants whose tremendous energy, enthusiasm, knowledge and hard work worked out so positively.

A special word of thanks goes to Earnley Concourse for their hospitality during the workshop.

Carolyn Cobbold *and* ***Renée Santema***
Birdham / The Hague
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Foreword

I have been involved with the Manhood Peninsula Partnership since its inception and was delighted to welcome formally our Dutch colleagues at Going Dutch in 2001.

It was with even more anticipation that we welcomed delegates back to Going Dutch II – to be impressed by their lateral thinking, encouraged by their enthusiasm and appreciative of their generosity. It was an anticipation amply rewarded by another successful event. To them, the facilitators, the organising team at Chichester District and not least to Renée Santema and Carolyn Cobbold, many, many thanks. We must also say thank you to our hosts at Earnley Concourse – who had, apparently never seen coffee consumed at such a rate!
We on the MPP are grateful for the financial support of sponsors and to all those who contributed to the event.

Brian Waters, Member of MPP
MBE, C.Eng, FICE, FCIWEM

Summary

In June 2008 a group of Dutch and British coastal management specialists spent three days examining the future of the Manhood Peninsula during a workshop instigated by the area's local community. During their stay the specialists in coastal defence, planning, environment and infrastructure reviewed the Environment Agency and local authorities' Draft Coastal Defence Strategy (CDS) for the area and examined other options put forward by local residents.

The workshop was organised by the Manhood Peninsula Partnership (MPP) at the suggestion of a local resident. The MPP invited 22 Dutch and British coastal spatial planners, engineers and environ-mentalists in total to look at the stretch of coastline and hinterland south of Chichester – known as the Manhood Peninsula.

The MPP is a partnership comprising local and regional agencies responsible for the Manhood Peninsula, including District, County Council and Environment Agency representatives as well as local community and parish representatives, as well as other businesses and organisations with a role in the area. Members of the partnership have been meeting on a regular basis since 2001 building a better understanding of each other and helping to create a positive and united approach in future planning for the area. Through its work, including involvement with ESPACE (a trans European planning and climate change project) the MPP has raised the profile of the area and the issues it faces.

The workshop participants described the CDS and underlying analysis as ''impressive and state of the art'' but criticised the UK system of coastal funding and lack of integrated planning and spatial design.

The Environment Agency and local authorities are proposing the creation of salt marsh between Selsey and Bracklesham as a more sustainable form of sea defence that will allow The Agency to better protect the local community. According to the Dutch experts this is a viable option, but from a technical point of view ''holding the line'' at that particular stretch of coast is feasible as well. Making that choice depends on the available budget and availability of necessary materials for construction and maintenance In the short and in the long term in relation to the required use of the hinterland.

The participants also explored whether some of the ideas put forward by the community such as feeding the coastline with additional sand and shingle or the creation of offshore reefs could not be incorporated into the strategy or at least considered, or tried on an experimental basis.

Be positive; plan your future so that you work with its environment and special features to make it economically viable and socially sustainable; create sea defences and a coastline that will work for the area in the long term, the visitors told residents. This is an area with outstanding qualities that are becoming increasingly scarce on the South Coast of England. It is up to residents to work with their local authorities and vice versa to enhance those qualities. It may then become a key destination for people who enjoy rural coastal activities (such as water-sports, cycling, walking,

horse-riding, fishing, camping, caravanning, eating local products), as well as the cultural and sporting activities offered in Chichester and at Goodwood.

If local authorities and residents act together now, share a vision, plan holistically, and take a ‘no regret’ and flexible approach to coastal defence that complements those plans, the area will have a sustainable future, the visitors concluded.

Going Dutch II followed an earlier Going Dutch workshop held in 2001, organised by two local residents. In both workshops the participants, leading experts in their professional fields, charged nothing for their involvement.

1 The Brief, as given to the participants

On May 29 2008 the Environment Agency, Chichester District Council and Arun District Council published their draft proposals for managing the stretch of coast from Pagham to East Head.

According to the Environment Agency (the body responsible for managing England's coastline), Government funding for sea defences in the UK is insufficient to maintain the current level of protection nationally. The relatively low value of assets on the Manhood Peninsula means that there is only limited funding available for sea defences. The low-lying topography of the area also means that it is likely to be impacted adversely by rising sea levels and failing sea defences could have far-reaching consequences.

While opportunity exists for the creation of salt-marsh in the area, the loss of arable land to salt marsh could make several farming practices in the area unviable. Changes in the coastline due to rising sea-levels and changing sea-defences also will impact the beaches in the area.

Both tourism and farming are two major contributors to the area's economy. Under English law there is no right to compensation if a landowner loses property as a result of land being lost to the sea. Other concerns of the local population include: whether their homes will be at greater risk from flooding because of managed realignment of the coastline; how inland drainage will be affected by the altered coastline, etc., etc.

The workshop participants will address the possible impacts on the area of the Environment Agency's and authorities' proposals and they will discuss some alternative plans put forward by local people. Working in small groups with a cross-section of experts in different fields, participants will generate plans based on the agency's proposals to maximise the potential of the area for the community and its environment and economy.

There will be opportunities for participants to interact with the local population during the workshop as well as the opportunity for participants to meet and work with fellow experts in planning and coastal management from the Netherlands and the UK. Sponsorship is being raised to pay for the accommodation and travel expenses of participants.

The objectives of Going Dutch II:

- To assemble a panel of independent experts from the Dutch water management and planning sector and other parts of the UK to provide the community with an objective assessment of the Draft Coastal Defence Strategy (CDS).
- To enable alternative public ideas and solutions to be investigated by the independent panel.
- To assist the development of a common level of understanding between the government agencies and community of the coastal defence issues and other priorities that need to be addressed.
- To provide an opportunity for the panel to present their findings on the merits of alternative solutions and the CDS and areas of common ground and produce a

report that will be fed into the consultation process, and enrich the response.

- To raise the profile of the Manhood Peninsula Partnership as a key forum for discussing coastal management issues within the community and with the partner organisations.

The workshop will help the local community better understand the issues and options, allowing people to provide a more informed response to the public consultation process.

2 The workshop

2.1 Background

In March 2001 a five day workshop was organised by members of the community of the Manhood Peninsula in response to a public consultation on a Coastal Defence Strategy for Pagham to East Head.

The Going Dutch workshop was instigated by two local residents and supported by NIROV, the Dutch Planning Institute, and all of the local and national UK government agencies in the Manhood Peninsula. Eighteen Dutch and ten English experts in a whole range of coastal disciplines formulated ideas about a sustainable integrated planning approach for the future of the Manhood Peninsula. They carried out a number of exercises to identify choices the local population and local authorities could make about the future management of their coastal community and environment.

It proved an inspiring and valuable learning exercise for participants, the local population and the local authorities and government agencies, and a book was published of the findings. It also provided an array of options for future management of the area – a populated, low-lying coastal peninsula vulnerable to erosion, flood risk and drainage problems.

The ground-breaking event and subsequent developments, such as the establishment of the Manhood Peninsula Partnership, have attracted international attention and formed part of a multi-million pound European project on planning and climate-change, known as ESPACE. A Climate Change Adaptation Action Plan was produced which identifies actions that the community and public authorities will make together to adapt their community to the changing climate.

2.2 Going Dutch II

On May 29 2008 the Environment Agency and the District Councils of Arun and Chichester published a Draft Coastal Defence Strategy (CDS). The strategy indicated that the area would be unlikely to secure sufficient government funding to continue defending the coastline in the same way. As a result of public concern the Manhood Peninsula Partnership decided to organise a second workshop with Dutch experts to assess the Strategy in an impartial way and also to look into sea defence options put forward by the local community.

From 22-25 June 2008, a second workshop was organised with 21 Dutch and 2 British experts on coastal engineering and planning issues – Going Dutch II.

To achieve a broad input from the local community parish councils, community organisations, local businesses and landowners were invited to outline their main concerns regarding the strategy and suggest other options for coastal management. Their concerns and options were given to the participants of the workshop to address.
Six observers from the local community were invited to attend the workshop and keep a watching eye on the whole process to ensure impartiality. They were invited to sit down with every team to listen and observe.

Finally, residents were invited to the final presentation of the results of the workshop on Tuesday 24th June.

The formula in which the workshop was organised was the same as the first one: participants were paid for their travel and accommodation during the workshop, but gave their relevant knowledge and expertise for free.

2.3 The set-up

All participants were sent a package of information about the area prior to the workshop, which included the draft strategy and briefs from members of the local community. For more information a small library was set up at the workshop centre with maps, reports about relevant subjects, details about sea currents etc. etc.

Four teams were formed, each addressing a specific sea defence option:

- Team 1: No National Funding; this team looked into the consequences of lack of funding for sea defences, more or less the present situation.
- Team 2: Holding the line with a hard sea defence, put forward by many local residents.
- Team 3: Off Shore Reefs, proposed by Save Our Selsey and the Manhood Peninsula Steering Group.
- Team 4: Feeding the coast, put forward by Birdham Parish Council.

All the teams had to asses the CDS. Each team consisted of a mix of expertise on coastal engineering, environmental issues, spatial planning, ecology, etc.

On arrival the participants and the six observers were taken on a bus tour around the Peninsula to get an impression of the area and its most pressing issues regarding sea defences. On the bus and on certain points during the tour they were briefed with relevant information.

Monday morning was used for getting information, drawing the first outlines of a possible solution and to formulate questions. In the afternoon 15 experts with local knowledge formed a panel to answer questions from the participants. In the evening each team held a short presentation for the others to share their views. Tuesday was spent to refine the options and to prepare for the presentation that evening. Discussions were frequent and intense between the members of each team. During all the working sessions the observers were present: they walked in and out the rooms and sat with the teams to listen.

The local community was invited to the final presentation by an invitation put in the local newspaper. This was the opportunity for the community to discuss their options with the Dutch and to ask questions. The whole presentation has been put on video.

The workshop and the final presentation were held at Earnley Concourse.

3 The sea defence options

3.1 The Draft Coastal Defence Strategy reviewed

The participants noted that the main differences between Dutch and British coastal management was that planning and funding flood protection in the Netherlands was much more integrated with spatial planning, i.e. integrated coastal zone management. In the Netherlands, the coastal hinterland is considered to a greater extent in coastal management. Other differences include:

- The guaranteed level of safety. In the Netherlands, defence is a matter of principle, there is a legal coastline and anyone living behind that is entitled to be protected or compensated.
- The Netherlands has water boards and taxes which are dedicated to flood defence.
- Cost - benefit analysis is done for larger stretches of coastline in the Netherlands, not for individual frontages.
- There is a different system of national funding and priority listing.
- There is little discussion on spatial quality and / or design in the UK compared with the Netherlands.

Despite these differences though, the participants noted that:

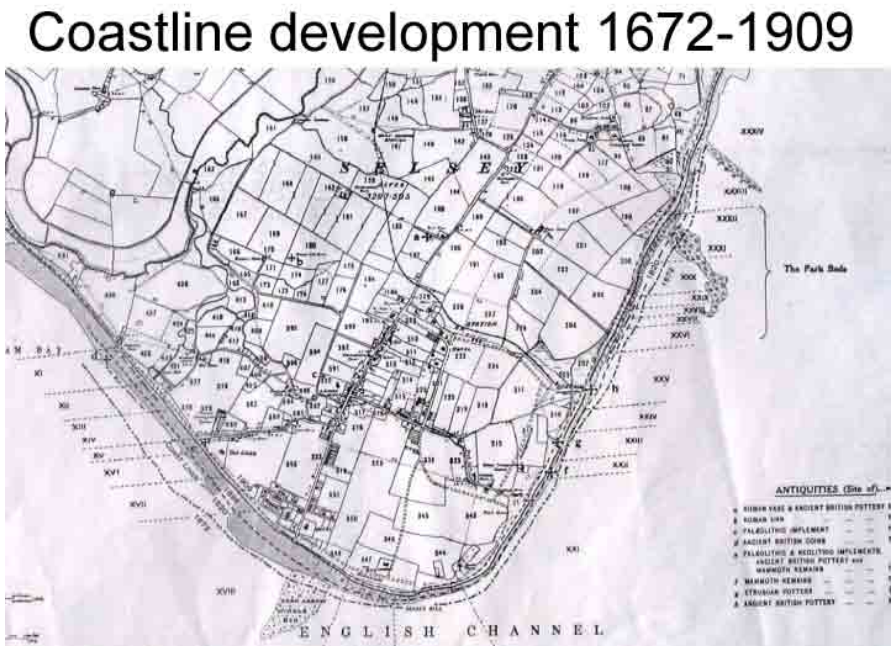
- The approach taken for the strategy was similar – though not the same - to that taken in the Netherlands.
- Cost Benefit Analysis applies similar assumptions and percentages in both countries
- Overall assessment includes similar criteria in both countries e.g. social, economic, environmental sustainability
- The Dutch also are looking increasingly at robustness and flexibility, e.g. a no-regret and adaptable response
- The approach adopted by the authorities in the research which underlies the strategy was considered by the participants to be ‘’impressive and state of the art’’

However, participants also criticised the amount of ‘jargon’ used in the summary document and felt that the report could be more transparent. Also, a number of ‘decisions’ remained quite implicit or were not well argued, e.g. no further investigation into beach nourishment.

General Comments

Historical maps show that the Manhood Peninsula has suffered from steady coastal erosion over many centuries, even without sea level rise. Consequently, net land loss is a natural development. However, some participants were concerned that they could see no historical evidence of a major intrusion at the Medmerry frontage. The major tidal ingress appears to be via Pagham Harbour. It also should be noted that historical maps show a coastline without any manmade interference, so it could be misleading to make direct comparisons with the current situation.

However, any coastal management solution can only delay, not stop, land loss. One can buy time – therefore one should question for what reason and at what cost?



Historical map of retreating coastline around Selsey

Go with the tide
Design with nature; this means:

- Plan for natural spatial units, e.g. whole / comprehensive coastal cells instead of frontages.
- Use the natural processes, not just natural materials.

The strategy recognises the existence and importance of coastal cells, but local land use requires different solutions for different frontages and the local authorities should work closely with the local community, and take their interests seriously, to achieve this. It is a delicate balancing act.

While the strategy's proposals are a sensible compromise for most of the frontages there are serious questions about spatial design quality and whether the strategy starts from a long-term view of the Manhood as a whole.

Frontages
West Wittering
There is 'nice dune development around the Hinge but the car park is inhibiting natural dune formation,'' according to the participants. Suggestions:

- Defend West Wittering village itself rather than the car park – possibly re-locate the car park
- Allow more natural dynamics around the hinge to enhance closure of the dunes. This might decrease the danger of two channels forming

Medmerry
There are great opportunities for salt marsh creation, a rare habitat from an European perspective. But the proposed strategy looks like a series of straight lines drawn on a map with no relation to the morphology or coastal development. As depicted by the strategy it has poor spatial quality, may inhibit nature development, may give cause for regret and may not be sustainable. The suggestion is to follow the natural floodplain boundaries for development of saltmarsh and intertidal area. Issues to consider:

- Raising road (to ensure accessibility and water divide between Medmerry and Pagham)
- Landowners / agriculture
- Caravan park
- Waste water treatment plant
- Drainage of hinterland

- Uncertain morpohological developments with formation of tidal inlet: may require adaptive management

Main recommendations

- Consider beach nourishment at Selsey Bill seriously.
- Consider the overall view of the entire coastal zone first (challenges and opportunities for the area, desired quality and risk), only then decide on the defence strategy
- Consider the long term first and only then decide for the short term.
- Adopt coastal cell management rather than frontage management.
- Adopt integrated coastal zone planning and management.
- Communicate on coastal change over time (use of maps) and enhance awareness.

3.2 No National Funding

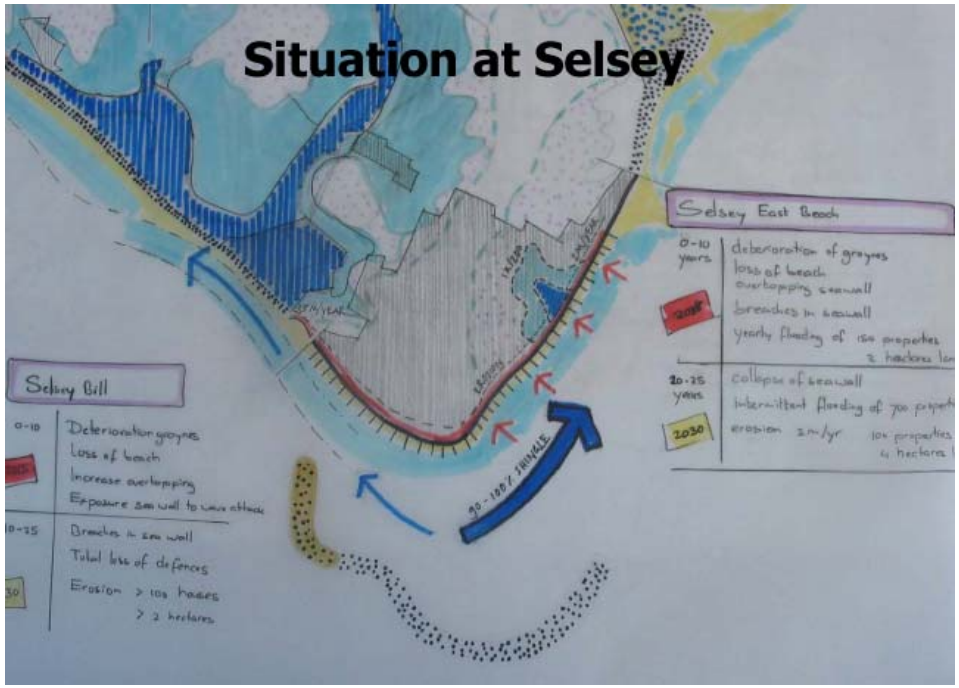
"A help yourself strategy for coastal protection and development on the Manhood Peninsula"

This team considered what would happen if no national funding becomes available for coastal defence works on the Manhood Peninsula.

Over time shingle and sand would be lost from the beaches and groynes would further deteriorate, making the entire coastline more vulnerable to erosion and overtopping. Without serious investments especially the sections at East Selsey and the shingle dike before Medmerry would be the first to collapse.

If there were no national funding available, the only alternative would be to raise funding locally. West Sussex County Council and Chichester District Council have no statuary responsibility to pay for sea defence works. For them to be able to raise the necessary funds, with Central Governments' approval, the money would have to be found from regional or local tax payers and/or property owners.

Relying on individual homeowners to fund or manage their own sea defences would produce an uneven, unsustainable and inequitable solution to protecting settlements such as East Wittering and Selsey. However, relying on homeowners to work together to produce an effective solution without support from local authorities would also be ineffective.



Analysis of the weak links in the coastline: situation at Selsey

According to the team, householders in Selsey and East Wittering would need to find £2400 to £2500 per household (only the ones at risk) per year to help fund sea defences. This would be prohibitive for many householders so local authorities need to help. These calculations are based on the number of houses at risk.

If the area is to thrive in the long term with no national funding for its coastline it needs to attract inward investment by recognising its core strengths and creating a long-term

sustainable plan that ensures confidence and safety in its future. This can only be done with the community and local authorities working together. Coastal defence is then no longer only of concern of the owners in the frontline but of the town as a whole. For example, if a defence solution is designed that consists of a boulevard and other public amenities a better basis would be created for funding.

According to the team, sea defences need to:

- Ensure safety as this will help attract investment and create economic wealth; this can be clearly shown by examples from the past, for example at Selsey where coastal defence works in the 1950s enabled and stimulated housing developments just behind the coastline; it should be noted that these effects are not taken into account in the cost-benefit calculations.
- Work with natural processes to create more economic assets. This principle can also be illustrated with examples from the area. The beach at West Withering creates wealth but depends upon natural beach forming processes; similarly at Pagham harbour; even the very valuable agricultural lands on the Manhood are mainly the product of sedimentation processes in the past; if more beaches are created more wealth would be created for the region.
- Follow sea level rise. All major structural works need to take into account the expected sea level rise at least for the duration of their functional lifespan. However soft solutions such as nourishment strategies need only to follow sea level rise and do not require very high initial investments.

Economic and infrastructure goals should include:

- Creating higher rated employment.
- Upgrading recreational facilities.
- Developing the local economy.
- Better beach and sea defence management.

Economic and social goals can be achieved by:

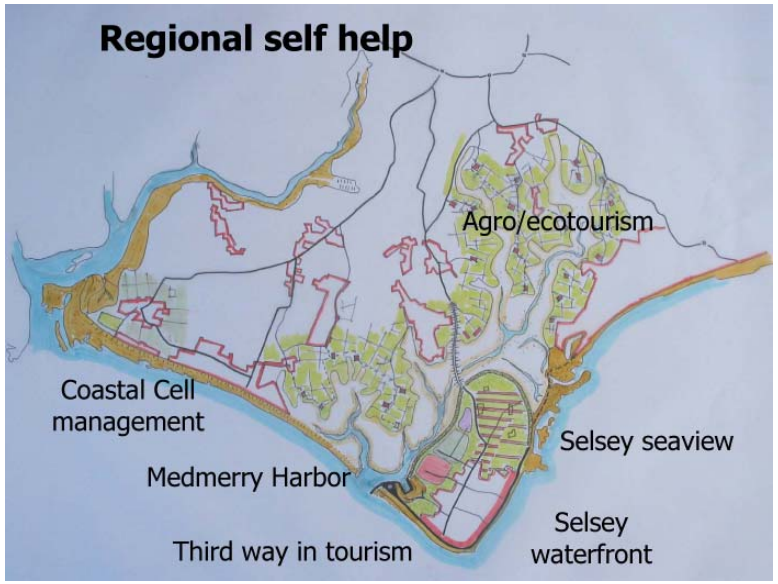
- Recognising the core qualities of the area such as the fact that it is a rural 'K*ingdom by the sea'* close to major urban areas in southern England and so make the most of and enhance the area's natural assets, such as beaches, sheltered natural harbours, unhindered sea views;
- Recognising the economic importance of tourism and agriculture and enhancing and increasing these products.
- Looking at and planning the area as a whole, including sea defence. This implies planning for coast defence on the scale of coastal cell management; for example nourishment strategies make sense on the level of a coastal cell, but also on the scale of region and not just the frontage.

Plan for the middle term not short term. This:

- Creates more win-win solutions
- Allows planning based on the scale of landscape systems
- Allows the less wealthy to gain as well.
- Is more environmentally sound.
- Is more cost effective.
- Creates opportunities for regional development.
- Allows confidence in the future.

For example, a long term vision for the future could create more room for recreational facilities, better anticipation of climate change, allow Selsey to develop as a more attractive recreational centre, create a Medmerry Harbour as an economic asset. On the other hand, uncoordinated actions by individuals tend to aim at short term solutions, which may not only be less cost-effective but may prove also to be a hindrance to more integrated and better solutions.

Create an organisational structure, comprising local and regional authorities and community representatives that would help develop the area and fund sea defences with an integrated and medium term approach that would maximise its assets, be sustainable, allow the area to benefit economically while protecting and enhancing residents' quality of life.

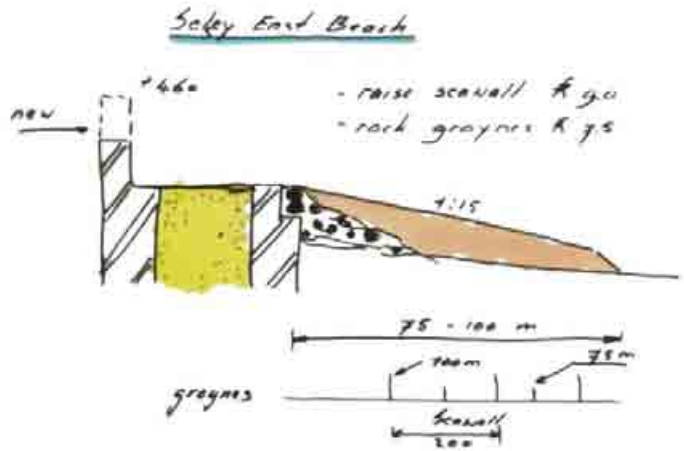


3.3 Holding the line with a hard sea defence

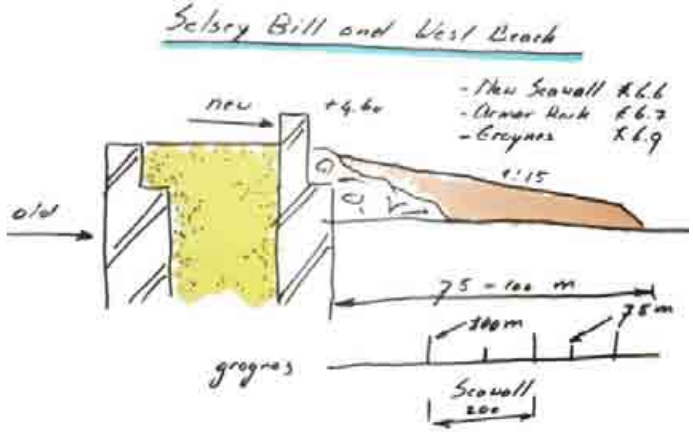
This team's brief was to Hold the line with a hard sea defence. Holding the line, particularly with climate change likely to raise sea levels and result in increased storminess and wave action, will require additional funding. The team calculated the costs for the necessary hard sea defences consisting of groynes, rock revetments and (partly) new seawalls, per part of the Manhood coastline.

Estimated work and costings

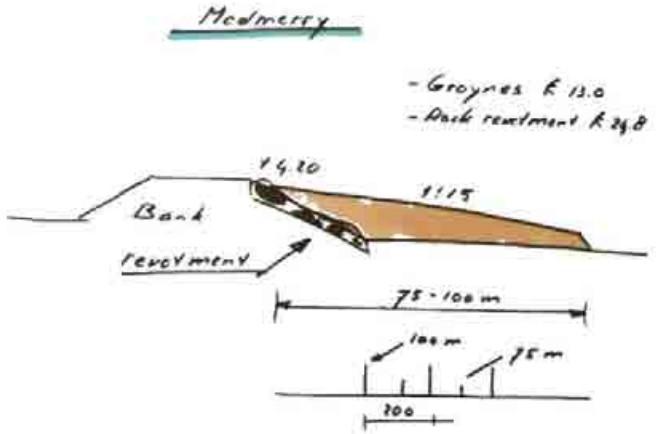
- *Selsey East Beach*
  Raised sea wall: £ 9 million
  Rock groynes: £ 7.5 million
- *Selsey Bill and West Beach*
  New sea wall: £ 6.6 million
  Armour Rock: £ 6.7 million
  Groynes: £ 6.9 million
- *Medmerry*
  Groynes: £13 million
  Rock revetment: £24.8 million
- *East Wittering*
  New sea wall: £16 million
  Groynes: £11.3 million
- *Cakeham and West Wittering*
  Sand supplement: £ 5.8 million
  Groynes: £ 7.4 million



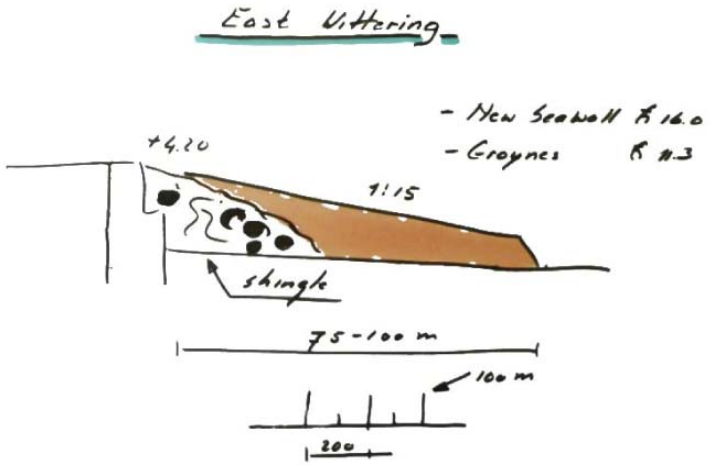
New sea defence at Selsey East Beach



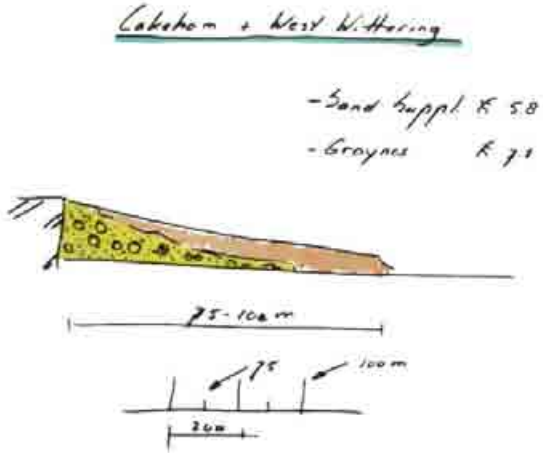
New sea defence at Selsey Bill and West Beach



New sea defence at Medmerry



New sea defence at East Wittering



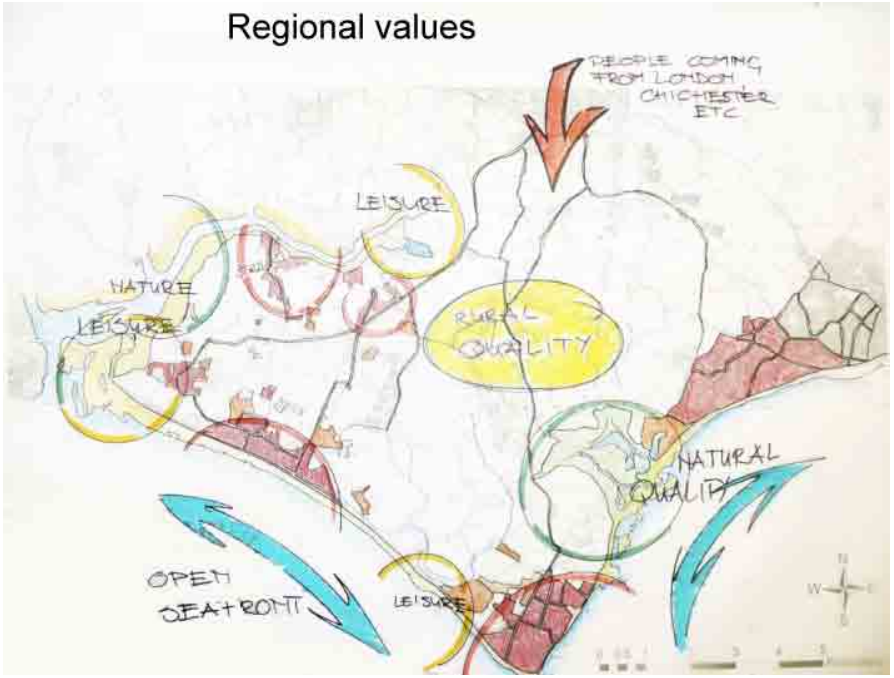
New sea defence at West Wittering and Cakeham

The total costs came to: **£115 million.** How is the area to fund the costs, is the area worth it and can it be justified by a certain economic value?

The Manhood Peninsula is a uniquely special area of semi-rural coastal hinterland on the south coast, offering valuable wildlife habitat and agricultural land. It has considerable potential to enhance these assets, which could bring in additional economic resources from a wider regional area. But it needs to act now to safeguard its future. The biggest risk to the area is doing nothing.
Values that are already appreciated by local residents and visitors are:

- Small-scale rural quality
- Quality of life, laid-back, relaxed atmosphere

- Leisure / recreational activities such as the beach, cycling, walking, sailing, surfing, bird watching, horse riding.
- Local products – fish, shell fish, nursery plants, locally grown vegetables
- Natural qualities, including Chichester and Pagham harbours
- Open and relatively undeveloped sea front
- Wide skies and open horizon
- Micro-climate, sunnier and less rainy than south downs and other areas



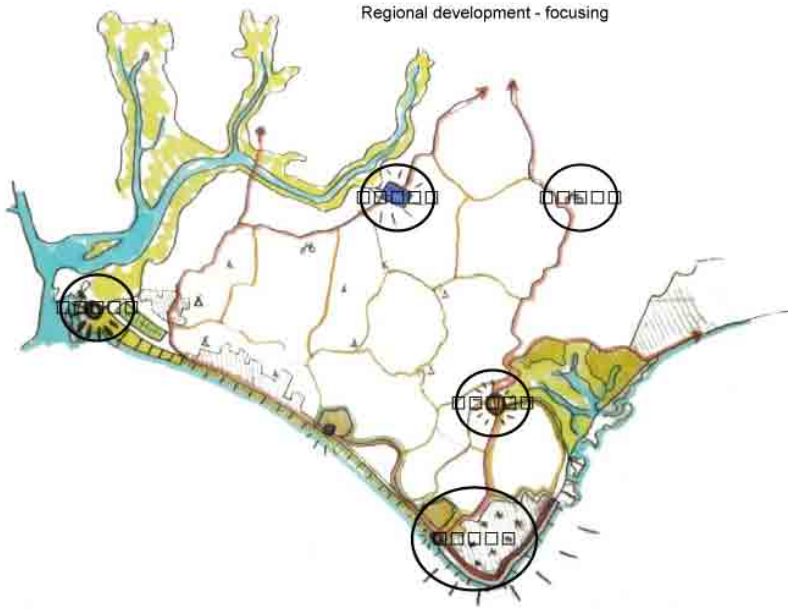
Assets of The Manhood Peninsula

These values and assets should be further enhanced to improve the economy, spatial and environmental qualities and quality of life on the peninsula.

Recommendations and suggestions for enhancement

- By working together with the community, the local authorities can help create a vision and plan for the area that will stimulate the local economy, which is mainly tourism and agriculture.
- Stating an intention to promote high-quality tourism will encourage private investment in to the area, such as the establishment of small hotels, good quality B&B's, restaurants serving local produce e.g. lobster, etc
- Use and enhance what is already in the area. For example, by creating a link between Selsey - Chichester and West-Wittering - Chichester cycle ways will help create a tourism link between the East and the West of The Manhood and encourage more visitors to stay longer and get out of their cars! Cycle ways are a growing tourism attraction, and the flat topography of the peninsula will attract young families and older people.
- Combine existing employment sectors e.g. horticulture / agriculture and tourism. Local produce can be used to promote tourism and vice versa.
- Encourage tourism spend into the wider area, market the whole Manhood as a product, encourage cross-overs between different attractions / areas. The Manhood's rural coastal attractions would market well with the existing tourist product of Chichester, Goodwood and the South Downs.

- Consider what can be done to improve the caravan parks, make them more attractive in their landscape. Think imaginatively - what about a glass restaurant at the Hinge offering panoramic views of the Isle of Wight … there are loads of possibilities!
- Share chances and disappointments. Do not be afraid of action and initiatives, be proud of your Manhood!
- Increase co-operation between local authorities, government agencies, local organisations and the local community. Combine the energy!
- Learn from and support other areas with similar issues
- Start thinking from a wider (regional) perspective



Focus points for development / enhancement

Plan your future as well as your sea defences!
By looking ahead and maximising your potential, you will increase the importance of protecting your area but you will also be able to judge better what type of coastal management is preferable for your economy and environment.

3.4 Off-shore reefs

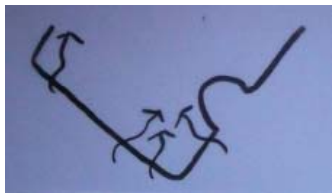
This team looked at off-shore reefs along the Manhood coastline, an option suggested by Save Our Selsey / Manhood Peninsula Steering Group.

According to the group, two priorities were singled out in a future vision for the Manhood Peninsula:
1. A safe coast
This could be achieved by both holding the line and / or realignment.
2. Stimulation of tourism
Tourism offers the best employment and economic opportunities for the area and could be enhance further by making the beaches and natural surroundings in the area more attractive. Choice of sea defence could benefit tourism.

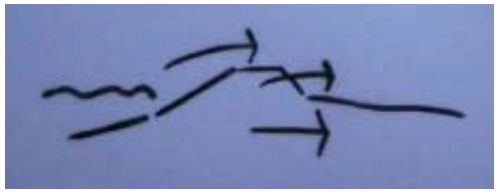
The coastline at the moment is suffering a loss of sediment and scouring, leading to erosion and overtopping. Solutions could include hard defences, managed retreat and / or reefs. A reef works by reducing wave action at the coast, resulting in reduction of sediment loss to sea, and therefore less erosion.

Problems:

Loss of sediment and scour



Breakthrough



Overtopping

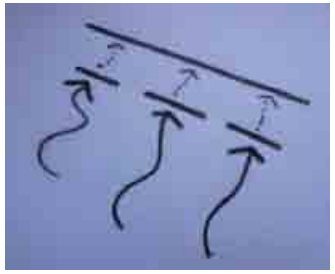
Possible solutions:

Hold the line

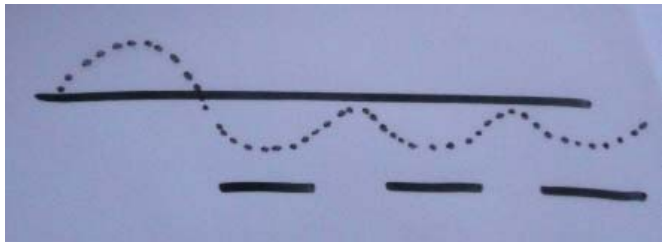
Realignment

Lower waves also reduce the risk of overtopping or even breakthrough of the present shingle sea defence.
However, reefs may produce greater erosion at the leeward side (where the reef ends), because long shore sediment transports are reduced, and can cause increased scour and rip currents.

Principles of a reef:



Reduces wave action:
less erosion and overtopping; no breakthrough



Sedimentation, but: erosion at leeward side.

The group advised against a solid reef, such as a tetrapod reef, for several reasons. Although such a solution would be permanent with low maintenance costs, a solid reef:

- is not a flexible solution
- if it produced unexpected, negative effects, it would be hard to alter it.
- it would be expensive (about £12 million per km)
- it might disturb the sea view.

However, the group felt that the creation of shingle reefs could be an option worth exploring. Advantages of shingle reefs include:

- Costs: they would be relatively cheap (approx £2 million/km)
- Flexible
- Made from natural material
- Material lost from the reef would help feed the coast
- A 'no-regret'measure
- Enable authorities to learn how the coastal processes work

The main disadvantage is that the reef would disappear in time and need to be replenished.

Use of reefs along the coast could help the local population / local authorities sculpt the coastline as they wish, creating wider beaches in some areas, inlets in others etc. The risk of rip currents would remain, however, and there could be unintended consequences. It might be worth exploring what has happened in areas where shingle reefs have already been used.

3.5 Feeding the coast

This team considered feeding the coastline with additional sand and shingle. This is a strategy that is beginning to be adopted in some areas of the Netherlands. It involves depositing sand and/or shingle nourishment a short distance from the coastline. The sediment is subsequently transported by natural wave forces towards the coast. The advantages to this strategy are:

- it is cheaper than depositing sediment directly on the beach
- it follows natural processes and uses natural materials.
- it is a flexible and no-regret approach
- it creates wider beaches offering more protection against erosion
- it also creates a more attractive coastline for visitors and residents offering the possibility of stimulating tourism, benefitting employment and the local economy

Disadvantages:

- needs constant replenishment, possibly every 10 years
- sediment loss requires monitoring, decision on precise location can be varied
- may not be suitable for Manhood coastline (because of high tidal range) or only for parts of it

Prior to any technical solution for a coastal defence, however, is an integrated long term vision on (the future of) this area, according to the team. Any measurement to defend the coast should be taken within the framework of that vision.

The Manhood's environmental qualities are what differentiate it from nearby coastal frontages. It is one of only a few remaining semi-rural areas on the south coast and both local people and visitors want to keep it like that. This forms a dilemma as governmental funding for coastal protection is greatest for urbanized areas. In rural areas protection in the future likely will have to be funded from local funds. So avoid costly solutions and try to find economic motors which don't cause urbanization, but use the environmental qualities: *'quality of life*'. Exactly for this reason The Manhood attracts home-workers who enjoy its quality of life. This should be encouraged, as home-workers often end up employing local people as their businesses grow.

The major economic forces on The Manhood include tourism, agriculture and fishing. The three of them can be linked by presenting and branding the Manhood farming and fishing products as "local", "healthy" and "slow" and by marketing special products from the local farms. For example, the Manhood boasts the country's leading sweet pea grower, one of the best rose breeders in the country, one of the biggest salad growing organisations etc and Selsey's crab and lobster is shipped to the best restaurants in the UK and beyond. There is one place in Britain which is officially a "slow town": Ludlow. Selsey could be the second.

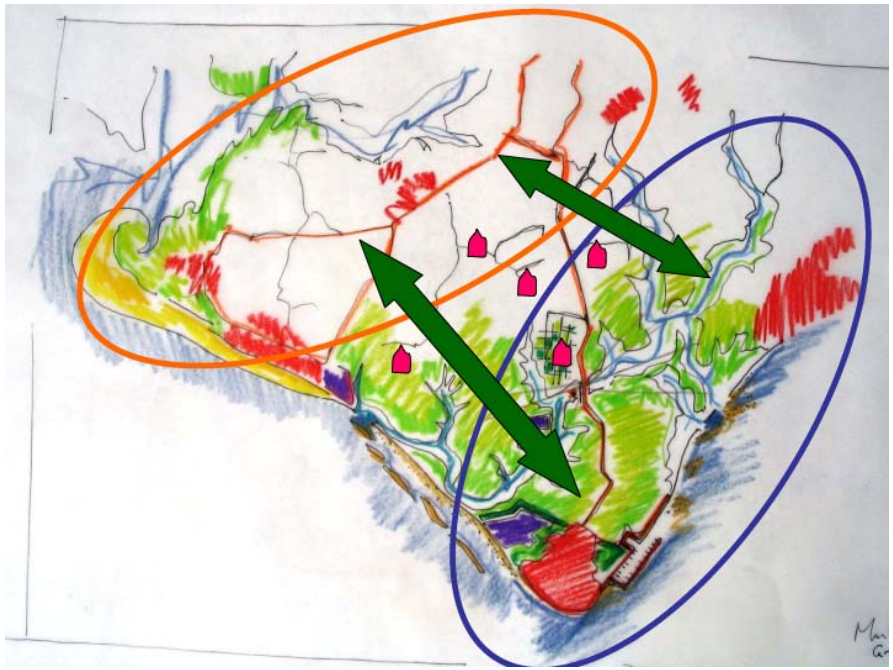
Already a lot of tourists visit The Manhood. However, many of them are just day visitors. *Lengthening their stay* will boast the local economy, according to the team. And this can only be successful when there are more possibilities for (small scale) accommodation, such as B&B's in old cottages and farm-

buildings and more variety in the attractions on the Manhood. Here the relation with the coastal defence strategy comes in.

By creating a brackish intertidal flood-plain (a flood-plain more or less dry and accessible only during low-tides) on the Medmerry coast which follows the natural topography, an additional asset to the existing natural environment such as Pagham and Chichester Harbour will be formed. The existing defence could be allowed to be overtopped subsequently forming a sill.

Example of a sill

The height of this sill can be managed: safety first. Also: for a brackish environment the sill needs to be higher than for salt marshes. A few farms and houses may have to be bought and perhaps some modest embankments, which follow the topography have to be built. This intertidal landscape will add to the variety of interesting landscape features, especially when combined with a cycleway network all across the Manhood Peninsula (the Manhood is perfectly flat, after all). The team also proposed better access to the A27, to concentrate car traffic on the two main roads on The Manhood and to make the others safe for cycling (only residents and cyclists) and to make more public footpaths.



Intertidal landscape in combination with cycle ways and additional B&B accommodation could reduce east-west divide on The Manhood

Roads for car traffic and for cyclists and residents only

The team agreed with the CDS proposal for Selsey's East Beach with a hard sea defence. But an economic force is needed to create funds for this defence and its maintenance. As the team concluded that this economic force must add to the variety of touristic attractions, they proposed to combine the realization of a hard sea defence with the building of a harbour: a harbour for both fishermen and tourists who seek a place for their yachts. Not a sophisticated marina like Chichester Marina, but a friendly small scale harbour with a mixture of fishery-activities and tourism, where one can eat fresh lobsters in a restaurant on the quay.

Impression of a new harbour at Selsey

The value of Bunn's caravan park for the local economy has been recognised. The caravan park should be allowed to build its own sea defence: a dyke which defends and hides the caravans at the same time. But only under the conditions that:
1. it is in line with the coastal processes and does not cause problems elsewhere on the coast and
2. that this dyke, i.e. raised embankment, is a public tree-lined promenade with a view on the new intertidal landscape.

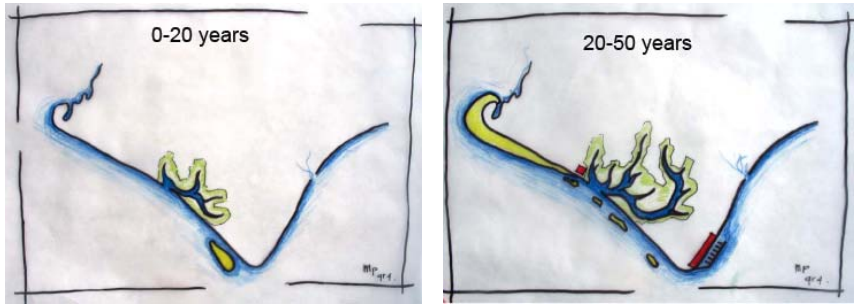
Impression of a new tree lined dyke around Bunn's caravan park

The process of feeding the coastline is illustrated by the following picture. The yellow triangle is the feeding machine: a large deposit of sand and gravel. Waves and currents will spread the material along the coast heavier materials such as shingle will be deposited first; lighter materials like sand will be taken further along the coast to East Head. In the west the sandy beach will be strengthened and broadened to give visitors more space on a sunny day. At East Head dunes can be formed, but this will need adjustment of the car park. The formation of the beach at Wittering can take to 50 years. But a decision to accelerate the feeding process can be made by adding more deposits or choosing other locations for deposits.

Feeding the coast: the process

There is currently a divide between the East and West of the Peninsula, both physically and economically. With the vision described above in combination with options such as feeding the coast and even managed realignment this divide can be reduced and create a ‘Manhood” whose whole is bigger than its parts!

Impression of the beach at West Wittering



Feeding the coast during time

Estimation of costs of feeding the coast

The team made the following estimation of costs.
Sediment movement (according to the strategy): actual net 2000 m3/yr, potential gross max. 30.000 m3/yr. Sand goes rapidly with the current and feeds the foreshore, shingle goes slow with the waves and feeds the beach barrier. The combination slows down erosion.

A conservative cost estimate of – on average – one nourishment every 10 years would amount to:
300.000 m3 x £ 23 = £ 66 million per 100 years for this 'alternative'. This applied to Medmerry + East-Wittering + Cakeham + West-Wittering = £ 136 million per 100 years.

Yearly costs would then be around 3% of total costs = about £ 200.000 per year. That is the same as the present maintenance costs of Medmerry alone.

Land purchase for salt marsh: 800 ha at £12000 / ha = less than £ 10 million.

Conclusions:

- This alternative strategy is cheaper or at max equally costly (if we assume that even our conservative estimate is still twice too high).
- It is more flexible; you may try / experiment.
- It deserves serious consideration.

4 Conclusions and recommendations

While the workshop may not have produced a right or wrong answer for coastal management of the Manhood, there were many points raised by the teams that could help the local authorities and community work together constructively.

The Draft Coastal Defence Strategy prepared by the Environment Agency and Chichester and Arun District Councils could form the basis of a sustainable solution for the area, as well as providing a compensatory mechanism for some landowners and greater security for property owners. But more consideration needs to be given to landscaping and to ensuring long-term safety and economic viability for surrounding communities. Feeding the coastline with additional material offshore should be considered and tested as this could help 'buy time' and allow a greater understanding of the coastal processes as well as creating more recreational opportunities for the coastline. The coastal strategy must be tied in with a long-term economic and planning strategy for the whole peninsula. With a vision of the future of the area, which maximises the area's potentials you have a better judgement about the type of coastal defence and management necessary for the area's economy and environment.

The following are main points identified by all groups.

- **'No-regret'.** Any coastal management should be on a 'no-regrets' basis and as an integrated coastal zone management.

- **Unique area**. The area has unique features that should be incorporated into a long-term vision and plan for the area. For example, the Manhood Peninsula is one of the last stretches of undeveloped coastal areas between Brighton and Portsmouth. It boasts flat, sandy beaches, a relaxed atmosphere, very good agricultural land, outstanding light and climate. Part of the coastline has been defined as a Special Protected Area (SPA). This all together gives it high potential for tourism.

- **The area's potentials**. Be proud of the area. The Manhood should be marketed and branded more, bringing it to the attention of a wider range of people who could bring more money into the area. Think of marketing the area's products, which can be food products such as Selsey, but also 'products' like clean air, bright light, good climate, sandy beach, quality of life, etc. Make sure that visitors stay for longer than just a day: encourage the creation of more facilities such as hotels and B&Bs, holiday homes, restaurants, cycle ways, surf, beach and diving facilities, horse riding, fishing etc.

- **Reducing divide**. The area is divided into two parts: the wealthy western part with the Chichester Marina, and the harbour villages of Dell Quay, Birdham, Itchenor, West Wittering plus the sandy beaches at East Head / West Wittering; and the less wealthy eastern part with Selsey, East Wittering, Bracklesham, and the greenhouse area of Almodington. By investing in and upgrading Selsey and establishing good quality tourist attractions, e.g. a lobster and crab restaurant

with stunning views across the sea, plus creating cycle ways all over the peninsula, you will encourage movements from one part to the other and mix the two, which will strengthen the area as a whole.

- **Holistic approach.** Coastal defence must be looked at holistically, i.e. in an integrated manner: from Pagham to East Head and including the hinterland; don't divide the coast into parts and find a solution for each part; or expect landowners to finance their own solutions. Even when you look holistically it might be that you need different defence options for different stretches, but that decision should be based upon a wider perspective.

- **Hard or soft sea defences.** Be aware that this area, which is not densely populated and has difficulty attracting new industry or non-tourist based commercial activities, is unlikely to be able to justify an expensive, hard 'everlasting' sea defence, unless it is going to be developed for more housing and business. Its geographical shape, that of a peninsula, and poor road infrastructure is unlikely to attract large employers or businesses and too much development will mean the area will lose its unique selling points (i.e. its environmental features) and it will become "one of many". Meanwhile, the fact that the land is sinking and sea levels are rising will mean that defences will always need constant maintenance, at some stretches of coastline more than at others. Maintenance costs of hard sea defences will be more because there will be more resistance to the natural forces. Working with natural forces, such as feeding the coast, will allow nature do its work, and create a more sustainable defence. You need to repeat this measurement every 10-20 years, but this is a 'no-regret' measure that may help buy time to help the area adjust to the next stage. This argument also applies to managed realignment if the process is monitored well and is adaptive.

- **Compensation**. In the Netherlands the government is obliged to protect people and properties within the legally established boundaries of sea and river defences, in most cases, within the dykes. In the case of natural disasters, such as extreme storms or high tides, there are no formal compensation regulations. But, in practice, the national government will raise funds to help the victims financially. People are only compensated when they have to move because of policy measures taken by the government. A situation such as the proposed realignment at Medmerry is more complicated. Realignment is a government policy measure, but there is no guaranteed safety level currently in force. So, from a legal point of view, there is no reason for the government to provide compensation. However, compensatory mechanisms could perhaps be found if the land becomes valuable habitat such as salt marsh, where replacement is required under European legislation.

- **Main economic forces.** Tourism and agriculture are the main economic forces at the moment. They should both be developed together with the coast and the landscape features to provide mutual benefits.

- **Work together.** Local authorities and local people should work more closely together, using the MPP as a vehicle for further cooperation between all relevant parties. Use the area's economic potential (tourism, recreation and agriculture) to justify and finance part of the necessary coastal defences.

- **Long term vision**. With a vision for the area, which looks ahead and maximises the area's potential you have a better judgement about the type of coastal defence and management necessary for the area's economy and environment.

- **Experiment**. Be brave and innovative: try an experiment with no-regret measure such as feeding the coast with sand and shingle. It would be less expensive than other options and might be highly beneficial to the whole area (from a safety point of view, economically, environmentally).

Appendices

Observers' report

I am writing a brief report on behalf of the six observers present during Going Dutch II. Some of us are councillors, some are not, but we are all essentially community observers.

Our brief here has not been to comment on the outcomes but to give our assessment on four criteria: balance, evidence, fair play and thorough debate. In summary, although our remit was to look for potential lack of balance, evidence, fair play or thorough debate, we were unanimous in stating that in our view all four criteria have been met, particularly with the time constraints available.

Our greatest concern has been about the panel of local experts, who are inevitably to a greater or lesser degree people with their own individual agendas. This is not a criticism, but an honest statement of fact. They were bound to give opinions, not all of which they were able to support by facts. However, these opinions were usually qualified as 'opinions' and possibly as the best information available.

Having said all this, we find no evidence that the Dutch delegates were wrongly influenced in any way; they were certainly not asked to rubber stamp the coastal strategy proposals. We were impressed by their maturity, objectiveness and incisive questioning, particularly by their integrated approach which did not treat coastal defence in isolation and overcame many financial issues.

Inevitable, in the time available, not all the evidence requested could be obtained, but we were satisfied that all concerned did their best to comply with requests. In this context, we took a decision to supplement our observers' role in one respect; when asked for local information which was not otherwise available, we complied with the requests, but resolutely refused to give opinions.

We felt it was unfortunate that the delegates might have been restricted in some considerations when informed that no funding would be available; in addition, the differential in sand and gravel transportation costs as between UK and The Netherlands might have had an impact on options. We considered that arguments should be debated on their merits without any financial constraints.

Without sight of the delegates' report and/or recommendations, we are confident that their findings will honestly and accurately reflect their conclusions based on the best evidence available and should therefore be given due and serious consideration by the relevant authorities.

We were impressed by their diligence and cross-fertilisation between workshops, which is bound to produce a better rounded report.

Finally we have two recommendations, one of which relates to similar events i.e. that workshops should each be provided with an information assistant or 'gopher' to help them.

Our second recommendation takes into account the fact that the delegates' findings will be based on pre-reading of some papers plus less than two and a half day of debate. Taking into account the timing of the strategy consultation period, we recommend that if any of the delegates wish to make any additional findings or recommendations between today and July 14 they should – preferably after consultation with as many of their fellow delegates as possible – email them to Renee Santema for inclusion in her final report of the proceedings.

In conclusion, we express a wish – a wish that not only will the findings be given due consideration but this consideration is given without delay or prevarication; much as we have welcomed our visitors, we feel it would be wasteful to have a Going Dutch III in seven more years' time!

Stuart Becker

The teams, chairmen, organisation and observers

The teams

Team “No National Funding”

1. Carin Jannink
2. Pieter Schengenga
3. Abe Veenstra
4. Leo Adriaanse
5. Jasper Fiselier
6. Jos Rademakers

Team “Feeding the coastline“

1. Arjan van de Lindeloof
2. Peter de Ruyter
3. Jake Wiersma
4. Marinka van Nielen - Kiezebrink
5. Frans Klijn
6. Mike Wallis

Team “Off Shore Reefs“

1. Harro de Jong
2. Norbert Dankers
3. Sjef Jansen
4. Martin Groenewoud

Team “Holding the line (with a hard sea defence)”

1. Yoran van Boheemen
2. Maaike Bos
3. Daniel de Kramer
4. Bart Egeter
5. Martin Baptist

The chairmen

Rhoda Ballinger and Wendy Dodds for Sunday and Monday;
Alma Ploeger and Pascale van Empel for Tuesday.

Dr Rhoda Ballinger, Lecturer in Marine Geography and Environmental Geoscience
School of Earth and Ocean Sciences - Cardiff University
Main Building
Park Place
Cardiff CF10 3YE

PHd Student: Wendy Dodds (assistant to Rhoda)
Contacts via Dr Ballinger

Alma Ploeger, Business Management Manager
BVR adviseurs ruimtelijke ontwikkeling
Veerhaven 7
3016 CJ Rotterdam
The Netherlands

Pascale van Empel (assistant to Alma)
Contacts via Alma Ploeger

Organisation

The Manhood Peninsula Partnership, represented by

- Councillor **Peter Jones**, MPP chairman
- **Carolyn Cobbold** from the local community
- **Emma Livett, David Lowsley, Keith Morgan** from Chichester District Council
- **Mark Elliott** from West Sussex County Council;

Renée Santema, Spatial Planner in The Netherlands (+ former Manhood resident); and
Brian Waters, technical facilitator

The observers

- Stuart Becker
- John Connor
- Adrian Harland
- John Napper / Brian Rainer
- Carol Purnell
- Jim Robertson

Excursion at Selsey's East Beach

Final presentation

CV's workshop participants

Ir Leo Adriaanse (1957), Coastal Ecologist / Engineer
Senior advisor Water Management with the Division Water and Coast Management
Rijkswaterstaat Zeeland
Postbus 5014
4330 KA Middelburg
The Netherlands

Biology at Wageningen University and VU University Amsterdam (1983)

Projects include:

- Initiator of the Interreg North Sea IIIb project ComCoast (Combined functions in Coastal Defence Zones) and project coordinator of the Dutch ComCoast pilots Ellewoutsdijk and Perkpolder.
- Advisor with the Netherlands Water Partnership team that produced A Dutch Perspective on Coastal Louisiana flood risk reduction and landscape stabilization for the United States Army Corps of Engineers.
- Initiator and project manager of the participative planning proces (with the local community) to design the new highway RW57 on peninsula Walcheren.

Drs Martin Baptist (1972), Ecologist
Senior Marine Ecologist at IMARES Texel
Postbus 167
1790 AD Den Burg – Texel
The Netherlands

Martin Baptist is a specialist researcher and advisor on ecology, water quality, environmental impact assessments and nature conservation. He has a broad understanding of the functioning of freshwater and marine ecosystems, governing the hydro- and morphodynamics, water quality and ecology, in combination with expertise on policy analysis, decision support and multiple spatial use.

His PhD-thesis dealt with soft approaches for river flood management, i.e. cyclic floodplain rejuvenation. This strategy focuses on providing more space for the river and its floodplain in combination with nature development. His current position is senior marine ecologist at IMARES. He is involved in a wide variety of topics including impact studies, spatial planning and fundamental research in estuaries, coastal zones and seas. His projects deal with the interaction between infrastructural works and ecology (Building with Nature, effects of sand nourishments and dredging), the spatial distribution of birds in the Wadden Sea and North Sea, the restoration of estuarine gradients, and nature management (Wadden Sea World Heritage). He also holds a position as an extraordinary lector at the University of Applied Sciences Van Hall-Larenstein for Integrated Coastal Zone Management.

Ir Yoran van Boheemen (1978), Spatial Planner / Landscape Architect
Feddes/Olthof Landscape Architects
Lumax gebouw
Ondiep Zuidzijde 6
3551 BW Utrecht
The Netherlands

Wageningen University, Landscape Architecture (2008); since 2006 Landscape Designer for
Feddes / Olthof Landscape Architects.

Projects include:

- "Randstad 2040": developing a long term vision for the densely populated western part of the Netherlands, to ensure that the Randstad will still be a safe and attractive place to live and work in the next decades. Important questions that we try to answer in this context are for instance: Will we continue to build and live below sealevel, or should we start building on the higher grounds? Can we continue raising the dikes, or do we have to make a differentiation in safety risks and do we just allow some areas to flood? How will we cope with problems as sealevel rising, higher peaks in riverwater, the declining land and increasing salt level in the groundwater.
- "Luwtedam 2007": together with engineers and ecological consultants design of a dam with the function to create a sheltered bay area in the IJmeer for nature development.
- "Kijkduin": a plan to upgrade the existing landscape and fit in 1000 new houses in Kijkduin, a small Dutch seaside resort. The plan also includes a broadening of the beach and the creation of new dunes.

Ir Maaike Bos (1962), Landscape planner / specialist on regional planning and water management
Deltares, Scenarios and Policy Analysis
Integrated Spatial Development
PO Box 85467
3508 AL Utrecht
The Netherlands

Landscape Planning, Wageningen University (1992); Landscape Architecture, Larenstein Polytechnic, Boskoop (1989); Landscaping, Horticulture College, Rijswijk (1983)

Projects include:

- Making spatial analyses and designing visions, master plans, frameworks and plans on national, regional en local scale for spatial planning (combining safety and spatial quality)
- Advising for and facilitating in interactive dialogues and participation processes for plans of the Meuse and Rhine river systems
- Developing guidelines how to design and judge spatial quality and interactive, participative processes for the main Dutch river areas
- Cost-benefit analyses concerning spatial quality
- Adaptive Water management: process and measurements
- Regional planning and local participation processes for the province of Zeeland.

Dr Norbert Dankers (1947), Ecologist
Investigator at IMARES
Postbus 167
1790 AD Den Burg – Texel
The Netherlands

Ecology at the University of Wales (Bangor college, 1971); Biology at Nijmegen University (1972) and
Ecology at Sydney University (1977)

Projects include:

- Author and co-author of several major environmental impact studies on harbour construction or harbour operations, gas exploration and exploitation and reports on management related issues, especially related to shellfish fisheries.
- Several years experience in collecting of published and unpublished information as co-editor for the books 'Ecology of the Wadden Sea'. Experience in assessment of the status of natural ecosystems by participating in editorial groups for Quality Status Reports and background reports for “Natuurverkenningen”.
- Coordinator / lead author of ecological studies in relation to several projects dealing with environmental impact of harbours in estuarine situations, such as Balgzand harbour, Dollard harbour, Eemshaven and studies related to soil subsidence and Gas exploitation. In relation to the planning of Large scale infrastructural works in the North Sea (Flyland, Maasvlakte II) studies on the behaviour and ecological impact of silt and siltation were carried out.
- In relation to integrated coastal zone management, functions of the natural environment were classified and quantified which resulted in development of E.I.A like studies before they existed in NL. These studies gave guidance to the Dutch MER-procedure.
- Research experience on physical transport processes (water and sediment) in estuaries and salt marshes, ecology of benthic organisms, aquaculture, fish, etc. Transport processes invoked by mussels were studied and followed by research on the role of the mussel in sediment-, nutrient- and organic matter budgets.
- Research experience with large-scale experimental ecosystems.

Ir Bart Egeter (1957), Transport and Infrastructure Specialist
Independent consultant in the field of Mobility and Infrastructure.
Maaskade 147d
3071 NN Rotterdam
The Netherlands

Projects include:

- Developed and successfully applied various innovative concepts and methods: a methodology for public transport system design, IRIS (a concept for personalized travel information in transit), ARNO and ARKO (network architectures for road networks).
- Broad expertise in many research projects on Infrastructure and Transport in his previous position at the leading Dutch research organization TNO, and the Delft University of Technology.
- Facilitator of workshops or creative sessions.

Drs Jasper Fiselier (1958), Mcs Physical Geography for Environmental Planning
Project leader of Physical Development Plans and Policy Advisor to Dutch Waterboards and to the Ministry of Transportation and Water Management.
DHV BV
Postbus 1132
3800 BC Amersfoort
The Netherlands

Physical Geography at the University of Amsterdam (1983) with majors in landscape ecology and environmental planning.

Projects include:

- Several Wetland Restoration and Management Schemes, Coastal Management Schemes, Environmental Land Re-allotment Schemes and EIA's for dikes and sluices barriers.
- River Basin Management Plans, Urban Management Plans and the implementation of the National Programme Water management in the 21st Century, focusing on projects related to rivers, regional water systems and the implementation of the Water Framework Directive.
- Integrated Coastal Development Plans.
- Project manager for Mare, a research programme into the effects of creating an island in the North Sea.
- Team leader for the Integral Coastal Re-enforcement Plan for the coast of Delfland that comprises of 14 kilometers of dunes and several coastal communities and Natura 2000 areas. The resulting plan is based upon stimulating the natural process of dune formation as a means for strengthening the sea defense.
- Team leader for the coastal development plan of Zeeuws Vlaanderen, a stretch of 18 kilometers of mainly dikes and harbour areas. The plan resulted in various tailor-made solutions, often combining dikes and dunes.
- Team leader of the Ecodynamic Development and Design Group within the programme Building with Nature.

Ir Martin Groenewoud (1971)
Senior Advisor on Coastal Engineering Rijkswaterstaat

RWS Utrecht
Postbus 20.000
3502 LA Utrecht
The Netherlands

MSc degree in Civil Engineering, Delft University of Technology, Delft, The Netherlands (1995)

Projects include:

- Spatial development plan Perkpolder: Technical Manager of a managed realignment plan along the Scheldt Estuary including the design of new sea defence
- European Project ComCoast (COMbined functions in COASTal defense zones): work package leader civil engineering aspects, involvement in pilot studies. Topics: Socio economic evaluations, technical innovations, public participation, knowledge exchange
- Eastern and Western Scheldt Estuary, The Netherlands: Design of revetments
- Port development, India. Project leader of a Coaching/Training Programme in India, regarding an optimization of the collection of survey information with the ultimate objective to reduce costs by improving planning, contracting, monitoring & control, and evaluation of maintenance dredging in three major ports in India.
- Port extension, Rotterdam, The Netherlands.Member of the working group Hydraulics & Coastal Morphology Feasibility and Environmental Impact Assessment study for the port extension at Rotterdam (Maasvlakte 2), the Netherlands. Definition and supervision of studies.
- Study of the behaviour of and modelling of sills in the Scheldt Estuary, The Netherlands (Rijkswaterstaat)
- Study of the behaviour of shoreface nourishments along the coasts of Denmark (Kystinspektoratet) and The Netherlands (Rijkswaterstaat)

Ir Carin Jannink (1968) Town and Landscape Planner
Carin Jannink Landschap en Stedenbouw
Zwethkade 8
3046 NV Rotterdam
The Netherlands

Projects include:

- Several Town Plans for towns throughout The Netherlands
- Several design plans for landscapes
- Designs for Industrial Landscapes
- Study for water storage possibilities in polders
- High way design

Drs Sjef Jansen (1957), Ecologist
Independent Ecology Advisor: “Sjef Jansen Plan Ecology”
Ir. Munterlaan 52
6865 TE Doorwerth
The Netherlands

Biology at the University of Nijmegen.

Projects include:

- Environmental Impact Surveys.
- Participated in several coast, dune and seashore projects during the last 20 years.
- Project leader in the creation of a new national handbook for nature target types in the Netherlands called Ecosystem Vision. In this handbook, a selection system was developed which identified nature target types and key species which make up the main ecological structure in the Netherlands.
- Advisor in the project of second Maasvlakte Harbours of Rotterdam.
- Participated in the making of a vision of the Dutch coast for the Society for Preservation of Nature Monuments in the Netherlands.
- Participated in one of the workgroups of the North Sea Foundation for a few years
- Member of the Environmental Assessment Commission (MER) and member of the quality team (Q-team) of the implementation of the Spatial Planning Key Decision Room for the River (SKPD) in the Netherlands. The Q-team has to superintend the improvement of the quality of the environment of the river basin in this Room for the River project in the rivers Waal, Lower Rhine/Lek and IJssel.

Ir Harro de Jong (1978), Landscape Architect / Spatial Planner
Independent Landscape Architect / Spatial Planner
Burg. Weertsstraat 15
6814 hl arnhem
The Netherlands

Projects include:

- Integrated design coastal defence Zeeuwsch Vlaanderen, with OKRA Landscape Architects
- “Concervus-mix”, regional design Zuid Flevoland (NL).
- “Gran Turismo”, design competition ‘Coast in movement’, honourable mention.
- Vision on the Landscape Development of Zuid-Limburg; regional design.
- Several projects on regional design, urban planning, architecture, landscaping.
- Assistant Professor Landscape Architecture Wageningen University (2003-2007); now visiting lecturer Landscape Architecture Wageningen University.

Dr Frans Klijn (1958), Landscape Ecologist, Physical Geographer, Environmental Expert
Deltares
Postbus 177
2600 MH Delft
The Netherlands

M.Sc. Physical Geography at the University of Amsterdam (1984, cum laude); Ph.D. Environmental Science at Leden Unversty (1997)

Projects include:

- "Water Safety 21st century": Advise on various aspects of flood risk management and flood event management to the Ministry of Public Works and Water Management.
- 'Q-team (=Quality-team) Room for Rivers": Member of a specialists team under the presidency of the National Advisor for the Countryside, which advises the minister on the spatial quality of 40 'Room for River' - measures.
- Europe: "FLOODsite" research project concerning Flood Risk Analysis and Management in the EU 6th framework.
- "Freude am Fluss": project developing an improved procedure for joint planning and design by specialists and stakeholders, in order tot facilitate the implementation of 'room for river' measures in The Netherlands, Germany and France.

Ir Daniël de Kramer (1950), Civil Engineer
Project Manager Rijkswaterstaat
RWS Zeeland
Postbus 5014
4330 KA Middelburg
The Netherlands

BSc degree in Civil Engineering (1982)

Projects include:

- Spatial development plan Perkpolder: Nature Development project including the design of new sea defences in a managed realignment plan along the Western Scheldt Estuary.
- Planning, designing and realisation of rock revetments in the Scheldt Estuary, The Netherlands.
- Feasibility study of the possibilities of a nature development project in the Eastern Scheldt area (Rammegors area, the Netherlands).
- Development plan Kruiningen: Project Manager of new sea defences in a managed realignment plan along the Western Scheldt Estuary
- Western Scheldt Estuary, Design and realisation of revetments (The Netherlands, near Flushing, Breskens etc.)
- Coastal defence: Realisation sand supplies of the Dutch coast (Scheldt area)

Ir Arjan van de Lindeloof (1971), Spatial Planner / Landscape Architect
Senior Landscape Architect at the directorate of Spatial Planning & Mobility
Province of South-Holland
Zuid-Hollandlaan 1
2509 LP The Hague
The Netherlands

Wageningen University & Research, Faculty of Landscape Planning & Design; Master of Science in Landscape Architecture (1995); Master thesis: 'De idylle van het riviergezicht': a design driven research of the development of cities along the rivers.

Projects include:

- "Safety and development of the coast of South Holland: responsible for the integrated spatial planning and development of the coast of South Holland in relation to safety issues, climate change and urban innovation.
- "ENCORA": ambassador for spatial and marine planning in the European Network of Coastal Regions (ENCORA - www.encora.org).

Drs Marinka Frederika van Nielen-Kiezebrink (1971), Physical Geographer
Advisor on policy and practice of coastal and water management
Centre for Water Management (previously National Institute for Coastal and Marine Management/RIKZ)
Postbus 17
8200 AA Lelystad
The Netherlands

Projects include:

- National evaluation of flood management policies in relation to (raising) flood risk awareness and behaviour
- Magazine De Water, magazine on policy and practice of water management; writing member of editorial staff
- Interreg IIIb project COMRISK; comparison of policies and strategies for flood management in five North Sea countries, including the UK
- Policy discussion on development and safety of coastal towns
- Progress reports Coast; annual report on the progress of implementation of the third National Coastal Policy and on national and regional developments
- Dynamic dune management; evaluation of project “De Kerf” Schoorl, Noord-Holland
- Involved in Implementation of the Biodiversity Convention
- Preparation of new management of the Haringvliet-barrier

Ir Jos Rademakers (1963), Landscape Ecologist
Independent Landscape Ecological Consultant (since 2002)
Kapelweg 65
3951 AB Maarn
The Netherlands

Specialised in dynamic ecosystems (rivers, estuaries). Jos Rademakers works on the interference of ecological landscape analyses and sustainable landscape
architecture.

Projects include:

- River enlargement Deventer. Specialist member of the design-team of the sustainable enlargement project of the river IJssel near the city of Deventer. Goal is to integrate the decrease of flood risks with an impulse in city, nature and landscapes development. Involves a redesign a former engineer based river management towards a sustainable and dynamic floodplain management approach.
- New lake former Island of Wieringen. Senior ecological consultant at the design and assessment of the Wieringerrandmeer project. Project involves the construction of a 1500ha new lake around the former Wets Frisian coastal Island of Wieringen. Project aims at the establishment of a new sustainable water management, the development of 500 ha new wetland nature and a large scale water sport area.

Ir Peter de Ruyter (1965), Spatial Planner / Landscape Designer
Buro Alle Hosper – Landscape Architecture and Town Planning
Postbus 5231
2000 CE Haarlem
The Netherlands

Landscape Architecture at Wageningen University of Agriculture, the Netherlands (1992). Thesis subject : The lake area of Vechtplassengebied, the Netherlands, as a recreational-ecological park landscape.

Projects include:

- 21st century water management, integrated site development, urban design based on features in the undeveloped space, research, supervision, teaching, lecturing
- 'Green-blue framework', western edge of Haarlemmermeer polder. A design was created for the Dutch Forestry Commission for a 'green-blue framework' at the western edge of the Haarlemmermeer polder, to create the right conditions for nature, water storage, recreation and living, 2005 – 2006.
- Landscape development plan, Goeree-Overflakkee. A widely supported landscape development plan was made within an open plan process which included about 20 parties, commissioned by the province of Zuid-Holland, the water board and the four municipalities on the island of Goeree-Overflakkee.
- Structural concept, Leeuwarden-West. Commissioned by the municipality of Leeuwarden, a spatial vision was created concerning development options for the municipality of Leeuwarden in the former Middelzee area (1800 ha), in combination with a new ring road.

Ir Pieter Schengenga (1976), Spatial Planner / Landscape Architect
Senior Landscape Architect / Project leader
H+N+S Landscape Architects
Laan van Chartroise 166-168
3552 EZ Utrecht
The Netherlands

Agricultural University of Wageningen (2000); environmental planning and design, specialisation Landscape Architecture. Thesis "KRINGLOOP": design of a new water system for the island of Goeree Overflakkee (Dutch Delta) with separate fresh and brackish networks to form a robust basis for both agriculture and nature development. Works for H+N+S since 2000.

Design philosophy H+N+S
"The mechanisms of landscape (hydrology, ecology, history, transportation, place-making) are a continuing source of fascination to us. In our designs, we try to turn that fascination into formal and spatial principles and to add expression and symbolic meaning to them. We see landscape architecture as an integrating field of work. As landscape architects, we always endeavour to integrate input from other disciplines into new concepts. That's why our projects nearly always involve specialists from other disciplines – town planning, ecology, hydrology, engineering, history, public administration: whatever the job requires".

Projects include:

- Go With the Flow: towards a new water system for Randstad-Holland.
- IJsseldelta South: Kampen River Bypass:

Ir. Abe Veenstra (1971) – Spatial Planner / Landscape Architect
Leading Landscape Architect of:
Bosch Slabbers – Landscape Architects
Parkstraat 29
6828 JC Arnhem
The Netherlands

Agricultural University of Wageningen 1995. Masters degree (cum laude) in Landscape Architecture (1995).

Projects include:

- "Room for the River": several projects dealing with flood risk management along the Dutch rivers. Research and design for measures tot give more space to the river in order to decrease the risk of floods. For instance: "Depoldering Overdiepse Polder": landscape design for this polder along the Meuse in which the dike is relocated and dwellings and buildings will be moved onto mounds against the new dike.
- "Coastal Defence"; several projects concerning coastal defence strategies and chances for regional development such as for the 'Delflandse Kust' near The Hague and the 'Hondsbossche and Pettemer Zeewering' near Alkmaar.
- "Regional Development"; several projects across the Netherlands in which plans have been made for improvement of the landscape qualities, together with the local communities. For instance: landscape-development plans for Noord-Groningen, and for the estate Twickel in relation to its surrounding towns.

Mike Wallis (1968), Coastal Research Scientist
Coastal Research Scientist and Project Manager at HR Wallingford
Coasts & Estuaries Group
HR Wallingford Ltd
Wallingford
Oxfordshire OX10 8BA
UK

BSc (Hons) Marine Sciences, University of Southampton (2000)
MSc Coastal and Marine Resource Management, University of Portsmouth (2001)

Projects include:

- Integrated coastal zone management, policy, legislation and institutional frameworks. Stakeholder participation and deliberative, inclusionary processes.
- Research methods, project design and management.
- Performance and reliability of flood and coastal defences Phase 1.Project Manager responsible for the delivery of this Defra / EA Research and Development project which explored ways to assess the performance and reliability of flood and coastal defences in order to make better assessments of risk.
- Formby to Crosby Coastal Strategy Study.Project Manager responsible for the delivery of a Coastal Defence Strategy Plan covering 11 km of the Sefton coastline in the North-West of England.
- Sustainable flood & Coastal Management. Contributing author and researcher to this Defra / EA funded project which aimed to develop practical guidance and tools for policy makers and practitioners to improve the sustainability of flood and coastal management plans, strategies and schemes.
- Potential reuse of alternatives to Primary Aggregates in coastal and river engineering. Researcher and author on this HR Wallingford-led scoping project, which assesses the potential for using alternatives to primary aggregates in coastal and fluvial engineering applications.

Brian E. Waters MBE., C. Eng., FICE., FCIWEM (1934), Civil Engineer
Retired. Formerly a director of Posford Duvuvier, later Royal Haskoning. Over 44 years experience of the land-water-interface. Joint project leader of the Manhood Peninsula Partnership.

His work has taken him to the Middle East and Far East, Africa and many areas of the UK.
His interest in the Manhood Peninsula was formed from the start of his career as junior site engineer on coast protection works. This culminated in the last ten years of his working life when he was the District Council's adviser on coastal and flooding matters. He also advised Chichester Harbour Conservancy on the harbour entrance and the Environment Agency on the mechanism of the River Lavant's periodic flooding of Chichester.

Ir Jake Wiersma (1955), Town planner
Senior Town Planner at the Municipality of Maastricht.
Gemeente Maastricht
Postbus 1992
6201 BZ Maastricht
The Netherlands

Town Planning at the Technical University of Delft.

Projects include:

- In general: plans and visions with an integration of Town Planning, Landscape and Infrastructure.
- Structure Plans for regions, towns and districts.
- Master Plans for development of area's, Greenfields as well as Brownfields.
- Working as an intermediate between local government, developers and local stakeholders: community involvement right from the start and maintaining the ambitions and the public qualities during the process of developing.

The local experts

John Andrews
Technical Director
Haskoning UK Ltd

Dave Clark
Assistant Director of the Centre for Local and Regional Economic Analysis
Portsmouth University

Glen Cooper
Coastal Conservation Advisor
Natural England

Jon Curson
Coastal Ecology and Policy Advisor
Natural England

Kenrick Garraway
Economic Development Manager
Chichester District Council

David Green
Head of Infrastructure Works and Engineering; Member of the Regional Flood Defence Committee for the SE of England
Arun District Council

Mark Hooper
Langmead Farm and Nature's Way Foods Ltd

Sarah Hughes
Manhood Wildlife Project Officer
Hosted by CDC and Manhood Wildlife and Heritage Group.

Joe Pearce
Project Manager
Environment Agency

Willie Pledger
2nd Cox'n
Royal National Lifeboat Institute

Richard Shrubb
Chairman of Visit Chichester
Owner of Wicks Farm

Sam Tate
Pagham Harbour Area Coastal Visitor Centre Project Officer
West Sussex County Council, Royal Society for the Protection of Birds, Environment Agency

John Tierney
Education and Community Officer
Chichester Harbour Conservancy

Ray Traynor
Technical Director
Jacobs

Caroline West
Assistant Local Development Framework Project Leader
Chichester District Council

Panel of local experts