

Managing the coast



North Norfolk Shoreline Management Plan 2
Non-technical summary of final plan
Old Hunstanton to Kelling Hard

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What is a Shoreline Management Plan?

A Shoreline Management Plan (SMP) identifies the best ways to manage flood and erosion risk to people and the developed, historic and natural environment in the short, medium and long-term. The overall aim of the plan is to support the best possible balance of all values and features that will create opportunities to work with others and make improvements.

The plan describes the short-term (up to 2025), the medium-term (2026 to 2055) and the long-term (2056 to 2105). These are referred to as epochs 1, 2 and 3. The plan is reviewed every five to ten years as our vision for the medium and long-term is based on our current knowledge and understanding.

This document is the non-technical summary of the Shoreline Management Plan. It aims to provide you with summary information about plans for managing the coast between Old Hunstanton and Kelling Hard.

How we developed the plan

We have worked in partnership with organisations with interests and responsibilities around the shoreline. This approach is important because there are strong links between shoreline management, coastal land use and the coastal environment. All of these partners have been fully involved in producing this SMP.

Client Steering Group (CSG): has overall responsibility for delivering the SMP. The CSG starts the SMP process, undertakes any scoping tasks needed and manages the development and adoption processes. Organisations involved are: Environment Agency, North Norfolk District Council, Borough Council of King's Lynn and West Norfolk, Norfolk County Council, Natural England, English Heritage, Norfolk Coast Partnership, and the Port of Wells.

Elected Members' Forum (EMF): involving elected members in developing the SMP reflects the 'Cabinet' style approach to decision-making operating in many local authorities. The EMF comprises elected member representatives from client local authorities and members of the Environment Agency's Eastern Area Flood Defence Committee.

Key Stakeholder Group (KSG): a key stakeholder is a person or organisation with a significant interest in the preparation of, and outcomes from, a SMP. This includes businesses, organisations, parish councils, community groups and private bodies with responsibilities or ownerships that affect the overall management of the shoreline. The KSG acts as a focal point for discussion and consultation throughout the development of the plan.

Finding the right balance

We looked at how the shoreline would respond to different management options and how these would affect the values and features that people consider important along the north Norfolk coast.

One of the main challenges for Shoreline Management Plans is how to balance different, and sometimes conflicting, issues and features that people and communities value. Some of these are mainly of value to local communities but others may be important regionally, nationally or even internationally. The main SMP documents contain a lot of information about all these issues and features.

One of the most important aspects of the north Norfolk coast is its value to the natural environment. This is reflected in its designations under the European Habitats and Birds directives and as a wetland of international importance (Ramsar site). Nearly all of the north Norfolk coast is also designated as a Site of Special Scientific Interest (SSSI) and an Area of Outstanding Natural Beauty (AONB). There are three National Nature Reserves along this coast at Holme Dunes, Blakeney and Holkham.

As well as the natural environment, the north Norfolk coast has historic environment features that are important at many levels. These include scheduled monuments, historic parks and gardens, listed buildings and conservation areas in most settlements. Some of these features are found in intertidal areas, such as the beach at Holme, and are therefore harder to access and record. Others are important features of the historic landscape, another issue that many people consider to be of high value in this area.

The North Norfolk SMP includes a Strategic Environmental Assessment (SEA). This looks at how the policies might affect the features and values considered important in this area. The SEA doesn't only consider the possible effects on the natural environment. For example, it looks at how the policies could affect the historic environment, communities, infrastructure and leisure and tourism facilities.

We have also produced a Habitats Regulations Assessment (HRA). This was needed because the potential for the SMP policies to adversely affect sites designated under the European Habitats or Birds directives. The conclusion of this assessment was that adverse effect on these designated sites could not be ruled out. The partners therefore submitted a statement of case to the Secretary of State for Imperative Reasons of Over-riding Public Interest (IROPI) so we could implement these policies despite the possible adverse effects. We completed this process before publishing the final SMP.

How we involved you

One important aspect of the SMP review is a full public consultation to obtain the views of local people, communities and businesses and to examine the draft policies so we can choose the right policies in the final SMP.

The public consultation ran from 20 July to 13 November 2009. We held six public exhibitions (or drop-in sessions) at different places along the coast, led by officers from the partner organisations. These were held to involve people in the future of their coast and inform them about the draft plan. We sought people's comments about the proposed policies. There were a number of ways for everyone interested to make their comments - through our website, by email, by post and at the meetings. Paper copies were available to view in the libraries and council offices of the partners involved in producing the SMP.

Over 400 people came along to the drop-ins and we received more than 170 comments during the consultation period, either on feedback forms or as letters or emails. There were some policies proposed by the partners that many local people and organisations who commented on the draft SMP didn't agree with. We reviewed the plan in response to their concerns. Where we were able to we have amended areas of the final plan to reflect the needs of the local community. We have therefore made changes to the policies for Thornham sea bank, Deepdale and Norton bank, Wells east bank, Morston and Blakeney Freshes. This document contains a summary of the final policies for the north Norfolk coast from Old Hunstanton to Kelling Hard. We received several comments about the draft environmental report (SEA) not reflecting the adverse effect the proposed policies could have on European designated sites. We therefore issued an addendum to the draft environmental report for consultation. This consultation period ran from Monday 4 January to Friday 19 February 2010. We received three comments about this addendum during the consultation period.

We have produced a report about these public consultation periods which is available for anyone who would like more information. This includes information about the publicity and events before and during the consultation period, the type of people who commented on the draft SMP and what they commented on. The appendices to this report contain copies of all the comments received on the draft SMP and SEA addendum.

You can obtain a copy of this report by emailing: northnorfolksmp@environment-agency.gov.uk or by ringing the Environment Agency's National Customer Contact Centre on 08708 506 506 Monday to Friday 8am to 6pm.

An overview

The North Norfolk SMP area is in the east of England. It covers the north-facing part of the Norfolk shoreline between the cliffs at Hunstanton and those at Weybourne. It stretches over 75 kilometres of coastline, or around 42 kilometres as the crow flies.

The shoreline is a mosaic of dunes and embankments that protect grazing marsh, reedbeds, agricultural land, natural barrier islands, spits and shingle ridges and saltmarsh in front of undefended higher ground. There is a string of settlements directly behind the shoreline where the land starts to rise to higher ground. The settlements are connected by the A149 which runs from Hunstanton to Cromer.

The shoreline is essential for the economy of the area. This is mainly based on fisheries and shoreline-related tourism such as boat trips, beach tourism, bird watching, walking and also farming. The shoreline is also essential for wildlife, supported by a variety of habitats. The character of the landscape is unique, which is why it is part of the Norfolk Coast Area of Outstanding Natural Beauty.



Photo: Holkham dunes

How we divided the coast

The super-frontages have played an important part in developing this draft plan. Their extent and main characteristics are as follows:

Super-frontage 1: from Old Hunstanton dunes (SMP boundary) to Thornham. In this super-frontage coastal processes take place along the shore from east to west. The estuary of River Hun influences Gore Point which is a control point for the 'bay' formed by Hunstanton dunes. The tidal prism here is currently limited by the reclaimed land between Thornham and Holme-next-the-Sea.

Super-frontage 2: from the western end of Brancaster bay to the eastern end of Stiffkey bay. Scolt Head Island is the main feature in this unit. Its two ends are control points for the bays on either side, Brancaster bay and Holkham bay. Over the long-term, there is a chance that Scolt Head Island will continue to move towards the land and may even reattach to it. This would have a big influence on the area right behind Scolt Head Island and also on the neighbouring bays. The tidal prism here is currently limited by various areas of reclaimed land behind the coast. Warham and Stiffkey marshes, east of Wells-next-the-Sea, are not really affected by how the neighbouring frontages are managed.

Super-frontage 3: from the western end of Blakeney Spit to the eastern end of the Cley to Salthouse shingle ridge at Kelling Hard (SMP boundary). Blakeney Spit is the main feature and, as for Scolt Head Island, it is possible that the current process of moving towards the land will cause it to reattach. The eastern end is characterised by the Cley to Salthouse shingle ridge in front of brackish marshes. The tidal prism here is currently limited by a number of reclaimed areas of land behind the coast.

We have divided the three super-frontages into smaller units called policy development zones (PDZs).

Doing this means we can have a different policy for smaller sections of the coast for each epoch, rather than one policy for a longer frontage. The PDZs are based on the type of frontage (for example a dune system, village, river outfall) and how it is currently being managed. Super-frontages 1 and 3 are split into four PDZs each, while super-frontage 2 contains 13 PDZs. Some PDZs are then split into smaller units as they need to be managed differently.

Fig. 1 Overview of the North Norfolk project area



How we will manage the coast

Shoreline Management Plans have to use one of four policies. We have only used three of these in this plan:

- **Hold the line (HtL)** – maintain the defence where it is now.
- **Managed realignment (MR)** – allow the shoreline to move seaward or landward, with management to control or limit the effect on land use and environment. This can take various forms, depending on how we want to manage the area. All realignments are characterised by managing change, both technically (by breaching and building defences) and also for land use and environment (by helping or ensuring adaptation).
- **No active intervention (NAI)** – no investment in coastal defences or operations.

In the North Norfolk SMP we have used the managed realignment policy on frontages where we would like to see natural processes increased. For example, this policy allows dune systems to roll back in response to climate change and sea level rise. It also allows us to take action to protect properties and infrastructure behind the dunes should we need to do so in the future. The main SMP provides more information about the different types of managed realignment along this coastline.

The rest of this section contains summary information about the policies for each policy development zone. The generic SMP policies of hold the line, managed realignment and no active intervention are explained so it is clear how we intend to manage each part of the north Norfolk coast over the next 100 years. Some of the PDZs have conditional policies for later epochs. This is because there are uncertainties about how the shoreline will develop in the future. We have therefore agreed that one of two policies for these PDZs will be confirmed when more information is available about the future development of this coastline.

All the policies summarised here are subject to funding being available to implement them.

The maps following the policy statements show the potential new defence lines after managed realignment. These will be one of the main things to be discussed and agreed when developing the schemes. The SMP partners will do this with the full involvement of local communities and landowners and through technical, economic and environmental analysis. In some places, the maps show properties near the edge of the current flood zone where no potential new defence line has been drawn. This is because the flood zone shows a very extreme event (0.5 per cent a year chance), which is higher than the typical height of flood defences in this area (10 per cent a year chance).

Policy Development Zones

PDZ 1 – Old Hunstanton dunes to Thornham

Policy Development Zone	Now to 2025	2025 to 2055	2055 to 2105	What this means
Old Hunstanton dunes PDZ 1A	<p>Hold the line</p> <p>Continue to maintain the dunes where they are now to keep their flood defence function.</p>	<p>Managed realignment</p> <p>If confirmed, the dunes will be allowed to evolve naturally. If their flood defence function reduces, work will be undertaken to restore it.</p>	<p>Managed realignment</p> <p>If confirmed, the dunes will be allowed to evolve naturally. If their flood defence function reduces, work will be undertaken to restore it.</p>	<p>Change of policy from epoch 2 needs confirming based on knowledge to be gained in epoch 1. If confirmed, some sort of management is likely in later epochs to maintain the flood defence function of the dunes.</p>
Holme dunes PDZ 1B	<p>Managed realignment</p> <p>Allow the dunes to develop naturally. If their flood defence function reduces, work will be undertaken to restore it.</p>	<p>Managed realignment</p> <p>Allow the dunes to develop naturally. If their flood defence function reduces, work will be undertaken to restore it.</p>	<p>Managed realignment</p> <p>Allow the dunes to develop naturally. If their flood defence function reduces, work will be undertaken to restore it.</p>	<p>The flood defence function will be maintained by minimum intervention allowing the dune system to develop as naturally as possible.</p>
Thornham sea bank PDZ 1C	<p>Hold the line</p> <p>Maintain defences where they are now. Carry out monitoring and assessments to investigate potential realignment in the future.</p>	<p>Hold the line</p> <p>Maintain defences where they are now. Carry out monitoring and assessments to investigate potential realignment in the future.</p>	<p>Hold the line or managed realignment</p> <p>Maintain defences where they are now, unless increased knowledge leads to preference for moving them further inland.</p>	<p>The policy for epoch 3 is conditional. It depends on the results of monitoring and research into the effects of realignment to be carried out in epochs 1 and 2.</p>

Policy Development Zones

Policy Development Zone	Now to 2025	2025 to 2055	2055 to 2105	What this means
Thornham PDZ 1D	<p>No active intervention</p> <p>Stop maintaining the sea bank but sustain footpath.</p>	<p>No active intervention</p> <p>Continue to allow natural development but sustain footpath.</p>	<p>No active intervention</p> <p>Continue to allow natural development but sustain footpath. Possible need for local adaptation or defence.</p>	<p>The effects on the footpath need to be managed.</p> <p>In epoch 3 adaptation or local defence may be needed for a small number of properties.</p>

PDZ 2 – Thornham to Stiffkey

Policy Development Zone	Now – 2025	2025 – 2055	2055 – 2105	What this means
Thornham to Titchwell PDZ 2A	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No change from current policy of allowing the coast to develop naturally.</p>
Titchwell RSPB reserve PDZ 2B	<p>Hold the line</p> <p>Allow private owner to maintain the defences.</p>	<p>Hold the line</p> <p>Allow private owner to maintain the defences.</p>	<p>Hold the line</p> <p>Allow private owner to maintain the defences.</p>	<p>Allow the private owner to maintain the defences in their new position after completing the realignment scheme.</p>
Titchwell village PDZ 2C	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No change from current policy of allowing the coast to develop naturally.</p>

Policy Development Zones

Policy Development Zone	Now to 2025	2025 to 2055	2055 to 2105	What this means
Reclaimed grazing marsh at Brancaster PDZ 2D	Hold the line Maintain defences where they are now, allowing time for monitoring and assessments to investigate realignment in the future.	Managed realignment or hold the line If confirmed, partly remove existing defences. Maintain access to the beach and golf club. If not confirmed, maintain the defences where they are now.	Managed realignment or hold the line Depends what happens in epoch 2. Either continue to maintain the defences where they are now, move them further inland or allow the frontage to develop naturally. Maintain access to the beach and golf club.	The policy for epoch 2 is conditional. It depends on the results of monitoring and research into the effects of realignment to be carried out during epoch 1.
Royal West Norfolk golf club PDZ 2E	Hold the line Allow private owner to maintain the defences. The currently undefended dunes remain undefended.	Hold the line Allow private owner to maintain the existing defences. The currently undefended dunes remain undefended.	Hold the line Allow private owner to maintain the existing defences. The currently undefended dunes remain undefended.	Allow the private owner to maintain the existing defences where they are now. The dunes that are currently not defended will remain undefended.
Brancaster and Brancaster Staithe PDZ 2F	Hold the line Allow private owners to maintain their defences where they are now.	Hold the line Allow private owners to maintain their defences where they are now.	Hold the line Allow private owners to maintain their defences where they are now.	Allow private owners to maintain the defences to sustain the communities of Brancaster and Brancaster Staithe.

Policy Development Zones

Policy Development Zone	Now to 2025	2025 to 2055	2055 to 2105	What this means
<p>PDZ 2G - Reclaimed areas behind Scolt Head Island</p> <p>PDZ2 G.1 – Deepdale and Norton marshes</p>	<p>Hold the line</p> <p>Maintain the defences where they are now. Carry out monitoring and assessments to investigate potential realignment in the future.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now. Carry out monitoring and assessments to investigate potential realignment in the future.</p>	<p>Hold the line or managed realignment</p> <p>Maintain the defences where they are now unless increased knowledge leads to preference to move them further inland.</p>	<p>The policy for epoch 3 is conditional. It depends on the results of monitoring and research during epochs 1 and 2 into the effects of realignment.</p>
<p>PDZ2 G.2 – River Burn outfall</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Maintain the defences to sustain the communities in River Burn valley.</p>
<p>PDZ2G.3 – Overy marshes</p>	<p>Hold the line</p> <p>Maintain the defences where they are now. Carry out monitoring and assessments to investigate realignment in the future.</p>	<p>Hold the line</p> <p>Maintain defences where they are now. Carry out for monitoring and assessments to investigate realignment in the future.</p>	<p>Hold the line or managed realignment</p> <p>If confirmed, build new defences to protect properties and infrastructure. Then partly remove defences to create new intertidal habitat.</p>	<p>The policy for epoch 3 is conditional. It depends on the results of monitoring and research into the effects of realignment to be carried out in epochs 1 and 2.</p>
<p>PDZ 2H – Burnham Overy Staithe</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Maintain the defences to sustain the community of Burnham Overy Staithe.</p>

Policy Development Zones

Policy Development Zone	Now to 2025	2025 to 2055	2055 to 2105	What this means
Holkham dunes PDZ 2I	<p>Managed realignment</p> <p>Allow the dunes to develop naturally. If their flood defence function reduces, work will be undertaken to restore it (including maintaining the existing groynes and revetment).</p>	<p>Managed realignment</p> <p>Allow the dunes to develop naturally. If their flood defence function reduces, work will be undertaken to restore it (including maintaining the existing groynes and revetment).</p>	<p>Managed realignment</p> <p>Allow the dunes to develop naturally. If their flood defence function reduces, work will be undertaken to restore it (including maintaining the existing groynes and revetment).</p>	<p>The flood defence function will be maintained by minimum intervention, allowing the dune system to develop as naturally as possible. Intervention may be needed to maintain flood defence to properties in Holkham and Wells-next-the-Sea.</p>
Wells flood embankment PDZ 2J	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Maintain the defences to sustain current land use (tourism, beach access, agriculture and freshwater habitats) protected by the embankment.</p>
Wells quay PDZ 2K	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Maintain the defences to protect current use of the quayside and associated features in Wells-next-the-Sea.</p>
Wells east bank PDZ 2L	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Maintain the defences to sustain the community of Wells-next-the-Sea and current land use in Warham marshes.</p>
Stiffkey bay PDZ 2M	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No change from current policy of allowing the coast to develop naturally</p>

PDZ 3 – Stiffkey to Kelling Hard

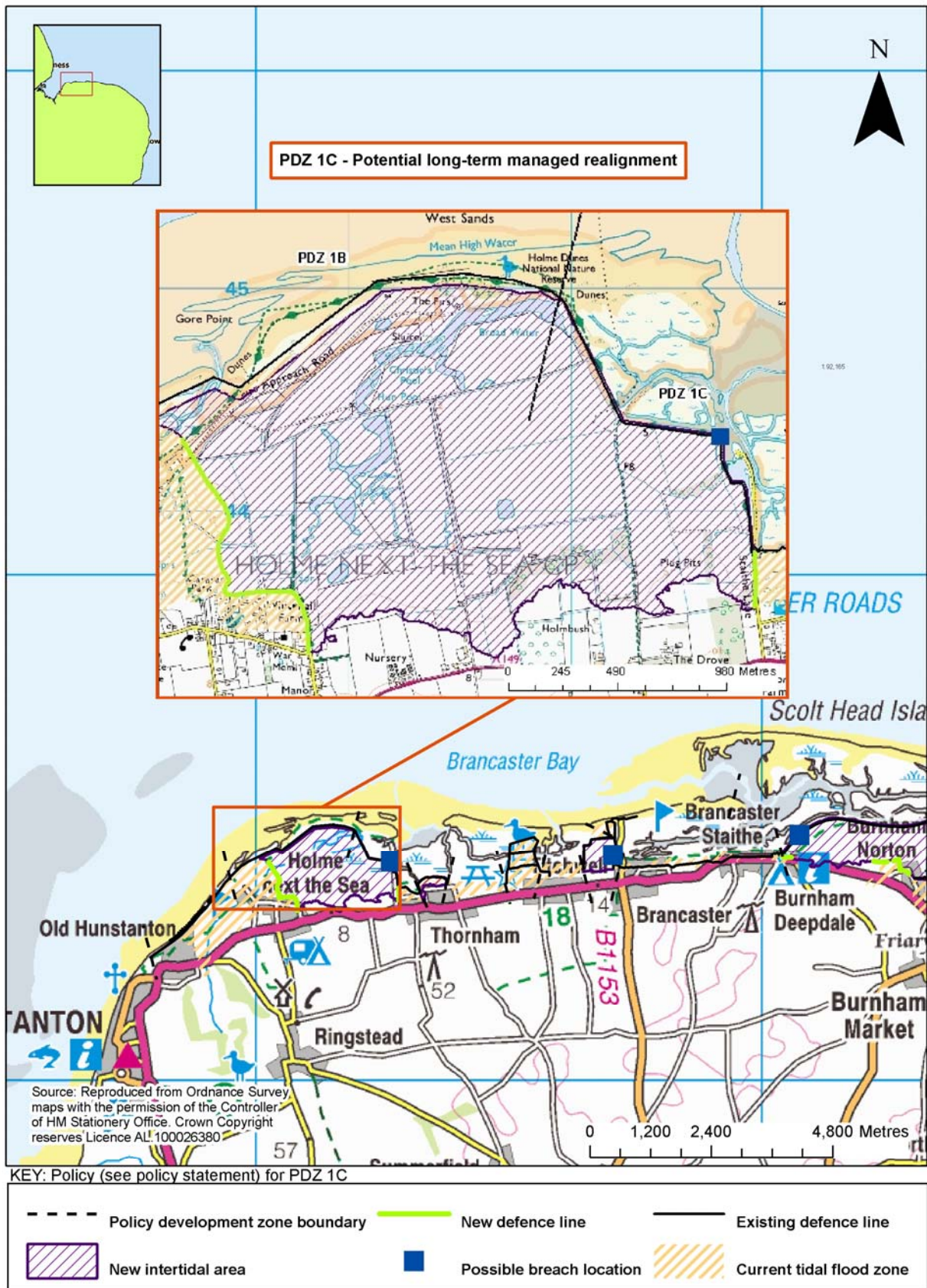
Policy Development Zone	Now to 2025	2025 to 2055	2055 to 2105	What this means
PDZ3A - Reclaimed areas behind Blakeney Spit PDZ3A.1 – River Stiffkey outfall	Hold the line Maintain the defences where they are now.	Hold the line Maintain the defences where they are now.	Hold the line Maintain the defences where they are now.	Maintain the defences to sustain the communities in the River Stiffkey valley.
PDZ3A.2 – Morston	Hold the line Maintain the east and west banks where they are now.	Hold the line Maintain the east and west banks where they are now.	Hold the line Maintain the east and west banks where they are now.	Maintain the defences to sustain the community of Morston and current land use in the reclaimed area.
PDZ3A.3 – Blakeney Fresh marshes	Hold the line Maintain the defences where they are now. Carry out the work needed to implement realignment in the medium-term.	Managed realignment Build new defences to protect properties and infrastructure. Then partly remove existing defences.	Hold the line Maintain the new line of defence.	Sustain flood defence to all houses and infrastructure. Create new intertidal habitat by moving the sea bank at Blakeney Freshes further inland.
PDZ3A.4 – River Glaven outfall	Hold the line Maintain the defences where they are now.	Hold the line Maintain the defences where they are now.	Hold the line Maintain the defences where they are now.	Maintain the defences to sustain the communities in the River Glaven valley.

Policy Development Zones

Policy Development Zone	Now to 2025	2025 to 2055	2055 to 2105	What this means
PDZ3A.5 – Cley marshes	<p>Hold the line</p> <p>Maintain defences where they are now. Carry out monitoring and assessments to investigate realignment in the future.</p>	<p>Hold the line</p> <p>Maintain defences where they are now. Carry out monitoring and assessments to investigate realignment in the future.</p>	<p>Managed realignment or hold the line</p> <p>If confirmed, build new defences to protect properties and infrastructure. Then partly remove existing defences to create new intertidal habitat. If not confirmed, continue to maintain the defences where they are now.</p>	<p>The policy for epoch 3 is conditional. It depends on the results of monitoring and research into the effects of realignment to be carried out in epochs 1 and 2.</p>
<p>Stiffkey to Morston</p> <p>PDZ 3B</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No active intervention</p> <p>Continue to allow the frontage to develop naturally.</p>	<p>No change from current policy of allowing the coast to develop naturally.</p>
Blakeney PDZ 3C	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Hold the line</p> <p>Maintain the defences where they are now.</p>	<p>Maintain the defences to protect current use of the quayside and associated features in Blakeney.</p>
Cley to Salthouse PDZ 3D	<p>Managed realignment</p> <p>The shingle ridge will be allowed to develop naturally. Intervention if needed to manage immediate risk to life, residential and commercial buildings or the A149.</p>	<p>Managed realignment</p> <p>The shingle ridge will be allowed to evolve naturally. Intervention if needed to manage immediate risk to life, residential and commercial buildings or the A149.</p>	<p>Managed realignment</p> <p>The shingle ridge will be allowed to evolve naturally. Intervention if needed to manage immediate risk to life, residential and commercial buildings or the A149.</p>	<p>Monitoring and managing the natural development of the shingle ridge. Intervention if needed to manage immediate risk to life, residential and commercial buildings or the A149.</p>

Policy Development Zones

Possible defence alignments following (potential) managed realignment - PDZ 1C



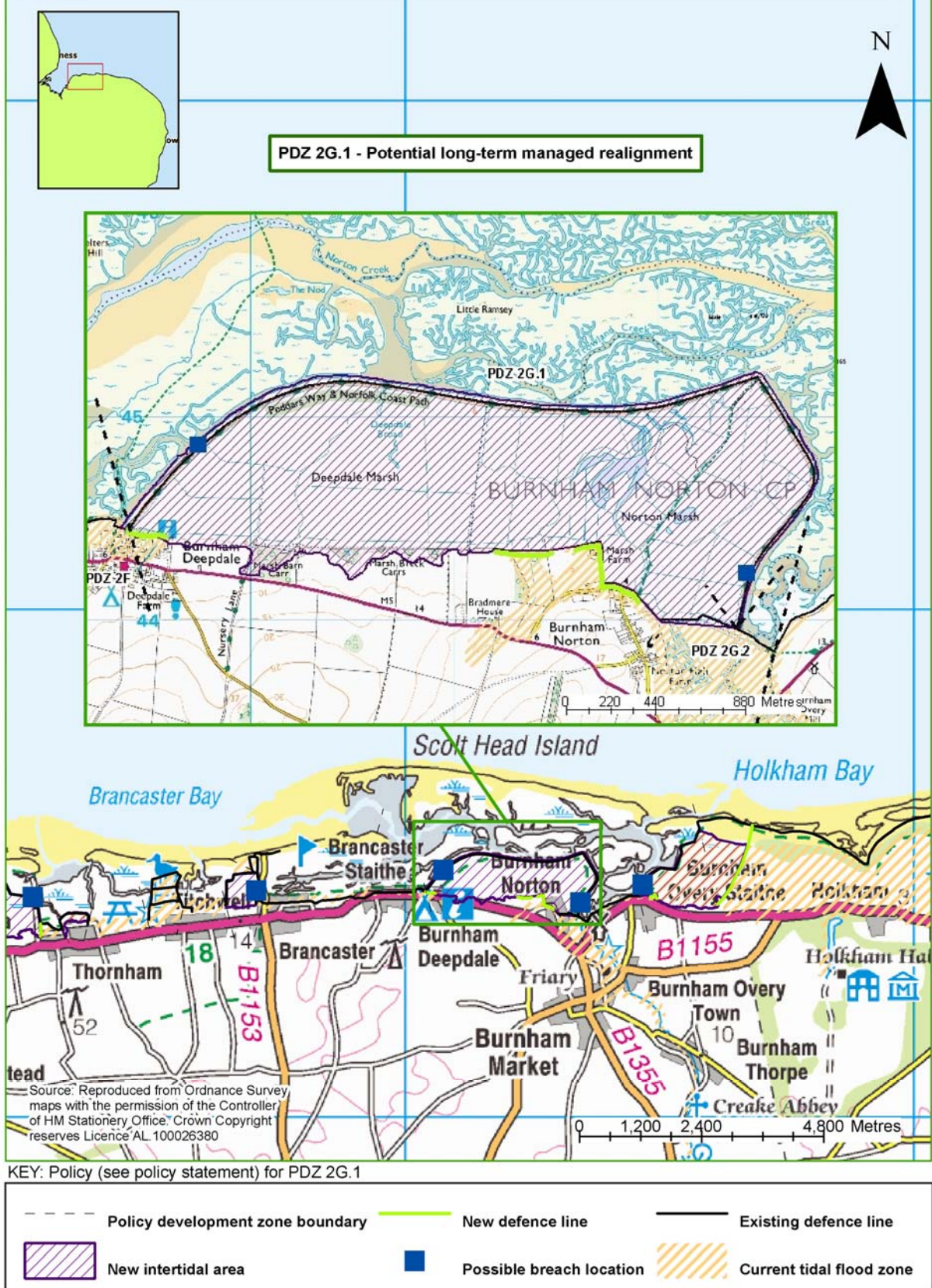
Policy Development Zones

Possible defence alignments following (potential) managed realignment - PDZ 2D



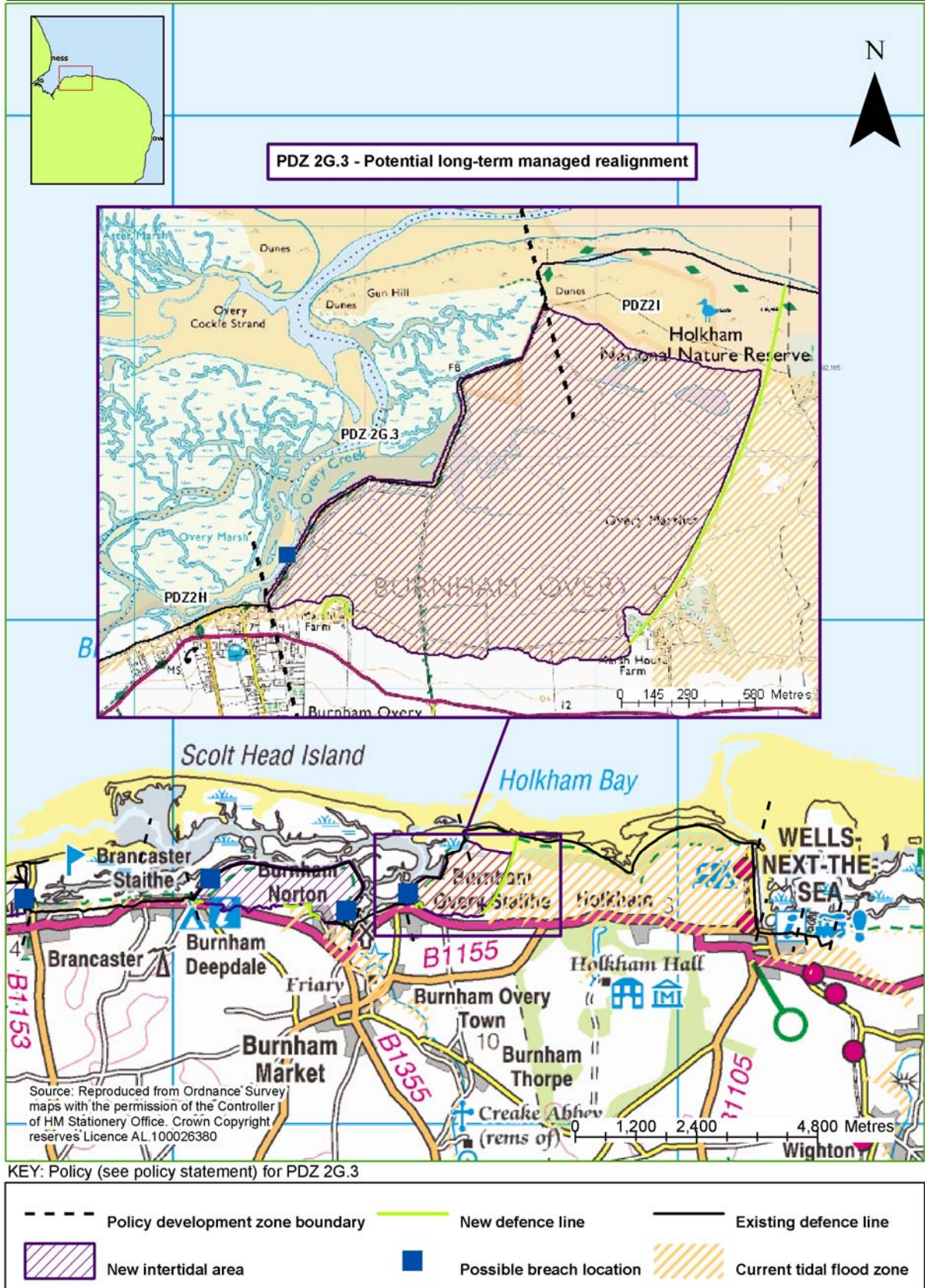
Policy Development Zones

Possible defence alignments following (potential) managed realignment - PDZ 2G.1

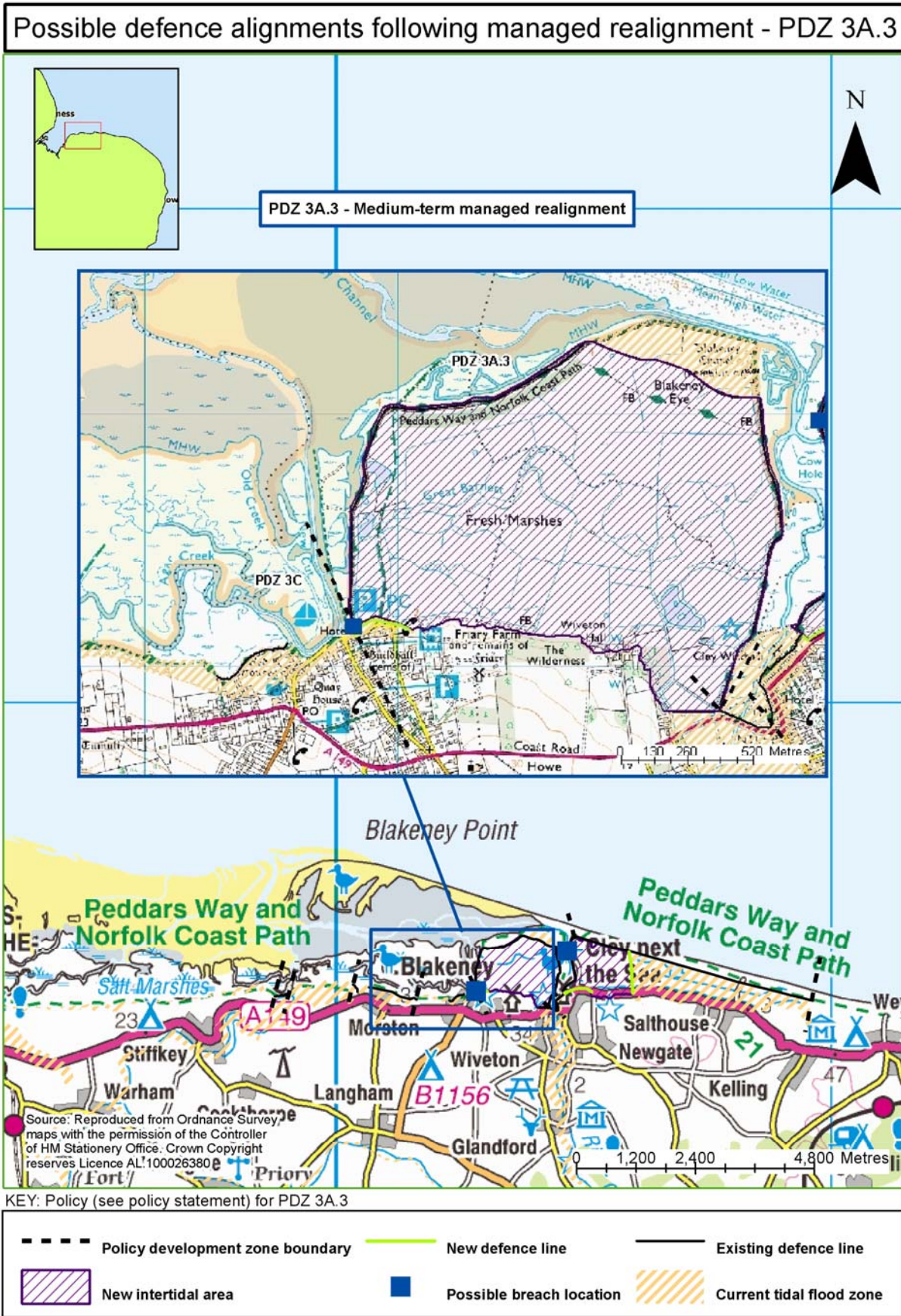


Policy Development Zones

Possible defence alignments following (potential) managed realignment - PDZ 2G.3

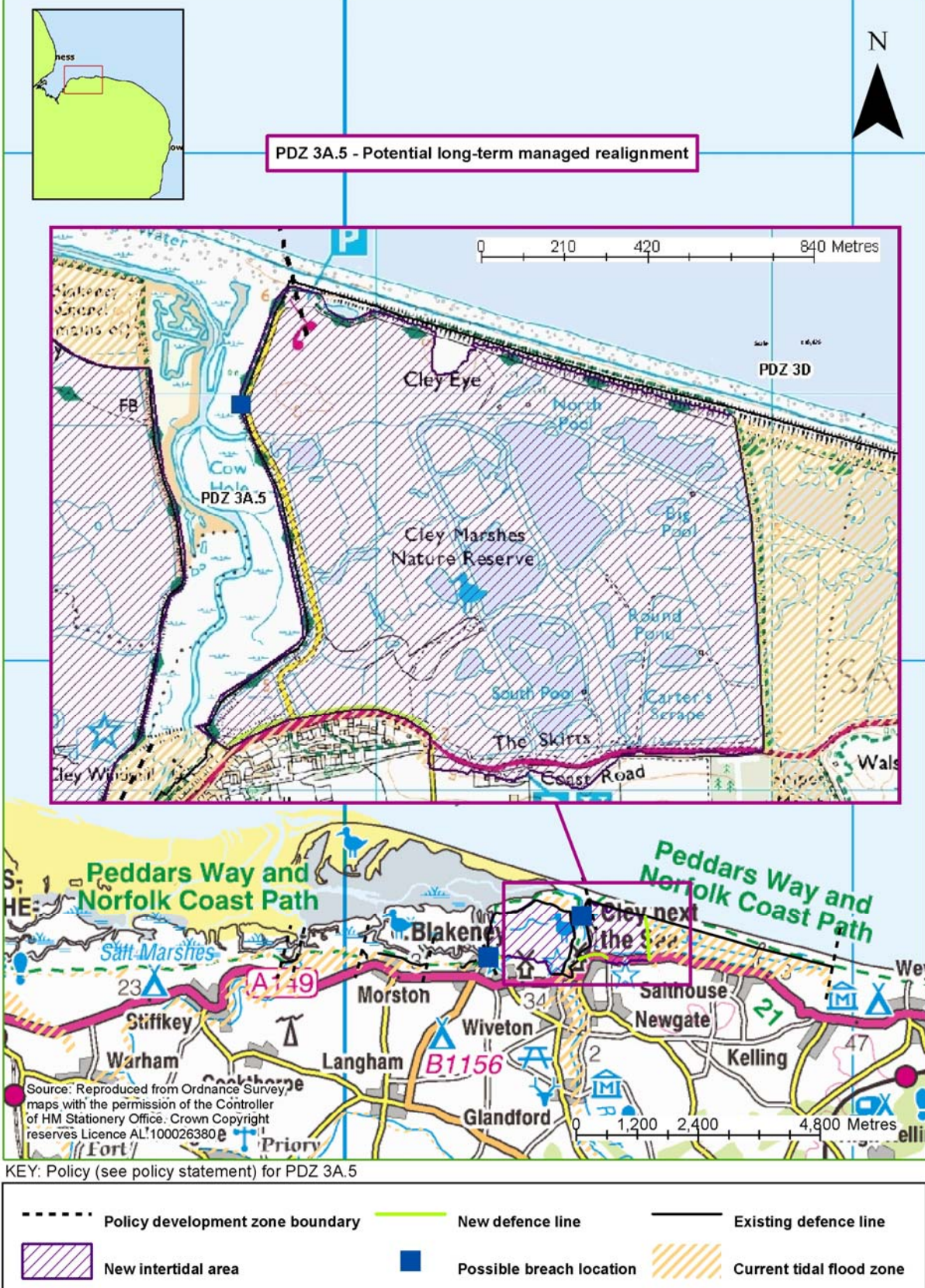


Policy Development Zones



Policy Development Zones

Possible defence alignments following (potential) managed realignment - PDZ 3A.5



What happens next

The summary action plan can be found in the main Shoreline Management Plan document.

The North Norfolk SMP action plan sets out what everyone along this coastline needs to do to implement the policies. These actions can only be achieved if all partners continue to work together. The Shoreline Management Plan highlights some uncertainties and that we need to improve our understanding of coastal processes along this coastline to support firmer decisions in the next North Norfolk Shoreline Management Plan. So the action plan identifies the need for monitoring and assessments to find out more about how dunes, saltmarsh and mudflat develop and shape the coast. This monitoring will build on the Environment Agency's current shoreline monitoring programme. The plan is reviewed every five to ten years.

The action plan is divided into four parts: SMP-wide actions (covering the whole SMP area) and actions for each main policy development zone. It details what needs to be done, its priority and when the action needs to be completed. The action plan contains actions under the following headings:

- Assessments for PDZs
- Asset management
- Scheme work
- Monitoring
- Communication
- Emergency response
- Adaptation/resilience
- Habitat creation and environmental mitigation

The Client Steering Group will monitor how the policies are carried out with regular meetings over the coming years. It will engage in promoting the SMP to a wider audience of businesses, organisations and local communities.

SMP-wide actions

- Continue shoreline monitoring programme
- Provide guidance for landowners directly affected by SMP policies
- Make sure that local development and planning documents take account of SMP policies
- Develop plan for managing the coastal footpath from Old Hunstanton to Kelling Hard
- Continue improving flood risk maps and inundation modelling to provide improved flood warning service
- Take action to include additional properties on the Floodline Warnings Direct service as they become at flood risk over time
- Update emergency plans for all communities to reflect changes in flood risk over time

Actions for PDZ1

- Assessments to look at the flood defence function of Hunstanton dunes
- Investigate and record historic assets and features around Holme-next-the-Sea
- Assessments to confirm the policy in PDZ1C for epoch 3
- Continue beach monitoring at Holme dunes
- Continue to manage defences in PDZs 1A, 1B and 1C according to the policies for each epoch
- Consult and communicate with the local community and landowners to prepare for possible realignment of Thornham sea bank during epoch 3
- Consult with local community and Norfolk County Council about how to maintain coastal path along Thornham frontage
- Encourage adaptation and resilience of golf course, beach huts and properties at Old Hunstanton
- Encourage adaptation and resilience of properties and coastal path in PDZs 1B, 1C and 1D if needed over time
- Identify suitable locations and create freshwater habitat to replace any lost if epoch 3 policy for Thornham sea bank is confirmed as managed realignment

Actions for PDZ2

- Assessments to confirm the policies for epoch 3 for PDZs 2D, 2Gi and 2Giii
- Assessments to investigate and predict the development of Holkham dune system
- Assessments to investigate the benefits and disadvantages of possible future realignment of Wells east bank
- Continue to manage the defences in each PDZ according to the relevant policy for each epoch
- Consult and communicate with local communities and landowners to prepare for possible realignment of Brancaster grazing marsh bank in epoch 2 and Deepdale, Norton and Overy marsh banks in epoch 3
- Consult with private defence owners at Brancaster and Brancaster Staithe about maintaining their defences through all three epochs
- Encourage adaptation and resilience of properties and infrastructure where necessary
- Identify suitable locations and create freshwater habitat to replace any lost if epoch 2 policy for Brancaster grazing marsh is confirmed as managed realignment
- Identify suitable locations and create freshwater habitat to replace any lost if epoch 3 policy for Deepdale, Norton and Overy marsh banks is confirmed as managed realignment

What happens next

Actions for PDZ3

- Assessments to prepare for managed realignment of Blakeney Freshes in epoch 2
- Assessments to confirm the policy for epoch 3 at Cley marshes
- Continue monitoring of the Cley to Salthouse shingle ridge
- Carry out managed realignment at Blakeney Freshes and associated work
- Continue to manage the defences in all PDZs according to the policy for each epoch
- Review and update management plan for the Cley to Salthouse shingle ridge as and when required
- Consult and communicate with local communities and landowners to prepare for realignment of Blakeney Freshes during epoch 2 and possible realignment of Cley west bank during epoch 3
- Develop triggers for intervention in case of threat of flooding to people, properties and the A149 behind the Cley to Salthouse shingle ridge
- Encourage adaptation and resilience of properties at Cley and Salthouse if needed over time
- Identify suitable locations and create freshwater habitat to replace loss due to epoch 2 managed realignment at Blakeney Freshes



Photo: Blakeney harbour

Glossary

Adaptation:

The process of becoming adjusted to new conditions in a way that makes individuals, communities or systems better suited to their environment. Adaptation implies there may be some actual change in the way a feature, such as a habitat or a community, functions.

Appropriate Assessment (AA):

Process to support a decision as to whether the proposed plan or project could have an adverse effect on the integrity of any site designated under the European Habitats or Birds directives.

Area of Outstanding Natural Beauty (AONB):

A statutory designation by the Countryside Commission. The purpose of the AONB designation is to identify areas of national importance and to promote the conservation and enhancement of natural beauty. This includes protecting its flora, fauna, geological and landscape features.

Benefits (related to issue):

The service that a feature provides. In other words, why people value or use a feature. For example, a nature reserve, as well as helping to preserve biodiversity and meet national legislation, may also provide a recreation outlet much like a sports centre provides a recreation function.

Brackish:

Fresh water mixed with sea water.

Conservation area:

Area of special architectural or historic interest that needs to be preserved or enhanced.

Control point:

Geographical feature, either natural or artificial, that determines the shape of the shoreline.

Epoch:

A period of time. There are three epochs in Shoreline Management Plans:

- Epoch 1: present day to 2025
- Epoch 2: 2026 to 2055
- Epoch 3: 2056 to 2105

Erosion:

A feature or system that has a tendency to reduce in size (either in a horizontal or vertical direction) as a result of material being removed from the feature/system. Material can be removed by weathering, solution, corrosion or transportation.

Feature:

Something tangible that provides a service to society in one form or another or, more simply, benefits certain aspects of society by its very existence. Usually this will be in a specific place and relevant to the SMP.

Groyne:

Shore protection structure built perpendicular to the shore and designed to trap sediment.

Historic environment:

All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged and deliberately planted or managed flora.

Intertidal zone:

Also known as the foreshore or littoral zone. The area that is exposed at low water and underwater at high tide.

Listed building:

A building or other structure officially designated as being of special architectural, historic or cultural significance.

Maintain:

The value of a feature is not allowed to deteriorate.

National Nature Reserve (NNR):

Statutory designation by Natural England. Represent some of the most important natural and semi-natural ecosystems in Great Britain. Managed to protect the conservation value of the habitats that occur there.

Policy:

Refers to the generic shoreline management options (no active intervention, hold the line, managed realignment and advance line).

Policy development zone:

A length of coastline defined to assess all issues and interactions to examine and develop management scenarios. These zones are only used to develop policy.

Ramsar site:

Designated under the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1971. The objective of this designation is to prevent the progressive encroachment into, and loss of, wetlands.

Registered park and garden:

Parks and gardens registered for their historic value so they are considered in the planning process. Local planning authorities must consult English Heritage where planning applications may affect these sites.

Revetment:

Regularly or irregularly sized and shaped stones or concrete blocks placed as bank protection or wave protection.

Scheduled monument:

Statutory designation under the Ancient Monuments and Archaeological Areas Act 1979. A nationally important archaeological site.

Shoreline Management Plan:

A non-statutory plan that provides a large-scale assessment of the risks associated with coastal processes and presents a policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner.

Special Area of Conservation (SAC):

Aims to protect habitats or species of European importance. Designated under the EU Habitats directive.

Special Protection Area (SPA):

Statutory designation for internationally important sites set up to establish a network of protected areas for birds. Designated under the EU Birds directive.

Site of Special Scientific Interest (SSSI):

Statutory designation under the Wildlife and Countryside Act 1981. Represents some of the best examples of Britain's natural features including plants, animals and geology.

Strategic Environmental Assessment (SEA):

Provides a systematic appraisal of the potential environmental consequences of high-level decision-making, such as in SMPs.

Sustain:

Refers to some function of a feature. A feature may change, but the function is not allowed to fail.

Tidal prism:

Volume of water within an estuary between the level of high and low tides.

Tide:

Periodic rising and falling of large bodies of water resulting from the gravitational attraction of the moon and sun acting on the rotating earth.

Where to go for more information

The main SMP document and appendices will be available on the East Anglia Coastal Group (EACG) website: www.eacg.org.uk. There will be links to this website from the Environment Agency, North Norfolk District Council, Borough Council of King's Lynn & West Norfolk and Norfolk County Council websites.

Further information about the North Norfolk Shoreline Management Plan can also be obtained by e-mailing: northnorfolksmp@environment-agency.gov.uk or by calling the Environment Agency's National Customer Contact Centre on 08708 506 506 Monday to Friday 8am to 6pm.

For more information about the Environment Agency's work on the coast please contact Steve Hayman, Norfolk Coastal Advisor, through the National Customer Contact Centre on 08708 506 506.

Addresses where the full plan and appendices can be viewed:

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