

Action plan for zone 0 – table A.0.

14 actions identified

The estuary-wide options

- Estuary-wide option 1 (improve existing system)
- Estuary-wide option 2 (tidal flood storage)
- Estuary-wide option 3 (new barrier)
- Estuary-wide option 4 (new barrier with locks)

Table A.0. describes the 14 actions for zone 0 – (estuary-wide) which have been identified through the TE2100 plan. The actions are described under the following headings:

- TE2100 recommended actions (and whether or not costs for this have been included in the TE2100 plan)
- Implementation partners
- How this will be achieved
- How your response can help us finalise the TE2100 plan



Do you consider that we have identified the right strategic options for managing tidal flood risk in the Thames estuary, and do you agree with the final preferred options?



Do you agree with the actions identified in our action plans and the timing of those actions?



Do you agree with the mechanisms we have set out to deliver the action plans?



Have we identified the right partner organisations to deliver our action plans and are you, or your organisation, able to contribute to these actions?

Estuary-wide option 1 (improve existing system)

Estuary-wide option 2 (tidal flood storage)

Estuary-wide option 3 (new barrier)

Estuary-wide option 4 (new barrier with locks)

Chapter 9: TE2100 action plan: **action zone 0** – estuary-wide

Estuary-wide option 1
(improve existing system)

Estuary-wide option 2
(tidal flood storage)

Estuary-wide option 3
(new barrier)

Estuary-wide option 4
(new barrier with locks)

The TE2100 estuary-wide options

We have devised ten estuary-wide options and tested them for effectiveness and efficiency in delivering our strategic vision, and a rolling

programme of construction work and related activities has been defined from 2010 to 2069 the main options and the “do minimum” Policy **P3** are summarised below.

The estuary-wide option	What it means
Policy P3 . Maintain the current level of flood risk management	Continuing current flood risk management activity.
Option 1: Improve the existing defences 1.1 Raise defences when needed 1.2 Allow for future adaptation of defences 1.3 Raise defences when they are replaced 1.4 Optimise defence repair & replacement	Four different sub-options were considered, involving different maintenance schedules, and different ways of deciding when and by how much walls should be raised. Our appraisal indicates that option 1.4 is the preferred option until 2070.
Option 2: Tidal flood storage Four potential sites have been identified which are in the right location to store tidal waters and reduce the level of storm surges. The sites identified are at Erith Marshes, Aveley and Wennington Marshes, Dartford and Crayford Marshes, and Shorne and Higham Marshes.	Storing tidal waters during very large surge tides would help to reduce extreme water levels at the Thames Barrier. This could delay by several decades the date when the Thames Barrier would have to be replaced or improved. Our appraisal and technical investigations do not favour this option at present but it remains in our palette of end of the century options for future review.
Option 3: New barrier 3.1 Tilbury location 3.2 Long Reach location Barriers would be designed to resist the highest surge tides predicted under the Defra climate change scenario.	Both options assume that the barrier can be closed only a certain number of times per year, so there would still be a need for defence raising upstream.

(continued)

The estuary-wide option	What it means
<p>Option 4: Barrier with locks</p> <p>4.1 Tilbury location 4.2 Long Reach location 4.3 Barrier with locks at Thames Barrier (when closures/year approach their limit)</p>	<p>A barrier with locks allows ships to pass through large openings in the same way as a new barrier during periods when the barrier is open, but also allows ships to pass through locks when the barrier is closed. A barrier with locks is designed to be ‘fail-safe’ and can be closed as frequently as necessary without losing its reliability. This is the most expensive option.</p>

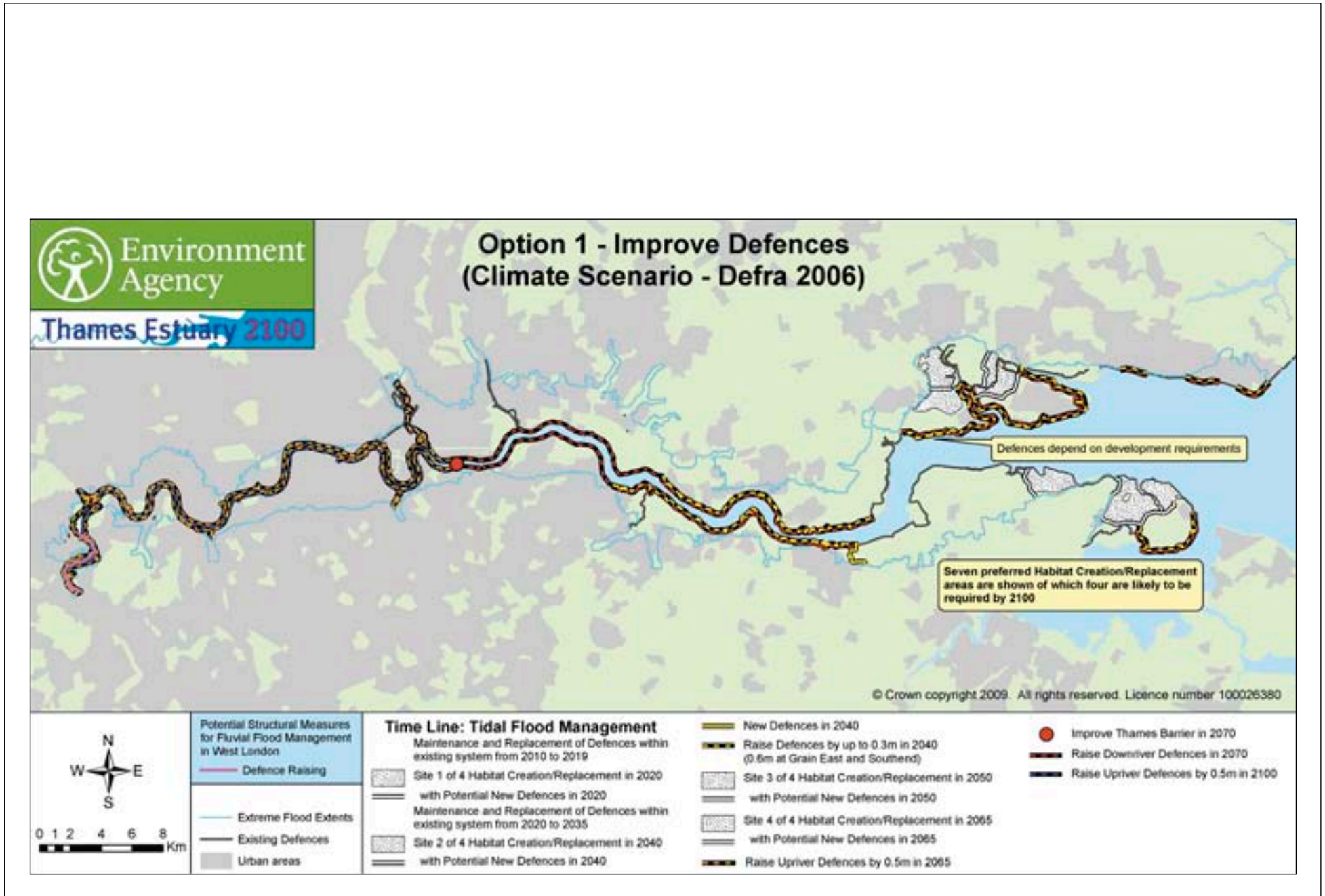


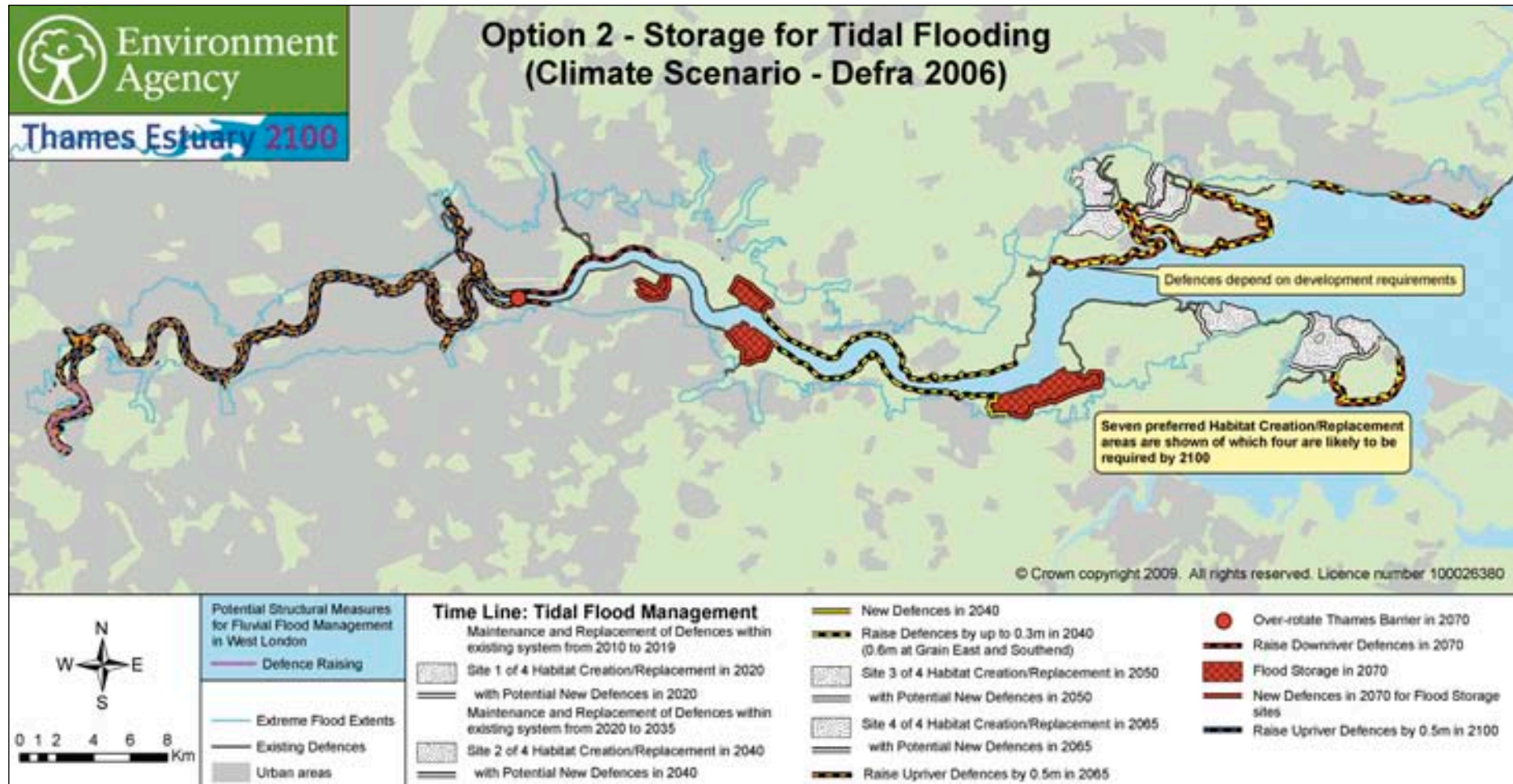
Our appraisal shows that option 1.4 is the optimum approach for the first 60 years of the Plan under government’s current guidance on climate change.



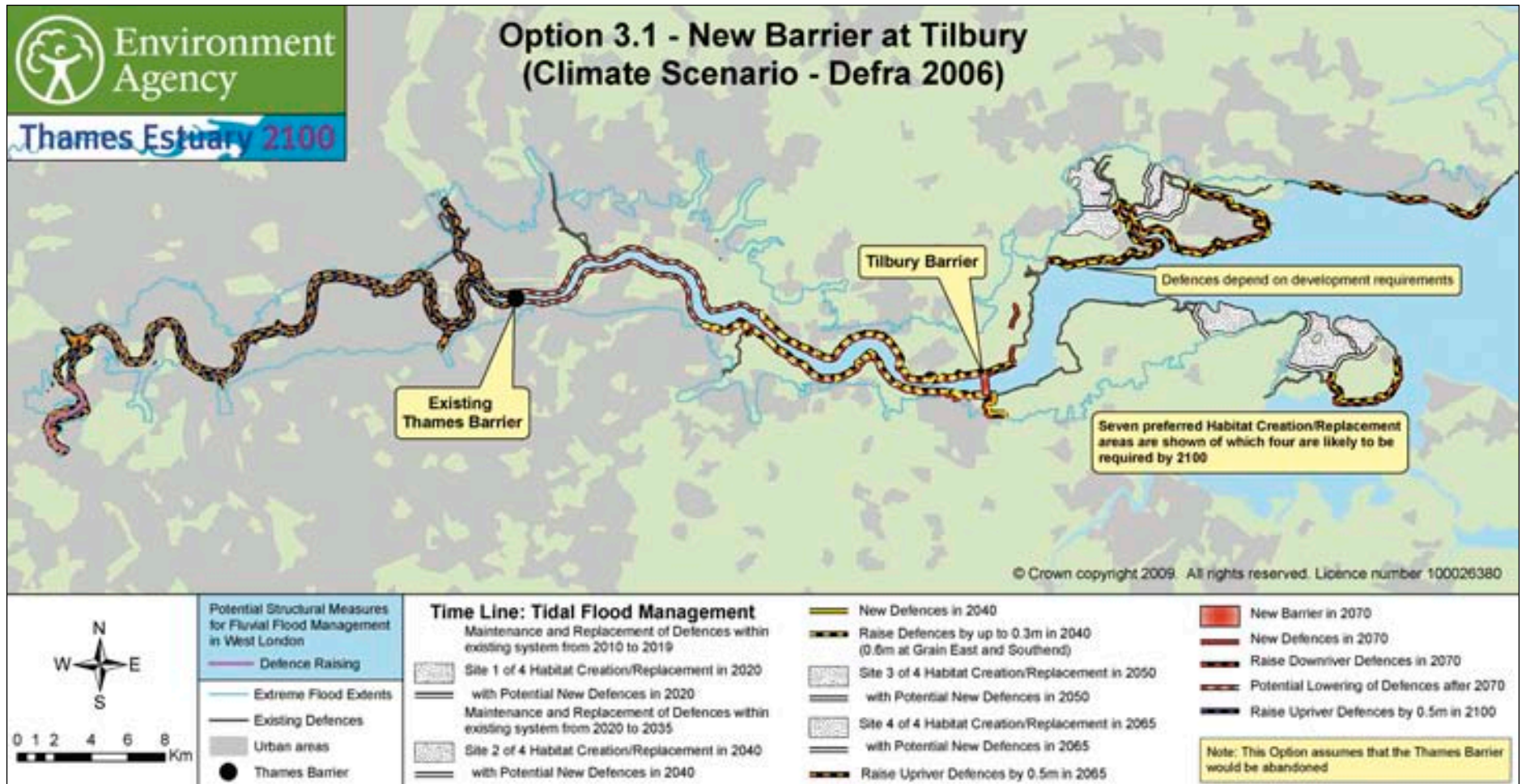
From the year 2070, our appraisal shows that options 1.4 and 3.2 are the two front-runners for managing tidal flood risk up to the end of this century and into the 22nd century.

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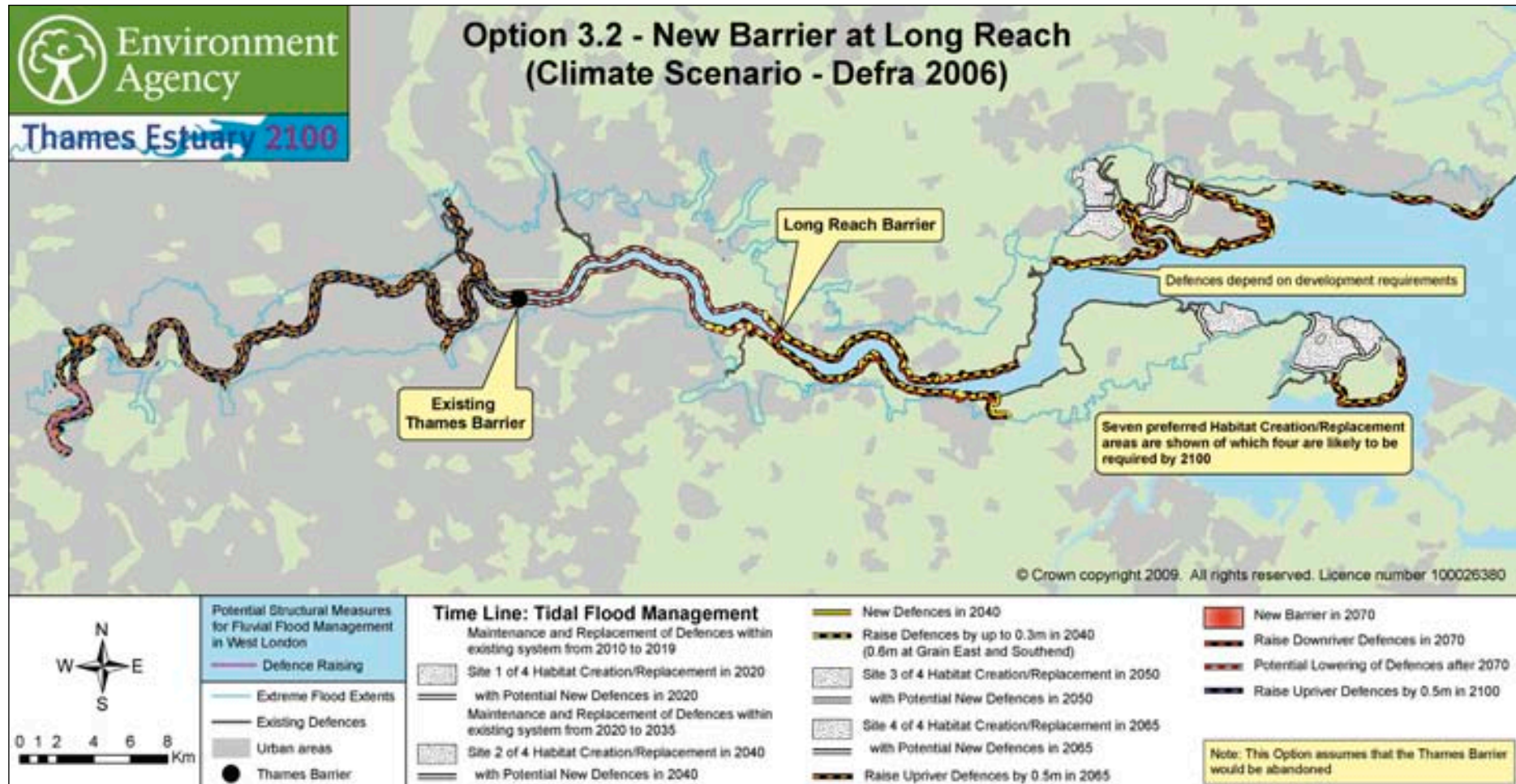




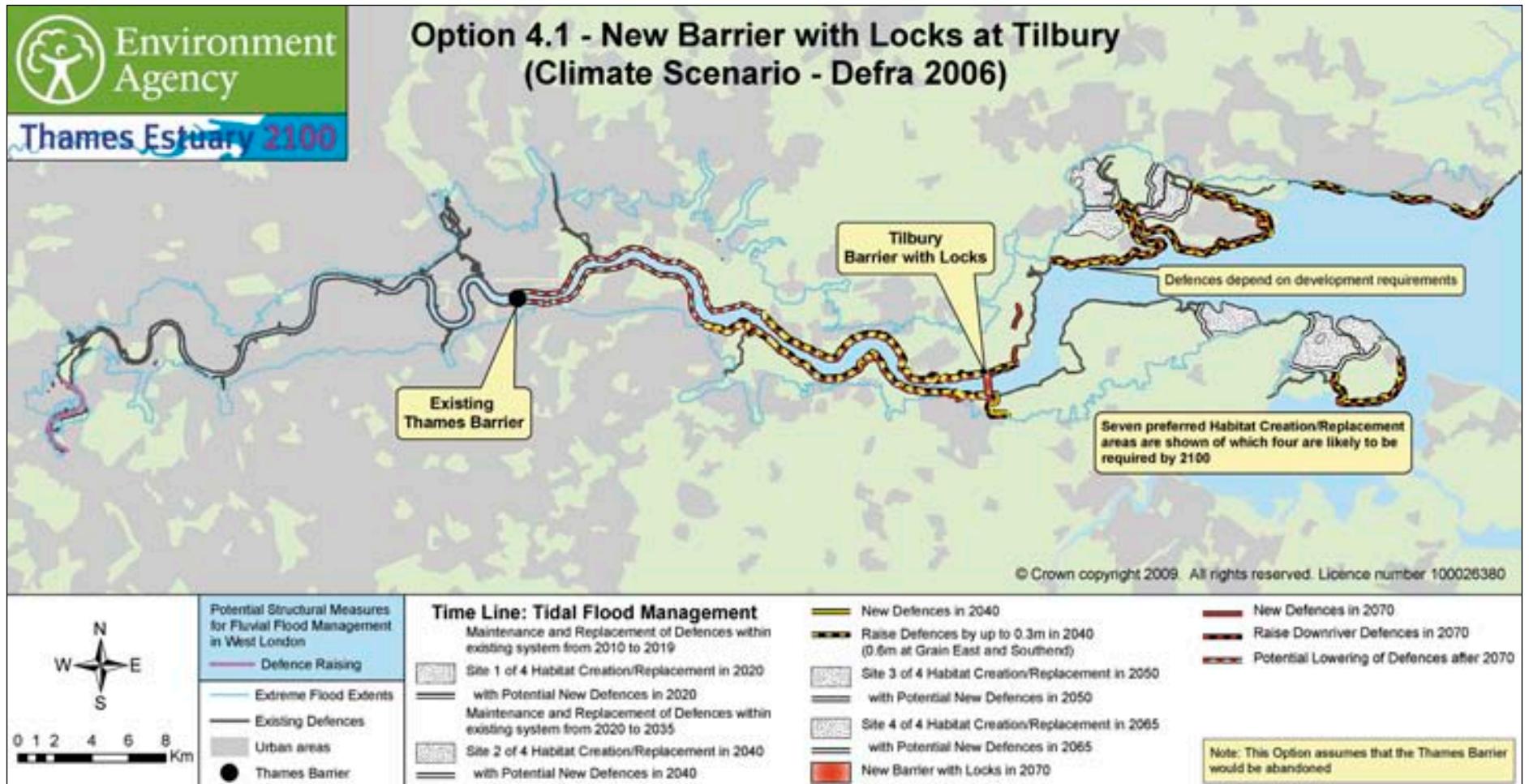
Estuary-wide option 2 (tidal flood storage)



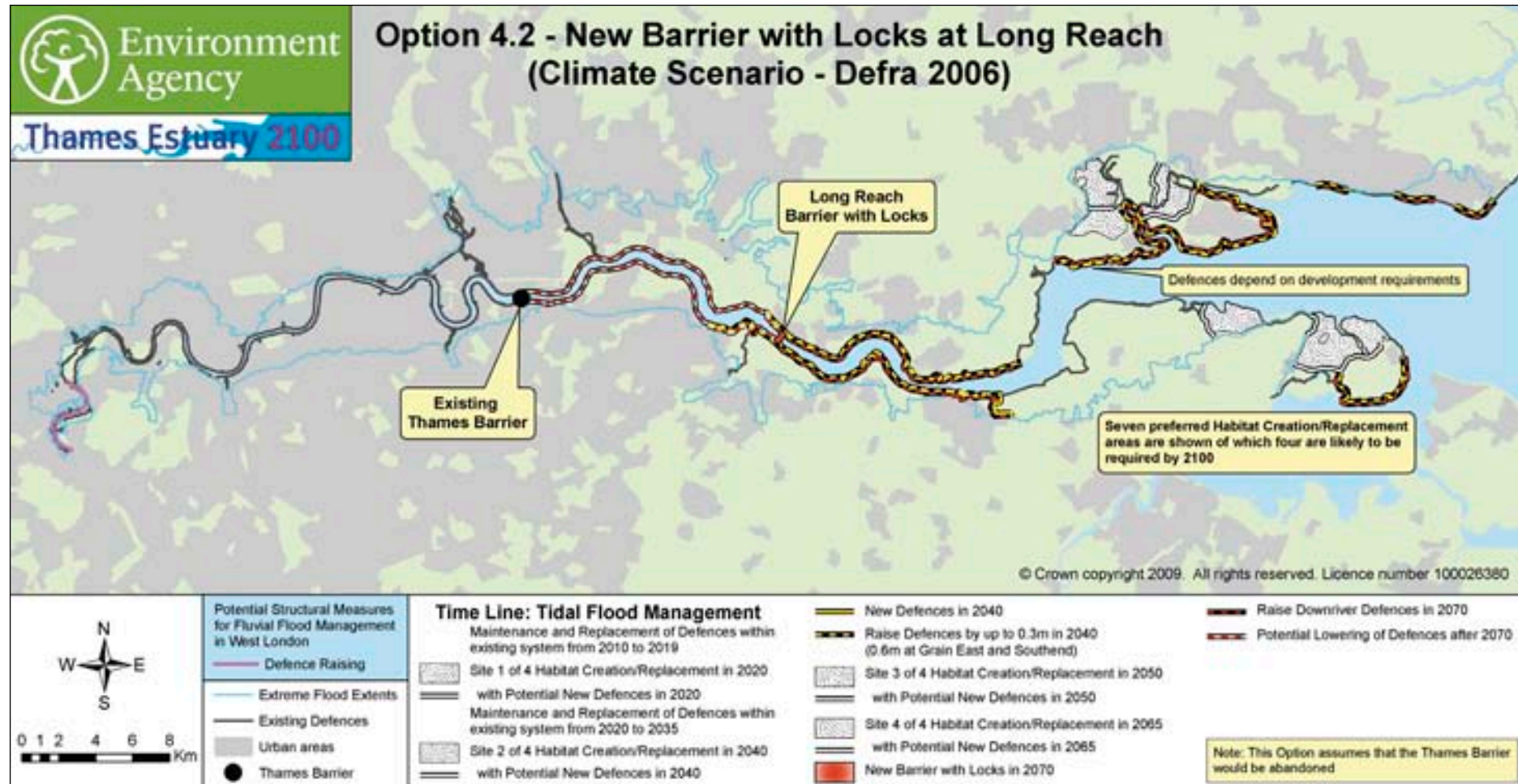
Estuary-wide option 3 (new barrier)



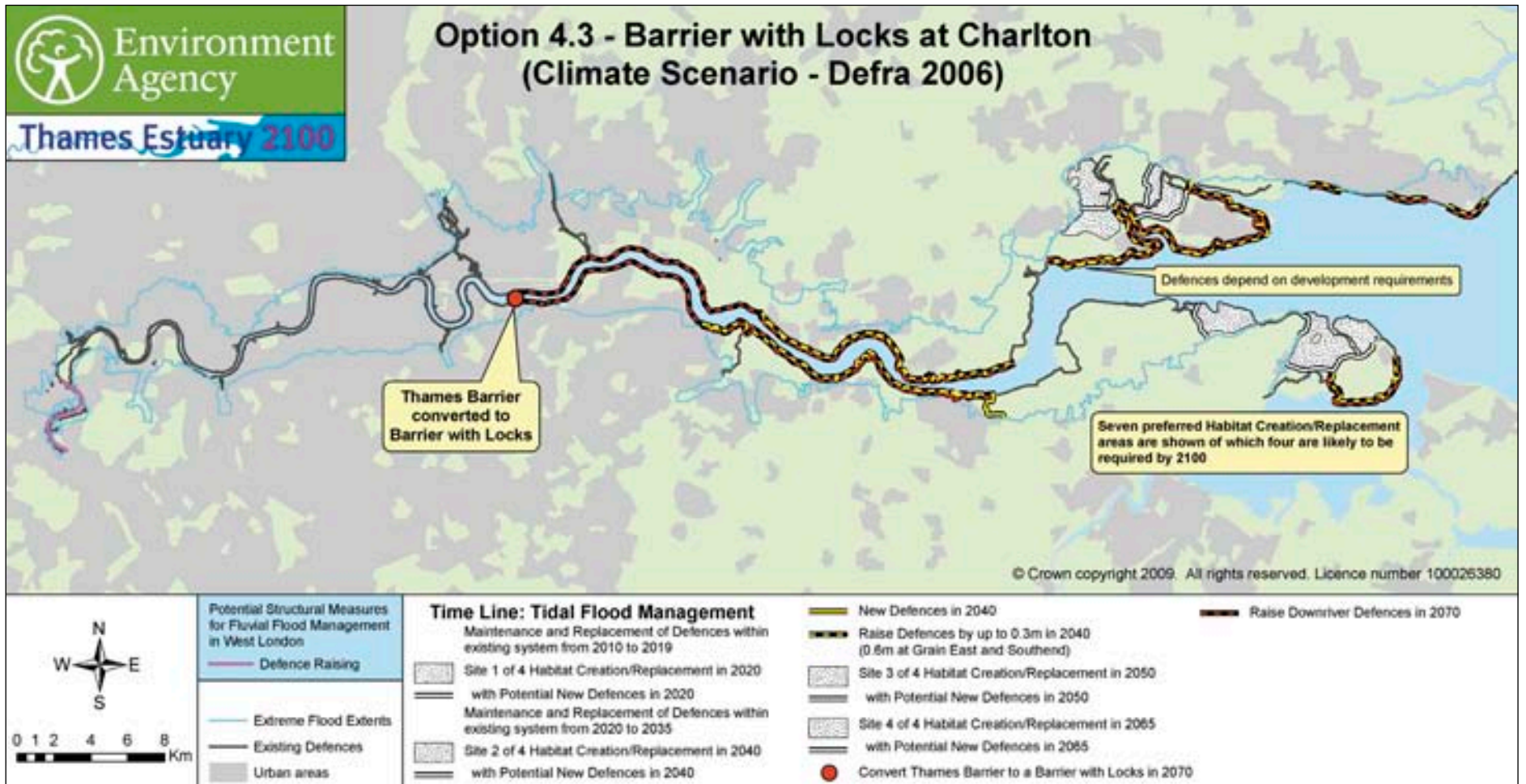
Estuary-wide option 3 (new barrier)



Estuary-wide option 4 (new barrier with locks)



Estuary-wide option 4 (new barrier with locks)



Estuary-wide option 4 (new barrier with locks)

Table A.0. – estuary-wide options


■ Option 1
Improve existing system

■ Option 2
Tidal flood storage

■ Option 3
New barrier (two locations)

■ Option 4
New barrier with locks

[Note that all dates are based on government’s current guidance on climate change – the TE2100 plan will be reviewed and updated if these predictions change]

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.1. Maintain and improve or replace defences (option 1.4.).</p> <p>Our appraisal shows this is the optimum approach for the first 25 years of the Plan from 2010 to 2034. It will involve continued maintenance and improvement of the defences. Option 1.4 (Optimise defence repair & replacement) is shown to be 10% less expensive than the other sub-options:</p> <ul style="list-style-type: none"> 1.1 Raise defences when needed 1.2 Allow for future adaptation of defences 1.3 Raise defences when they are replaced 1.4 Optimise defence repair & replacement. <p>Opportunities being sought for partnerships and environmental improvements. See local plans.</p> <p><i>(Cost included in TE2100 plan)</i></p>	<p>Environment Agency</p> <p>Riparian owners with responsibility for their defences</p> <p>Landowners adjacent to the defences</p> <p>Regional and local authorities</p>	<p>Our Planning Liaison and Development Control staff will promote these works as part of ongoing development applications.</p> <p>Our Asset System Management teams will promote these schemes. However, the method of improving the defences is different from the present day approach. It involves greater maintenance and repair work in addition to replacement. Promotion of schemes through the capital programme may not be appropriate for maintenance and repair, and a different way of working may be required.</p>	<p>This is the work which the Environment Agency does now. We will continue with our programme of maintenance and replacement but we are looking for ways of working better and more effectively.</p> <p>We are also seeking opportunities and partnerships to deliver environmental and recreational enhancements which will create a better place.</p> <p>We would welcome any comments that you or your organisation can provide which assist us in these aims. You can respond here with comments relating to the whole Estuary, or if you have specific comments relating to the area where you live or work, you can respond to the local action plan tables.</p> <p style="text-align: right;">(continued)</p>



Chapter 9: TE2100 action plan: **action zone 0** – estuary-wide


Estuary-wide option 1
(improve existing system)

Estuary-wide option 2
(tidal flood storage)

Estuary-wide option 3
(new barrier)

Estuary-wide option 4
(new barrier with locks)

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	A.0.1. (continued)			We are interested in your views about how defences will be raised. Option 1.4 assumes that they will be raised when required and not when replaced. This differs from the present practice of raising at replacement. If defences are not raised at replacement, the foundations for new defences should be strong enough to take future raising. This will mean more larger initial constructions, which have built in adaptability for future raising.
	 <p>A.0.2. To maintain, operate, modify and improve the Thames Barrier and other active defences for the first 25 years of the Plan from 2010 to 2034.</p> <p>Includes the Thames Barrier but also:</p> <ul style="list-style-type: none"> • KGV dock gate and Gallions sluice • Barking Barrier • Dartford Barrier • Tilbury Docks Flood Gate • Fobbing Horse Barrier • East Haven Barrier • Benfleet Barrier • 36 major industrial floodgates • 480 minor frontage gates and moveable defences. <p><i>(Cost included in TE2100 plan)</i></p>	<p>Environment Agency</p> <p>Riparian owners with responsibility for their defences</p> <p>Landowners adjacent to the defences</p> <p>Regional and local authorities</p>	<p>We will continue to operate, maintain, modify and improve the Thames Barrier and other active defences.</p> <p>For active defences owned and operated by others we will oversee their operation and maintenance.</p> <p>We will promote schemes through capital programme and they will form part of strategic and investment plans.</p>	<p>This is the work which the Environment Agency does now. We will continue with our programme of operations, maintenance and replacement but we are looking for ways of working better and more effectively.</p> <p>We are also seeking opportunities and partnerships to deliver environmental and recreational enhancements which will create a better place.</p> <p>We would welcome any comments that you or your organisation can provide which assist us in these aims. We are particularly interested to learn more about your views on the other barriers which operate in concert with the Thames Barrier.</p>

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.3. Habitat Creation site 1 of 4</p> <p>In 2020 the first of four intertidal habitat creation sites will be implemented.</p> <p>Valuable habitat is being lost because our defences are preventing it from migrating landwards as sea level rises and over the 100-year life of our Plan, 1200 hectares of new habitat will be needed. We have identified seven sites which have the right characteristics for habitat creation. The location of the sites are shown on the estuary-wide option maps. The sites are:</p> <ul style="list-style-type: none"> • Grain Marshes • All hallows Marshes • St Mary’s Marsh • West Canvey Marshes • Vange Marsh • Bowers Marsh • Fobbing Marshes. <p>By 2020 new freshwater habitat will be needed to compensate for the loss of designated freshwater and grazing marsh interest features as a result of potential loss as a result of intertidal habitat creation. The following sites have been identified as having the potential to support the interest features that could be lost, either through enhancement of existing features or creation of new habitat:</p> <ul style="list-style-type: none"> • Vange and North Fobbing Marshes • Dartford Marshes East 	<p>Environment Agency</p> <p>Natural England</p> <p>Landowners</p> <p>Local Authorities</p> <p>Public and local interest groups</p> <p>RSPB</p> <p>Wildlife Trusts</p>	<p>Planning and groundworks will commence 10 years before implementation of the managed realignment. This preliminary work includes construction of a new line of defence to protect people and properties from the risk of flooding from the new intertidal zone.</p> <p>It also includes, in some cases, recharging the land levels so that the correct habitat develops. It may take up to 10 years after the realignment is implemented before the habitat is fully established at the site.</p> <p>We will be looking for partnership arrangements to manage these sites and get the best for the natural environment, for the local population and for visitors.</p>	<p>We would like to hear your views on our 2020 habitat creation proposal. If your views cover all the sites, or are generally about habitat creation, then please respond to this action (A.0.3.). If you have views about specific sites, please respond to the relevant local action plan in the tables that follow.</p> <p>It is important that we use this consultation to have a proper and effective airing of information and views regarding any land use change. In the Environment Agency, we see habitat creation as a positive step towards the goal of sustainability and supporting the habitats and species that make the Thames estuary internationally important. As managers of flood defences we also have an obligation to maintain the ecological integrity of internationally designated habitats where it is determined our defences are having a detrimental effect. This habitat must be replaced.</p> <p>There will be no increased tidal flood risk to the public as a result of the intertidal habitat creation schemes as they will always include a new defence construction on the landward side of the new habitat to protect people and property. This provides major opportunities for improving the reliability of the defence system. It also provides opportunities for enhancements for recreation, key infrastructure, visitors centres and other facilities. In order to finalise our plans, we need to hear what you think – in general terms, or at a local level.</p> <p style="text-align: right;">(continued)</p>



Chapter 9: TE2100 action plan: **action zone 0** – estuary-wide



Estuary-wide option 1
(improve existing system)

Estuary-wide option 2
(tidal flood storage)

Estuary-wide option 3
(new barrier)

Estuary-wide option 4
(new barrier with locks)

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
 <p>First 25 years</p>	<p>A.0.3. (continued)</p> <ul style="list-style-type: none"> • Shorne Marshes West • Aveley, Wennington and Rainham Marshes • Ingrebourne River • Dartford and Crayford Marshes • South Fobbing Marshes • Cliffe Marshes • Pitsea Marshes • Cooling Marshes • Tilbury Marshes and West Tilbury Marshes • Hadleigh Marsh East • High Halstow • Higham Marshes • Aveley Bay/Wennington Creek. <p><i>(Cost of new intertidal habitat included in TE2100 plan, cost of new freshwater habitat not included in TE2100 plan)</i></p>			
 <p>Middle 35 years</p>	<p>A.0.4.</p> <p>To maintain and improve or replace defences (option 1.4).</p> <p>Our appraisal shows this is the optimum approach for the 35 years of the Plan from 2035 to 2069. It will involve continued maintenance, operation and improvement of the defences. Option 1.4 (Optimise defence repair & replacement) is shown to be 10% less expensive than the other sub-options (see A.0.1. above).</p> <p><i>(Cost included in TE2100 plan)</i></p>	<p>Environment Agency</p> <p>Riparian owners with responsibility for their defences</p> <p>Landowners adjacent to the defences</p> <p>Regional and local authorities</p>	<p>The period 2035 to 2069 includes raising of both upriver and downriver defences.</p> <p>There will also be a major programme of rebuilding and refurbishment of the defences as they come to the end of their useful lives.</p> <p>Our Planning Liaison and Development Control staff will promote these works as part of ongoing development applications.</p>	<p>These works will happen between 2035 and 2059 so they may not affect you directly. Our aims remain as A.0.1. above, but during this period, many of the defences will have come to the end of their lives. This provides many opportunities for creating a better place and planning for a better riverside environment.</p> <p>If you have views which would help us shape the future riverside environment, then please respond to this action (A.0.4.).</p> <p>If you have views about specific sites, please respond to the relevant local action plan in the tables that follow.</p>

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.5. To maintain, operate, modify and improve the Thames Barrier and other active defences during the 35 year period of the Plan from 2035 to 2069.</p> <p>Includes the Thames Barrier but also:</p> <ul style="list-style-type: none"> • KGV dock gate and Gallions sluice • Barking Barrier • Dartford Barrier • Tilbury Docks Flood Gate • Fobbing Horse Barrier • East Haven Barrier • Benfleet Barrier • 36 major industrial floodgates • 480 minor frontage gates and moveable defences. <p><i>(Cost included in TE2100 plan)</i></p>	<p>Environment Agency</p> <p>Riparian owners with responsibility for their defences</p> <p>Landowners adjacent to the defences</p>	<p>We will continue to operate, maintain, modify and improve the Thames Barrier and other active defences.</p> <p>Removal of the some of the existing active defences in the Estuary could restore parts of the floodplain to a more natural system.</p> <p>Where necessary passive defences could be implemented to provide an appropriate level of risk management to property at risk.</p> <p>For active defences owned and operated by others we will oversee their operation and maintenance.</p> <p>We will promote schemes through capital programme and they will form part of strategic and investment plans.</p>	<p>Even if you and/or your organisation are not planning this far ahead, your views and any additional information you can provide will be of interest to us for future planning.</p> <p>Restoring natural function to the floodplain by removing structures supports the provision of an appropriate and sustainable flood risk management system and aligns with the Government’s making space for water strategy.</p>
	<p>A.0.6. Habitat Creation – site 2, 3, and 4.</p>	<p>Environment Agency</p> <p>Natural England</p> <p>Local Authorities</p> <p>Landowners</p>	<p>Monitoring and review will be required to confirm actual loss of intertidal habitat compared to that which was projected. Adjustment may need to be made to planned replacement activities.</p>	<p>We would like to hear your views on our 2040, 2050 and 2065 habitat creation proposals. If your views cover all the sites, or are generally about habitat creation, then please respond to this action A.0.6.</p> <p style="text-align: right;">(continued)</p>



Chapter 9: TE2100 action plan: **action zone 0** – estuary-wide




Estuary-wide option 1
(improve existing system)

Estuary-wide option 2
(tidal flood storage)

Estuary-wide option 3
(new barrier)

Estuary-wide option 4
(new barrier with locks)

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.6. (continued)</p> <p>In this period the remaining habitat creation sites will be implemented in 2040, 2050 and 2065. Further sites will be realigned to make up the necessary 1200 hectares of intertidal habitat creation required this century.</p> <p>Site options shown on the estuary-wide option maps are:</p> <ul style="list-style-type: none"> • Grain Marshes • All hallows Marshes • St Mary’s Marsh • West Canvey Marshes • Vange Marsh • Bowers Marsh • Fobbing Marshes. <p><i>(Cost included in TE2100 plan)</i></p>	<p>Public and local interest groups</p> <p>RSPB</p> <p>Wildlife Trusts</p>	<p>Intertidal Habitat creation will require compensation freshwater habitat creation.</p> <p>See A.0.3. for additional considerations.</p>	<p>If you have views about specific sites, please respond to the relevant local action plan in the tables that follow.</p> <p>See A.0.3. for additional considerations.</p>
	<p>A.0.7.</p> <p>To implement “end of the century” option from 2070.</p> <p>From the year 2070, our appraisal shows that options 1.4 and 3.2 are the two front-runners for managing tidal flood risk up to the end of this century and into the 22nd century.</p>	<p>Environment Agency</p> <p>Defra</p> <p>Natural England</p> <p>Landowners</p> <p>Other partners</p>	<p>We will promote the schemes which make up our end of the century options in consultation with Government, and other partners.</p> <p>There are major opportunities for reshaping the Estuary landscape and character as part of these works.</p>	<p>We would like your views on our two front-runners. These are:</p> <p>Option 1.4 – Maintain and improve existing system, optimising maintenance and reconstruction activities.</p> <p>Option 3.2 – A new barrier at Long Reach.</p> <p>Both options include defence raising downriver of the Thames Barrier (option 1.4) and the new barrier (option 3.2).</p> <p>Do you feel we have selected the best long-term options, and is it clear why we have recommended the two front-runners?</p> <p style="text-align: right;">(continued)</p>

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.7. (continued)</p> <p>For the purposes of costing the Plan, option 3.2 (New Barrier at Long Reach) has been used as this performed marginally better in our economic appraisal. Our strategic environmental assessment (SEA) indicated that there was little between the options but barriers were least preferable because they caused more damage to natural processes and habitat.</p> <p><i>(Cost of option 3.2 included in TE2100 plan)</i></p>		The TE2100 10-yearly update will include a review of Action A.0.7. and recommend further whether the end of the century recommendations remain or whether they have changed.	
	<p>A.0.8.</p> <p>To maintain, operate, modify and improve the Thames Barrier or new Barrier and other active defences from the year 2070.</p> <p><i>(Cost of option 3.2 included in TE2100 plan)</i></p>	<p>Environment Agency</p> <p>Riparian owners with responsibility for their defences</p> <p>Landowners adjacent to the defences</p>	<p>The nature of these works will depend on options adopted in 2070.</p> <p>The TE2100 10-yearly review will update the long-term programme with the latest recommendations.</p>	If you have views about the long-term future of the barriers and other movable defences, please share them with us now so we can use this in future appraisal reviews.
	<p>A.0.9.</p> <p>End of the century choices</p> <p>We have developed ten choices:</p> <p>Option 1: Improve the existing defences</p> <p>1.1 Raise defences when needed</p> <p>1.2 Allow for future adaptation of defences</p> <p>1.3 Raise defences when they are replaced</p>	<p>Environment Agency</p> <p>All stakeholders</p>	We have identified two front-runners (see A.0.7.) but the choice of end of the century option will not be made until 2050 or 2060 under government's current climate change guidance. Flood risk management considerations alone do not justify these 2070 options being brought forward.	<p>The selection of option for 2070 will be made following a series of 10-yearly reviews of the TE2100 plan. You may feel there is no point in giving your views on something which will not happen for 60 years or more – especially as we have already stated which are the front-runners. But the environment and society will change over the next 60 years and we need to be able to measure these changes in our 10-yearly reviews of the TE2100 plan. This consultation provides an opportunity for you to have your views recorded and presented as part of an ongoing vision statement to those who follow us</p> <p>60 to 100 years from now. (continued)</p>


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Estuary-wide option 1
(improve existing system)

Estuary-wide option 2
(tidal flood storage)

Estuary-wide option 3
(new barrier)

Estuary-wide option 4
(new barrier with locks)

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.9. (continued)</p> <p>1.4 Optimise defence repair & replacement</p> <p>Option 2: Tidal flood storage Six potential sites have been identified which are in the right location to store tidal waters and reduce the level of storm surges. The sites identified are at Erith Marshes, Aveley and Wennington Marshes, Dartford and Crayford Marshes, and Shorne and Higham Marshes.</p> <p>Option 3: New barrier 3.1 Tilbury location 3.2 Long Reach Location</p> <p>Option 4: Barrier with locks 4.1 Tilbury location 4.2 Long Reach location 4.3 Barrier with locks at Thames Barrier (when closures/year approach their limit)</p> <p><i>(Cost of option 3.2 included in TE2100 plan but this will be reviewed at subsequent appraisals)</i></p>		<p>There may be external factors such as funding from other major infrastructure projects which justify a review of the TE2100 appraisal – our adaptable plan (see chapter 12) allows for this.</p> <p>For further information, please see the estuary-wide options maps.</p> <p>This action also includes the maintenance and management of the fixed defences from the year 2070 to the end of the Plan.</p>	<p>We are particularly interested to know your views on the following:</p> <p>Option 1: Maintain and improve existing system Do you think it is better to do the minimum to keep the infrastructure going (option 1.1), to spend more to make defences adaptable (option 1.2), to spend even more to anticipate future improvements (option 1.3) or to optimise defence maintenance, repair and replacement – which is cheaper but more difficult to manage (option 1.4)?</p> <p>Option 2: Tidal flood storage Do you have any general views on this option? Do you have views on the advantages and disadvantages of particular sites? (We will be gathering information on the local issues through our local action tables.)</p> <p>Option 3: New barrier Do you have any general views on this option? Do you have views on the two locations, Tilbury and Long Reach? (We will be gathering information on the local issues through our local action tables.)</p> <p>Option 4: New barrier with locks (or “open” barrage) Do you have any general views on this option? Do you have views on the three locations, Tilbury, Long Reach and at the current Thames Barrier site? (We will be gathering information on the local issues through our local action tables.)</p>

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.10. Development of a land strategy for the Thames estuary.</p> <p>We recommend the development of a Land strategy for the Thames estuary to support the TE2100 plan. This land strategy will have four purposes:</p> <ul style="list-style-type: none"> • To safeguard land which may be needed for future flood risk management purposes. • To co-ordinate the planning and ensure that we get the best out of the habitat creation schemes. • Many of our defences are needed to prevent contaminant from leaching into the river and these areas are not useful for other purposes. There is a need to establish a programme of remedial works with the key objective of removing the constraints to flood risk management (and other uses) caused by the contamination. • To bring together the various strategic plans and vision statements in the Estuary. 	<p>Environment Agency</p> <p>Defra, Natural England</p> <p>National Farmers' Union (NFU)</p> <p>Thames Gateway Parklands Vision</p> <p>Greater London Authority (GLA), East of England Regional Assembly (EERA), South East England Regional Authority (SEERA)</p> <p>The Thames Landscape Strategies</p> <p>Thames Estuary Partnership</p> <p>Other strategic planners</p> <p>Landowners and other interest groups</p>	<p>Details for the production of the Thames estuary land strategy will be included in the TE2100 implementation blueprint to be prepared in 2009.</p> <p>The document will recognise the following strategic plans and vision statements:</p> <p>Parklands Vision</p> <p>The GLA London Plan's Blue Ribbon Network</p> <p>The Thames Landscape Strategies</p> <p>Thames Estuary Partnership's Thames Strategy East</p> <p>Our flood and coastal risk management plans for the Thames estuary</p> <p>Other strategic plans</p>	<p>We cannot know what institutional arrangements there will be as we approach the 22nd century, but our TE2100 vision imagines an environment where the Thames estuary is increasingly enjoyed and respected by the people who live and work there and those who visit. We believe that this land strategy will communicate this vision for the Estuary and assist in its integration into existing and future plans and programmes.</p> <p>Your views on this document will help us shape and develop it.</p> <p>What should it contain? Who should use it? Any other views of you and/or your organisation will help us in preparing proposals for this document. It is important because it will form an ongoing vision statement to those who follow us 60 to 100 years from now as well as providing practical advice for today's managers of the Thames estuary environment.</p>



Chapter 9: TE2100 action plan: **action zone 0** – estuary-wide

Estuary-wide option 1
(improve existing system)



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(new barrier with locks)

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.11. Agree partnership arrangements for floodplain management – now to the end of the century.</p> <p>Many floodplain management actions are already taken by Government, emergency services, utility providers and others. Our studies show how stronger partnerships, improved co-ordination and investment in priority areas can significantly improve safety and reduce damages. We have tested new actions and identified potential investment in specific policy units to inform local delivery plans.</p>	Environment Agency Regional & Local Authorities Emergency Services Utility Providers	<p>Our Planning Liaison and Development Control staff support strategic planning and applications with advice and flood risk information.</p> <p>Our Flood Incident Management staff support emergency planning through local resilience fora.</p> <p>Regional & local authorities preparing Flood Plans and Local Development Frameworks supported by sustainability frameworks.</p> <p>Utility providers planning resilient infrastructure and retrofitting where necessary.</p>	<p>We are looking for ways of working more effectively and improving efficiency by strengthening our partnerships.</p> <p>We would welcome any comments that you or your organisation can provide which assist us in these aims. You can respond here with comments relating to the whole estuary, or if you have specific comments relating to the area where you live or work, you can respond to the local action plan tables.</p>
	 <p>A.0.12. To monitor and maintain the TE2100 plan for the first 25 years from 2010 to 2034.</p>	Environment Agency Met office Defra Natural England	<p>Monitor key indicators from 2010 to 2034.</p> <p>Oversee strategic implementation of actions including annual audit of action plan.</p> <p>Review and update TE2100 plan in 2020 and 2030.</p>	

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	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 plan
	<p>A.0.13. To monitor and maintain the TE2100 plan for the middle 35 years from 2035 to 2069.</p>	<p>Environment Agency Met office Defra Natural England</p>	<p>Establish monitoring systems for key indicators (working with other Environment Agency regions and the Met Office).</p> <p>Oversee strategic implementation of actions including annual audit of action plan.</p> <p>Monitor key indicators from 2035 to 2069.</p> <p>Review and update TE2100 plan in 2030, 2040, 2050 and 2060.</p>	
	<p>A.0.14. To monitor and maintain the TE2100 plan from 2070 to the end of the century.</p>	<p>Environment Agency Met office Defra Natural England</p>	<p>Monitor key indicators from 2070 to the end of the life of the TE2100 Plan.</p> <p>Oversee strategic implementation of actions including annual audit of action plan.</p> <p>Review and update TE2100 plan in 2070, 2080, 2090 and 2100.</p>	

Estuary-wide option 1
(improve existing system)

Estuary-wide option 2
(tidal flood storage)

Estuary-wide option 3
(new barrier)

Estuary-wide option 4
(new barrier with locks)

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option 1
(improve
existing
system)

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