

DUMFRIES & GALLOWAY SHORELINE MANAGEMENT PLAN

Appendix E - Action Plan




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APPENDIX E - ACTION PLAN

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1 INTRODUCTION

Policies for the future management of coastal flood and erosion risk along the Dumfries & Galloway coastline have been identified for three epochs, short term (0 – 20 years), medium term (20 – 50 years), and long term (50 – 100 years). For the purposes of defining appropriate management policies the Dumfries & Galloway coastline has been divided into 35 sections or Policy Units and this Action Plan sets out actions required to implement the recommended policies for each policy Unit¹.

More than one management policy may be proposed during a single epoch, either as a combination of primary and localised policies or as an alternative to a primary or localised policy. In this context the terms primary, localised and alternative are used as follows;

Primary policies cover the greater spatial extent of a Policy Unit or are preferred in terms of sustainability.

Localised policies are of limited spatial extent and address specific risks.

Alternative policies are identified in situations where there are uncertainties regarding the need for or sustainability of a primary or localised policy, particularly where the justification for a particular management policy may become challenging due to the anticipated effects of climate change.

For example, a Policy Unit may have a primary policy of No Active Intervention, with a localised policy of Hold the Line for areas where there are existing defences, moving to an alternative localised policy of Managed Realignment in the medium to longer term as the effect of sea level rise becomes more significant.

This Action Plan focusses on defining actions relating to implementation of the short-term policy or actions required to more fully develop medium to long-term management policies as the level of uncertainty is much higher in terms of medium to long-term risks, actions, funding sources and strategy. However, the Shoreline Management Plan (SMP) provides a long lead time for the changes that will take place, which in general will not happen now, but will occur at some point in the future. To manage these changes effectively and appropriately, the approach put forward in the SMP needs to be considered now, not in several decades time.

Responsibility for mitigation of coastal flood and erosion risk does not fall solely upon national and local government and should not be read as such within this Plan. The terms of the legislation under which the coastal defence operating authorities work confer only “permissive powers” and, as such, there is currently no general obligation on the part of operating authorities or national government to assure protection against flooding or erosion or to provide any compensation for losses. Consequently, in addition to coastal defence operating authorities, business and commercial enterprises also need to establish the measures that they need to take to address the changes that will take place in the future. This includes providers of services and utilities, who will need to make provision for long-term change in coastal risks when upgrading or replacing existing facilities in the shorter term. Service providers should also consider how they will relocate facilities that will become lost to erosion or flooding and the need to provide for relocated communities. Other parties needing to consider mitigation measures will be roads authorities and bodies responsible for local amenities (including churches, golf clubs, etc.). Finally, private land and property owners also need to consider how they will deal with the changing shoreline and its effects on their property under the management policies defined in the SMP.

1.1 Objectives

The objectives of this Action Plan are to:

- Facilitate implementation of the SMP policies;
- Identify and / or promote studies to improve understanding where this is required to resolve policy and / or implementation;
- Promote use of the SMP recommendations in spatial planning;
- Identify procedures for the management of the SMP until its next review; and
- Establish a framework to monitor progress against the Action Plan and initiate future SMP review.

¹ When reading the plan, readers should refer back to the Preferred Policies Statements (for each PUs) contained in Appendix D for completeness / detailed information on Preferred Policies.

1.2 Approach

The purpose of the Action Plan is to identify the steps that need to be taken in order to put the SMP policies into practice. This primarily includes taking steps to ensure that the SMP policies are taken forward in the short term but also to provide a strategic basis for more detailed studies and plans for managing and / or improving coastal management in the medium to long term. In some cases, implementation of recommended SMP actions by the identified parties will be in accordance with their own asset management processes and programmes.

The Action Plan provides a list of actions that should be undertaken by Dumfries & Galloway Council and/or others over the life of the SMP, and may be revised at the next SMP review, which will ultimately lead to better informed decision-making relating to coastal management policy. The SMP review period is nominally every ten years; however, the SMP provides for reassessment of this timescale should an earlier review be considered necessary.

The actions can be split into those that are applicable to the whole SMP area and those that apply to specific areas or locations (Policy Units). Policy Units are sections of the coast for which it has been identified that there is significant processes interaction for developing SMP policies or significant changes in risk profile.

Actions to be taken are assigned to an 'action type' based on the following;

- **Management Area / Unit Studies** – studies and investigations, including coastal process studies;
- **Monitoring** – data collection and analysis;
- **Asset management** – maintenance of assets;
- **Communication** – consultation / information actions;
- **Adaptation and resilience** – plans for development and implementation of adaptation activities, and
- **Habitat creation** – studies and works relating to the creation and restoration of habitats.

Other details provided include a brief description of the action, an indication of the relevant importance of the action, parties involved in implementing the action, and where relevant links with other actions.

In addition to activities to implement the short-term management policies, the Action Plan identifies activities required to facilitate the implementation of longer-term policies where appropriate. This includes actions to:

- Facilitate implementation of the SMP policies through more detailed local studies and engagement with stakeholders on the best approaches to delivery;
- Identify studies to improve understanding or reduce uncertainty where this is required to resolve policy and / or implementation;
- Deal with the consequences of the Plan;
- Promote use of the SMP recommendations in spatial planning of land use;
- Establish a process for informing stakeholders of progress with SMP implementation;
- Establish a framework to monitor and manage progress against the Action Plan and initiate future SMP review.

The policy recommendations in the SMP may be brought about through the implementation of coastal defence schemes or other coastal management actions. The process of implementation will be underpinned by monitoring of the shoreline to identify ongoing behaviour (to confirm assumptions made in policy development), together with targeted study and investigation where specific uncertainties need to be addressed to enable policy (short or longer term) implementation. It should be recognised that funding for these recommended studies and schemes is not guaranteed, in that direct funding may not be available due to the need for prioritisation of flood and coastal defence funding at a local level. Co-funding of flood and coastal defence projects as well as other funding streams such as private contributions will become increasingly important and therefore need to be considered at the earliest opportunity. In addition, Dumfries & Galloway Council will need to investigate other areas for collaborative working as well as keeping the prioritisation of actions under review to ensure the best value for money in terms of reducing risk. Where the Action Plan tables refer to undertaking monitoring, this includes the proper storage and analysis of data to inform future management practices.

It is also vitally important that information provided by the SMP on the future coastal risks and their management is disseminated to Planning Authorities to ensure that the outputs from the SMP are considered when developing and implementing land use plans.

2 BROAD SCALE SMP ACTIONS

There are a number of broad scale actions to help authorities and stakeholders adapt to and manage coastal risks.

2.1 Planning

The risk management policies set out in the SMP cannot be implemented through engineering or coastal defence management alone. There is a need for spatial planning to adopt the policies and understand their consequences, such that risk areas are avoided by development, and future changes in policy are facilitated to allow a more sustainable approach to management of coastal risks and avoid increasing risks by allowing development in flood and erosion prone areas.

2.1.1 Regional Planning

Regional planning needs to consider the messages being delivered by this SMP and ensure that future proposals for regional development and investment are managed accordingly. Such planning needs to consider implications beyond the current 20 year horizon typically used.

2.1.2 Local Planning

Local planning should consider the risks identified in this SMP and avoid approving inappropriate development in areas at risk of flooding and erosion. Local planning also needs to consider that relocation of displaced people and property may require land set back from the coast to be made available within the same settlements to maintain the same level of community and may need to become increasingly flexible to enable this. Locations for new developments may also need to be identified.

2.1.3 Spatial Planning Actions

The following actions should be adopted in terms of spatial planning activities;

- Include the SMP as reference material for, or an annex to, the Local Development Plans. Where relevant, development plans should identify areas where managed realignment of the coast may be appropriate, setting out the potential benefits such as habitat creation and new recreation opportunities. Planning authorities should also take the likely effect of proposed development on the marine environment into account when preparing development plans and making decisions on planning applications.
- Ensure that SMP policies are integrated into development control activities to control development and flood risk. This may require the definition of 'No Development Areas' in areas where managed realignment and no active intervention are the agreed policy. Along these frontages a coastal setback 'buffer zone' area should be identified to exclude development in areas where there is a risk of erosion. An appropriate 'no development' set back area would extend back to the 100 year erosion risk predicted shoreline position. In addition, consideration should be given to restricting development in areas behind dune systems and salt marshes to allow for natural rollback of these features over time, to maintain the integrity and function of the natural habitat as a defence.
- Promote the use of Strategic Flood Risk Assessment as part of the preparation of Development Plans. Scottish Planning Policy (SPP) requires that planning authorities must take the probability of flooding from all sources and the risks involved into account when preparing development plans. Strategic Flood Risk Assessments (SFRAs) are a useful guide for development decisions and meet the requirements of the SPP.
- Ensure local Planning Authorities are aware of the need to promote the development of planning policies to facilitate adaptation to coastal change and address potential housing and other future losses through implementation of 'realignment' and 'no active intervention' policies. This may involve relocation of property, essential services, infrastructure etc. and should involve cross authority working with a range of partners and interested parties, including potential cross boundary issues.

2.2 Climate Change Adaptation

The UK Climate Change Risk Assessment (CCRA), published on 25 January 2012, was the first assessment of current and predicted impacts of climate change for the UK under Section 56 of the Climate Change Act 2008. This assessment was produced by HR Wallingford on behalf of Defra and drew together evidence and analysis on the threats and opportunities presented by the changing climate. The CCRA consisted of a number of reports, including 'a Climate Change Risk Assessment for Scotland'. Following publication of the CCRA, Section 53 of the Climate Change (Scotland) Act 2009 required Scottish Ministers to develop a Scottish Adaptation Programme, which addresses the risks identified for Scotland in the CCRA. The second Scottish Climate Change Adaptation Programme (SCCAP) was launched in September 2019, following the publication of the 2017 update to the UK CCRA, the next update of which is due in 2022, and will be followed by a further update to the SCCAP around 2024. Further information on the SCCAP is available on the Scottish Government website <http://www.scotland.gov.uk/Topics/Environment/climatechange/scotlands-action/adaptation>.

In the short-term, the need to ensure that conservation interests within designated sites or in the wider environment are appropriately addressed by coastal management should be accomplished in a way that engages the public and involves local communities in finding long-term solutions to issues. The Marine (Scotland) Act 2010 provides a framework which will help balance competing demands on Scotland's seas by introducing a duty to protect and enhance the marine environment. The Act aims to improve marine nature and historic conservation with new powers to protect and manage areas of importance for marine wildlife, habitats and historic monuments. To accommodate shoreline retreat and loss of property and assets, whether due to coastal erosion or flooding, local operating authorities will need to develop adaptation plans. These will need to address the removal of buildings and other cliff-top facilities well in advance of their loss. Plans for the relocation of people also need to be established and be clear for all affected.

2.3 Monitoring

Monitoring of coastal change is a key aspect of sustainable shoreline management, both in terms of informing policy decisions and also in establishing the effectiveness of policies and quantifying any impacts. Consequently, the establishment and implementation of a regular monitoring programme is a key action that should be progressed for the entire coastline but with particular focus on those areas of greatest risk.

2.4 SMP Review

The management policies set in an SMP are based on the understanding of coastal processes and risk at the time the plan is developed and as such SMP's should be considered "live" documents and hence be subject to regular review (typically every 10 years) to ensure that they remain relevant to the ever-changing coastal environment. In this way changing knowledge of the effects of climate change, and new data / knowledge of coastal processes and the associated risks can be incorporated ensuring that the SMP policies remain relevant and applicable to the Dumfries & Galloway coastline. Hence the establishment of a periodic review cycle is a key action to be included within the recommendations of the Dumfries & Galloway SMP.

3 COASTAL PROCESS UNIT 1

Coastal Process Unit 1 of the D&G SMP, the dynamic inner section of the Solway Firth, extends from Gretna in the east to Southernness Point in the west, including the tidal reaches of the Rivers Sark, Annan and Nith. There are seven Policy Units within Coastal Process Unit 1 for which the relevant actions are identified in the following sub-sections.

3.1 Policy Unit 1 – Gretna to Browhouses

Policy Unit 1 extends from the downstream face of the B7076 road bridge crossing of the River Sark (NY337661) to Browhouses (NY284650), located to the west of Redkirk Point. PU 1 includes approximately 6.2km of shoreline as shown in Figure 3-1.

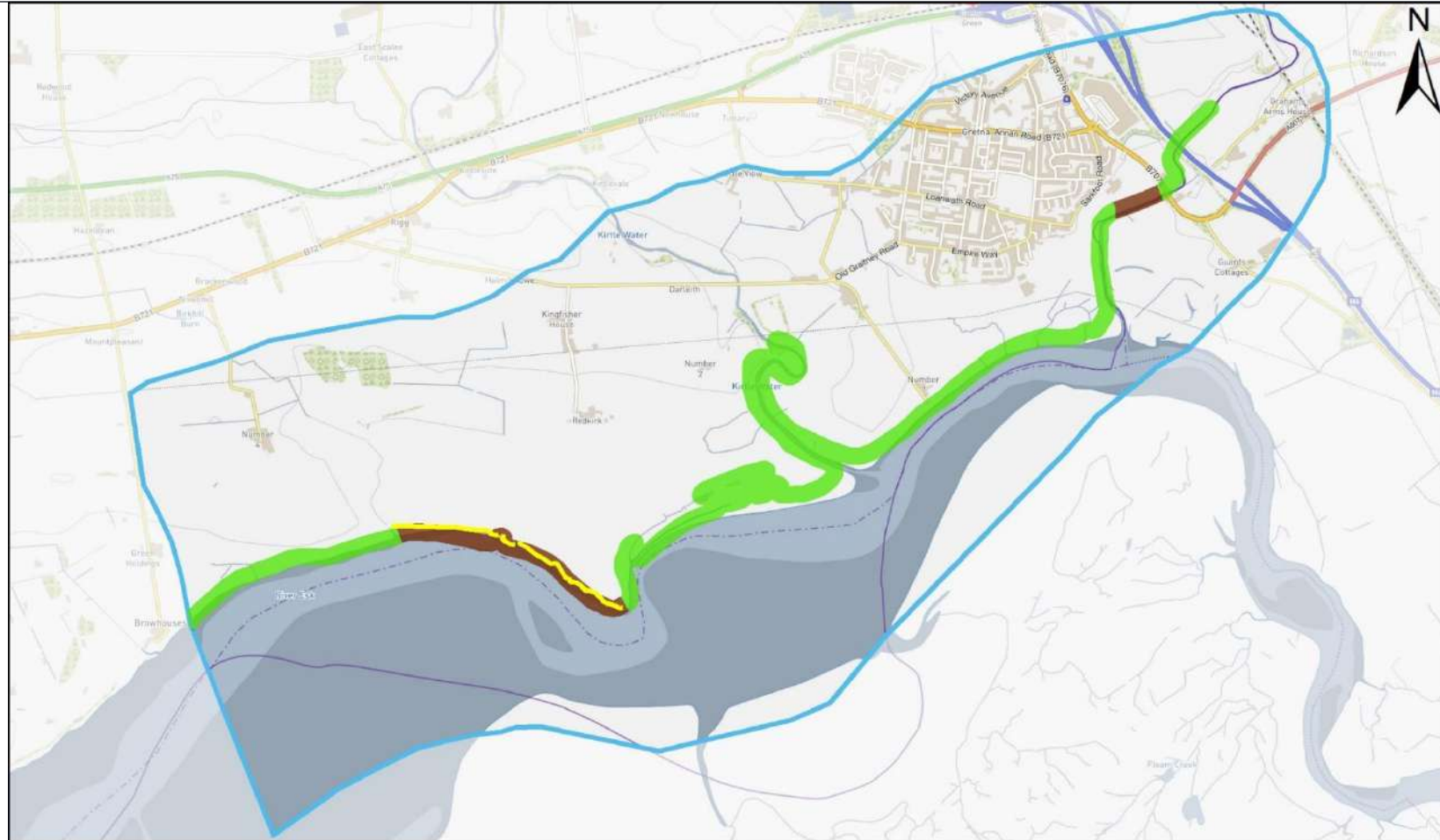
The SMP has identified the management policies shown in Table 3-1 for PU 1 over the next 100 years i.e. essentially a policy of No Active Intervention although Hold the Line or Managed Realignment could be accommodated where there are existing defences along the River Sark and at Redkirk Point if a detailed assessment indicated this to be justified.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	MR	MR
Alternative	MR	X	X

Table 3-1: SMP Management Policies for PU 1

The associated actions required to implement the recommended management policies within PU 1 are listed in Table 3-2.

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Defence Assets illustrated are listed in the Dumfries & Galloway Council & NCCA2 coastal structure database.



Figure 3-1: Extent of Policy Unit 1, Showing Short Term Shoreline Management Policies

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Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of “No Development Zones” as necessary.	D&G Council	H	Short
Monitor Evolution of Coastline	Monitoring	Monitor the evolution of the coastline to inform need for localised policy and future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline should be allowed to function naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed feasibility Study	Management Area / Unit Studies	Flood / erosion assessment required to quantify risk to properties and identify need for management measures.	D&G Council / NatureScot	L	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	M	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	L	Medium

Table 3-2: Action Plan: PU 1 Gretna – Browhouses

3.2 Policy Unit 2 – Browhouses to Dornock Burn

Policy Unit 2 extends westwards from east of Browhouses (NY284650), past Torduff Point to the mouth of the Dornock Burn in the west (NY227653). PU 2 includes approximately 6.1km of shoreline as shown in Figure 3-2.

The SMP has identified the management policies shown in Table 3-3 for PU 2 over the next 100 years. The primary policy of Managed Realignment (or possible No Active intervention) in combination with a localised policy of Hold the Line at Browhouses and Dornock is based on the confirmation from the MoD that potential for contaminated ground at Estriggs to be low.

Policy	Short Term	Medium Term	Long Term
Primary Policy	MR	MR	MR
Alternative	NAI	NAI	NAI
Localised Policy	HTL	HTL	HTL
Alternative	X	MR	MR

Table 3-3: SMP Management Policies for PU 2

The associated actions required to implement the recommended management policies within PU 2 are listed in Table 3-4.

APPENDIX E - ACTION PLAN

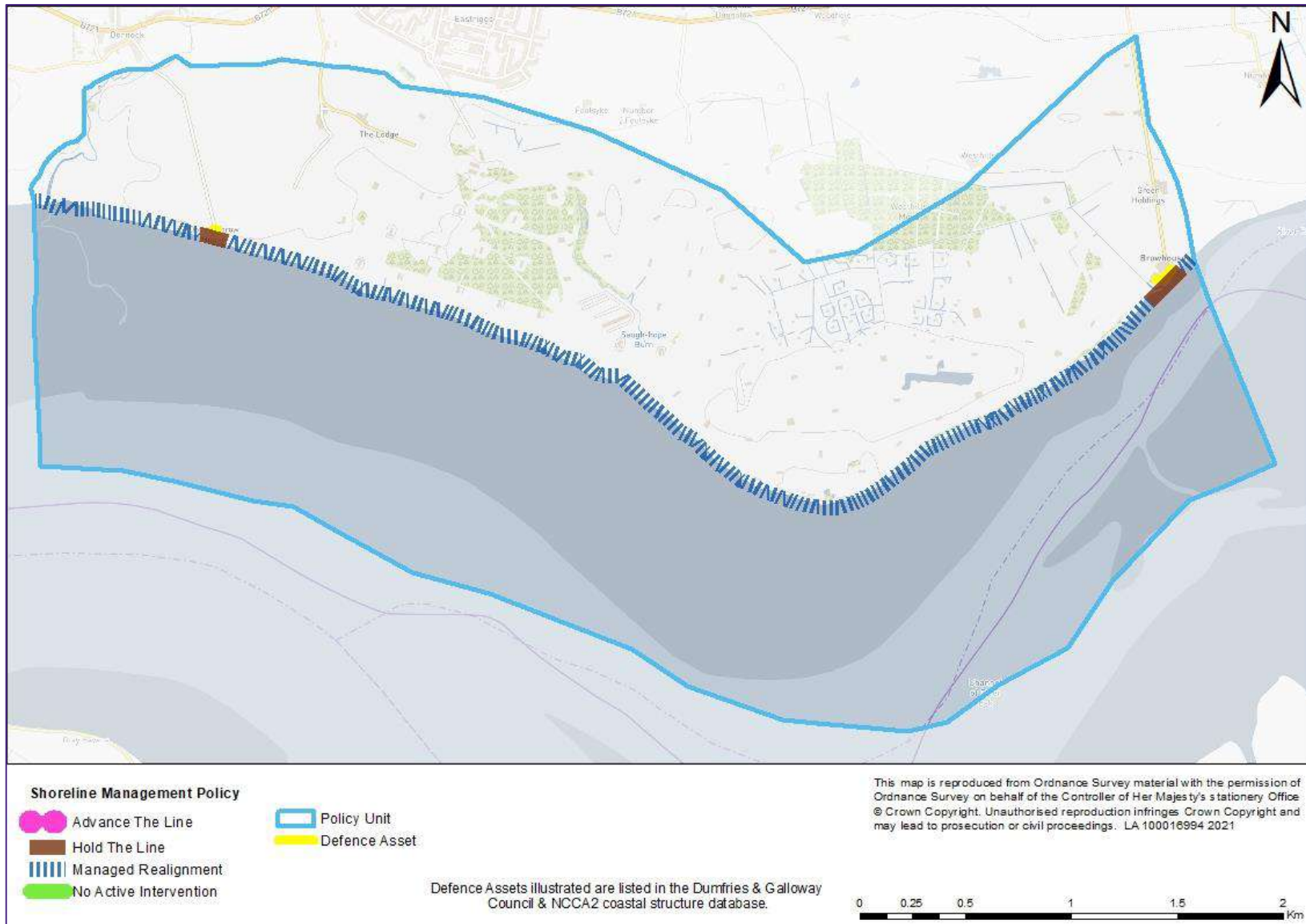


Figure 3-2: Extent of Policy Unit 2, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform maintenance or upgrade.	Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Optimise Adaptation & Resilience	Adaptation & Resilience	Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	M	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	M	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment of coastal flood and erosion risk and feasibility assessment of management options.	Asset Owners	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	M	Medium

Table 3-4: Action Plan: PU 2 Browhouses – Dornock Burn

3.3 Policy Unit 3 – Dornock Burn to Waterfoot

Policy Unit 3 extends from the Dornock Burn (NY227653) in the east to Waterfoot (NY190645) in the west. PU 3 includes about 4km of shoreline as shown in Figure 3-3.

The SMP has identified the management policies shown in Table 3-5 for PU 3 over the next 100 years, essentially the recommended policy is No Active Intervention for the majority of the coastline, with a localised policy of Hold the Line or Managed Realignment where there are existing defence structures at Battlehill and around the Chapelcross outfall at Seafield.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	HTL
Alternative	X	MR	MR

Table 3-5: SMP Management Policies for PU 3

The associated actions required to implement the recommended management policies within PU 3 are listed in Table 3-6.

APPENDIX E - ACTION PLAN



Figure 3-3: Extent of Policy Unit 3, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform maintenance or upgrade.	Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform change from HTL to MR and future update of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment of coastal flood and erosion risk and feasibility assessment of HTL / MR options.	Asset Owners	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	M	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	L	Medium

Table 3-6: Action Plan: PU 3 Dornock Burn – Waterfoot

3.4 Policy Unit 4 – Waterfoot to Nethertown

Policy Unit 4 extends from Waterfoot (NY190645) in the east, past Powfoot and towards Nethertown (NY123652) in the west and includes approximately 7.5km of shoreline, including the tidal reach of the River Annan from Waterfoot – Barnkirk Point to the A75 road bridge upstream of Annan as shown in Figure 3-4.

The SMP has identified the management policies shown in Table 3-7 for PU 4 over the next 100 years, essentially the recommended policy is to maintain existing defences to Hold the Line in combination with a policy of No Active intervention for those parts of the coast where coastal flood and erosion risk is low. With anticipated sea level rise it is acknowledged that maintaining a HTL policy will become challenging over time and thus an alternative policy of Managed Realignment is suggested.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	HTL
Alternative	X	MR	MR

Table 3-7: SMP Management Policies for PU 4

The associated actions required to implement the recommended management policies within PU 4 are listed in Table 3-8.

APPENDIX E - ACTION PLAN

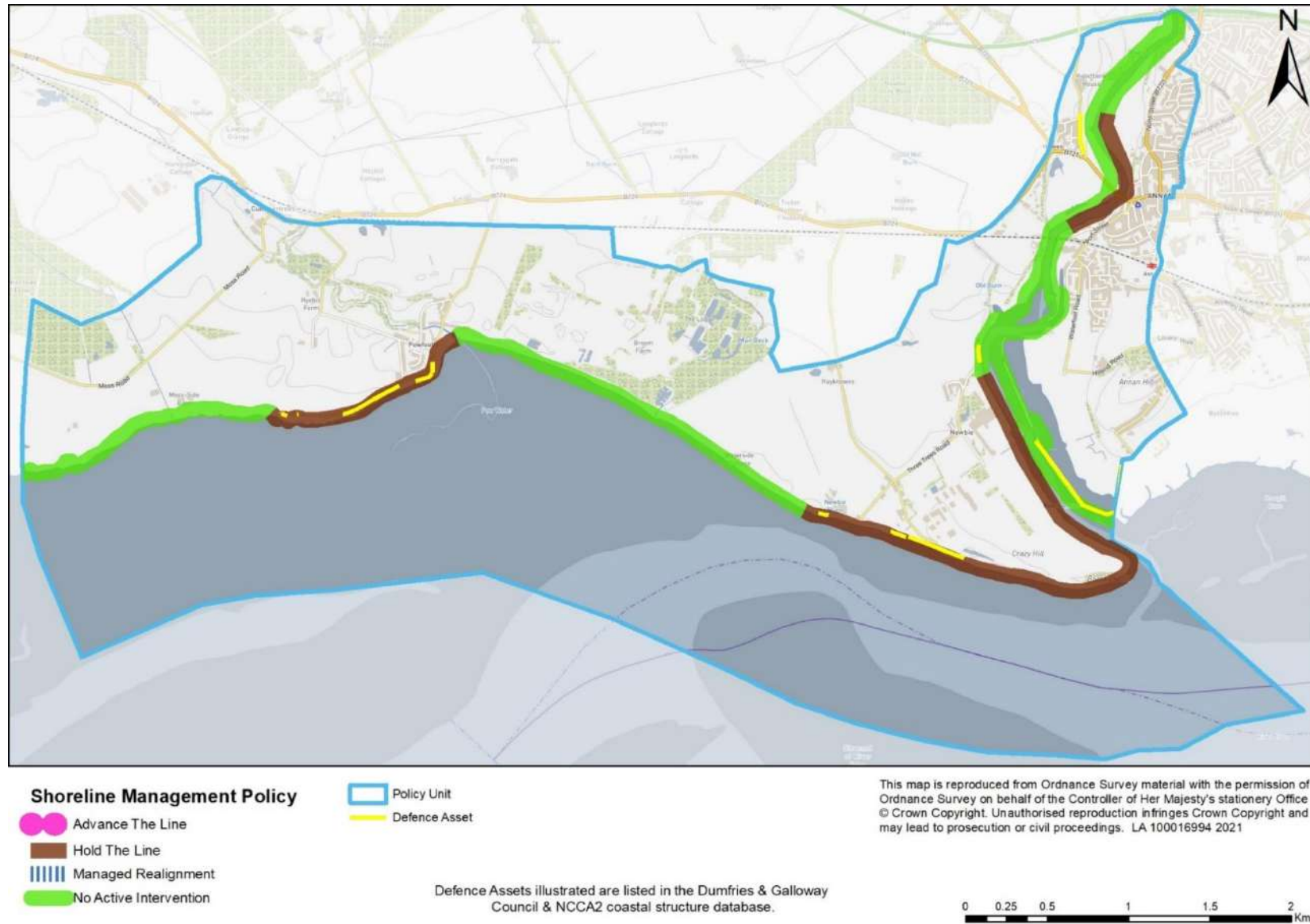


Figure 3-4: Extent of Policy Unit 4, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform maintenance or upgrade.	D&G Council / Asset Owners	H	Short / Medium
Monitor Climate Change Impact		Monitor impact of climate change to inform potential move to alternative policy of MR.	D&G Council	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented at unprotected parts of the coastline. The shoreline will be allowed to evolve naturally.	All Parties	M	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	M	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	M	Short
Wave Overtopping Study	Management Area / Unit Studies	Powfoot has been reported to be subject to wave over-topping although no national dataset is available to corroborate this. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	H	Short
Detailed Feasibility Study		Assessment of coastal flood and erosion risk and feasibility assessment of HTL / MR options.	Asset Owners / D&G Council	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners / D&G Council	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners / D&G Council	M	Medium

Table 3-8: Action Plan: PU 4 Waterfoot – Nethertown

3.5 Policy Unit 5 – Nethertown to Drum Mains

Policy Unit 5 extends from Nethertown (NY123652) in the east to Drum-Mains (NX979597) in the west and includes the left bank of the River Nith downstream of Glencaple and the right bank downstream of Flatts of Cargen. PU 5 includes approximately 40.7km of shoreline including the tidally influenced section of the Lochar Water and part of the River Nith as shown in Figure 3-5.

The SMP has identified the management policies shown in Table 3-9 for PU 5 over the next 100 years, essentially the recommended policy is one of No Active Intervention. A localised policy of Managed Realignment is recommended for consideration over the medium term, moving to a likely policy of Managed Realignment in the long term to allow for the management of the road assets due to the uncertainty associated with the response of natural environment, including salt marsh to future anticipated sea level rise.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	NAI	NAI	MR
Alternative	X	MR	X

Table 3-9: SMP Management Policies for PU 5

The associated actions required to implement the recommended management policies within PU 5 are listed in Table 3-10.

APPENDIX E - ACTION PLAN

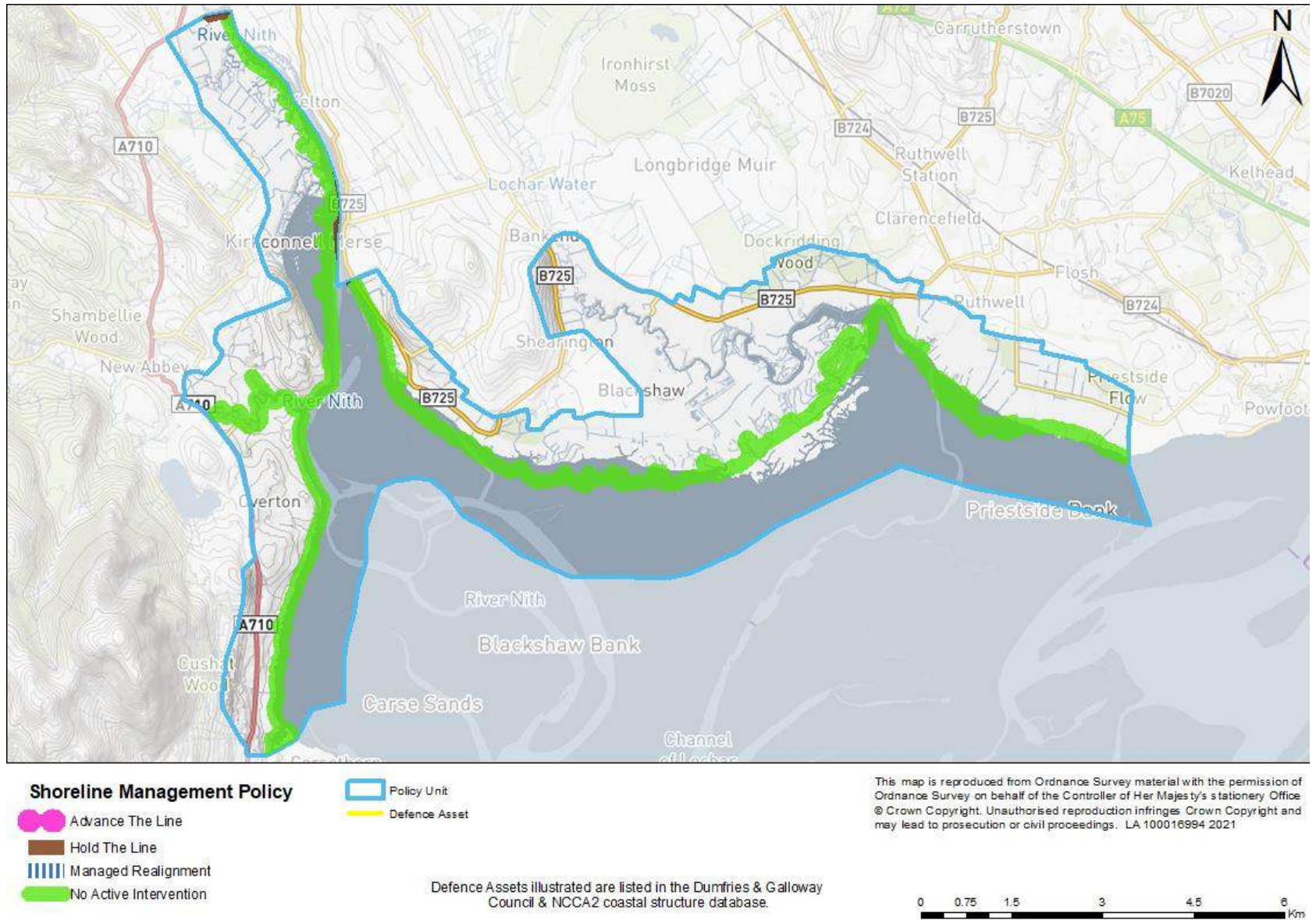


Figure 3-5: Extent of Policy Unit 5, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Evolution of Coastline	Monitoring	Monitor the evolution of the coastline to establish where action other than NAI is required and to inform future update of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures (hard engineering) are to be implemented at unprotected parts of the coastline. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment of coastal flood and erosion risk and feasibility assessment of MR options.	D&G Council / Asset Owners	M	Short / Medium
Coastal Flood and Erosion protection Scheme	Asset Management	Implement feasible MR measures based on feasibility study.	D&G Council / Asset Owners	L	Medium

Table 3-10: Action Plan: PU 5 Nethertown – Drum Mains

3.6 Policy Unit 6 – Glencaple to Dumfries

Policy Unit 6 encompasses the tidally influenced extent of the River Nith (NY029703), as it flows in a mainly southerly direction through Dumfries and past Glencaple i.e. the narrow section of the estuary just before it opens out into the Solway Firth (NX997678) as shown in Figure 3-6.

The SMP has identified the management policies shown in Table 3-11 for PU 6 over the next 100 years, essentially the recommended policy is one of Hold the Line possibly in combination with Managed Realignment (landward movement of roads in the future) for the majority of the coastline. For those parts of the coast that do not require intervention, a localised policy of No Active Intervention is recommended.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	HTL	HTL
Alternative	X	MR	MR
Localised Policy	NAI	NAI	NAI
Alternative	X	X	X

Table 3-11: SMP Management Policies for PU 6

The associated actions required to implement the recommended management policies within PU 6 are listed in Table 3-12.

APPENDIX E - ACTION PLAN

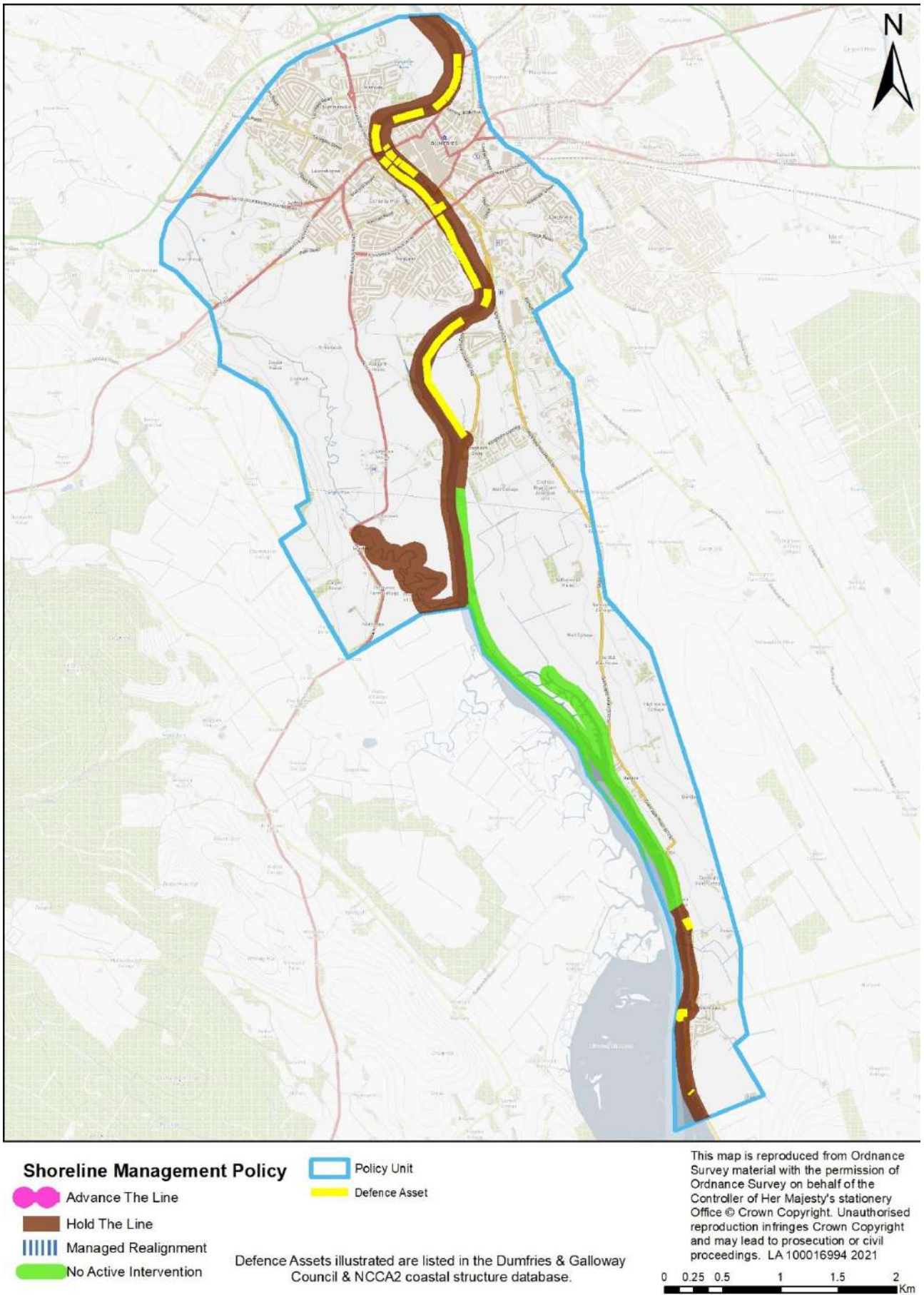


Figure 3-6: Extent of Policy Unit 6, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform maintenance or upgrade.	D&G Council / Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to establish where HTL is having an unacceptable adverse impact and to inform update of the SMP.	D&G Council	H	Short / Medium
Optimise Adaptation & Resilience	Adaptation & Resilience	Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment of coastal flood and erosion risk and feasibility assessment of HTL / MR options.	D&G Council / Asset Owners	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council / Asset Owners	M	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council / Asset Owners	L	Medium

Table 3-12: Action Plan: PU 6 Glencaple – Dumfries

3.7 Policy Unit 7 – Drum Mains to Southernness

Policy Unit 7 includes the section of the Dumfries & Galloway shoreline extending from Drum-Mains (NX979597) in the north to Southernness Point (NX975543) in the south including the hamlet of Carsethorn as shown in Figure 3-7.

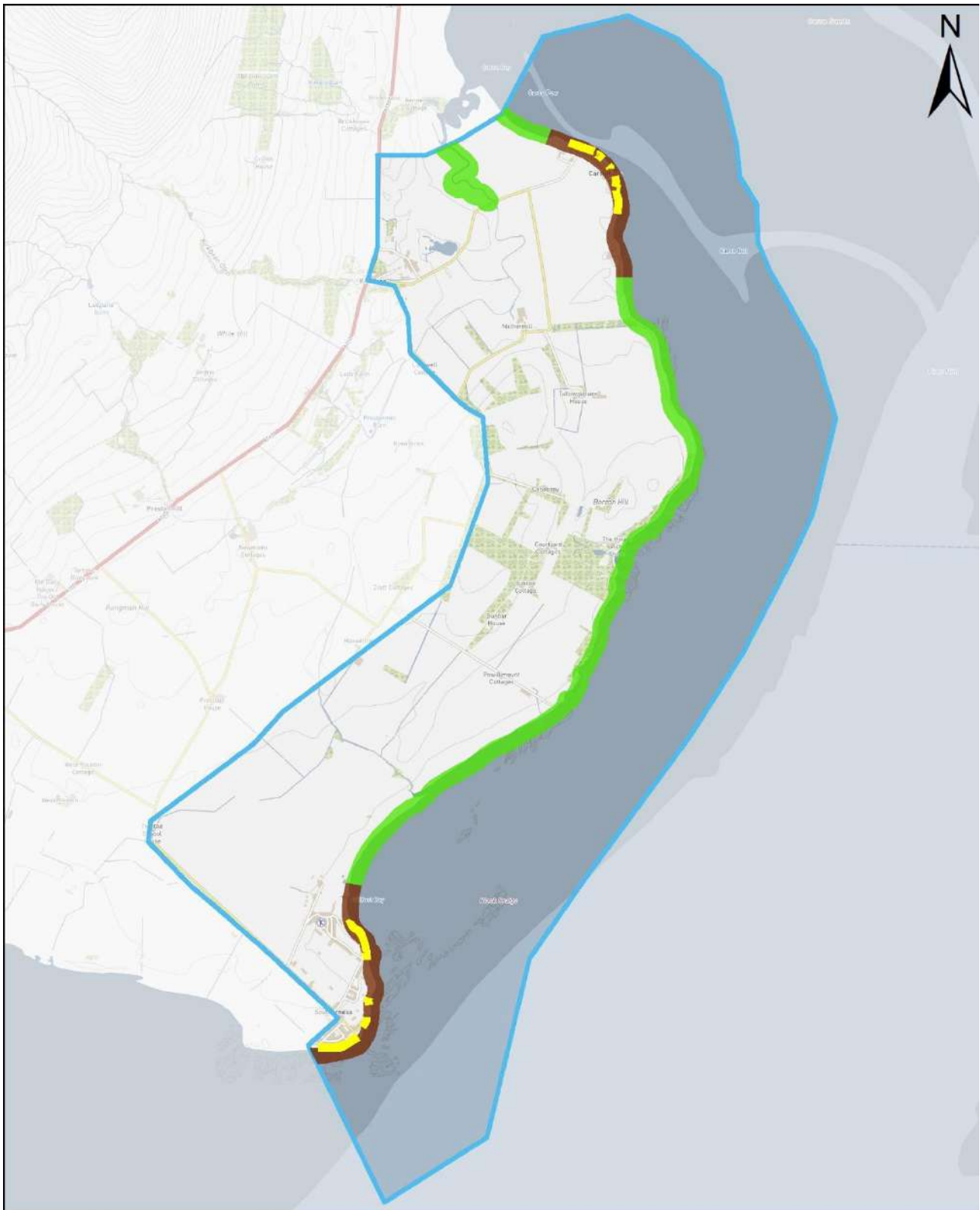
The SMP has identified the management policies shown in Table 3-13 for PU 7 over the next 100 years. Essentially the recommended policy is one of No Active Intervention for the majority of the coast that does not require intervention, in combination with a localised Hold the Line policy over the short to medium term, with a move towards a policy of Managed Realignment in the medium to long term for presently defended areas of the coastline.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	X	MR	X

Table 3-13: SMP Management Policies for PU 7

The associated actions required to implement the recommended management policies within PU 7 are listed in Table 3-14.

APPENDIX E - ACTION PLAN



- Shoreline Management Policy**
- Advance The Line
 - Hold The Line
 - Managed Realignment
 - No Active Intervention
- Policy Unit
- Defence Asset

Defence Assets illustrated are listed in the Dumfries & Galloway Council & NCCA2 coastal structure database.

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Figure 3-7: Extent of Policy Unit 7, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Climate Change Impacts	Monitoring	The frequency and severity of coastal events should be monitored to inform the decision about a move from HTL to MR.	D&G Council	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally.	Adaptation & Resilience	No new coastal defence measures are to be implemented at unprotected parts of the coastline. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimising Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Wave Overtopping Study	Management Area / Unit Studies	Carsethorn has been reported to be subject to significant wave over-topping although no national dataset is available to corroborate this. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	H	Short
Detailed Feasibility Study		Assessment of coastal flood and erosion risk and feasibility assessment of HTL / MR options with the incorporation of wave over-topping risk.	Asset Owners / D&G Council	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners / D&G Council	M	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners / D&G Council	L	Medium

Table 3-14: Action Plan: PU 7 Drum Mains - Southernness

4 COASTAL PROCESS UNIT 2

Coastal Process Unit 2 of the D&G SMP, the Outer Solway Firth, extends from Southernness Point in the east to Torrs Point in the west, including the tidal reaches of the Urr Water and Dalbeattie Burn. CPU 2 includes four Policy Units for which the relevant actions are identified in the following sub-sections.

4.1 Policy Unit 8 – Southernness to Castlehill Point

Policy Unit 8 covers the coastline from Southernness Point (NX975543) in the east to Castlehill Point (NX847523) in the west and includes approximately 16km of shoreline as shown in Figure 4-1.

The SMP has identified the management policies shown in Table 4-1 for PU 8 over the next 100 years i.e. essentially a policy of No Active Intervention. A localised policy of Hold the Line / Managed Realignment is recommended for existing defences and a section of road asset if future coastal erosion risk is identified.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	X	MR	X

Table 4-1: SMP Management Policies for PU 8

The associated actions required to implement the recommended management policies within PU 8 are listed in Table 4-2.

APPENDIX E - ACTION PLAN

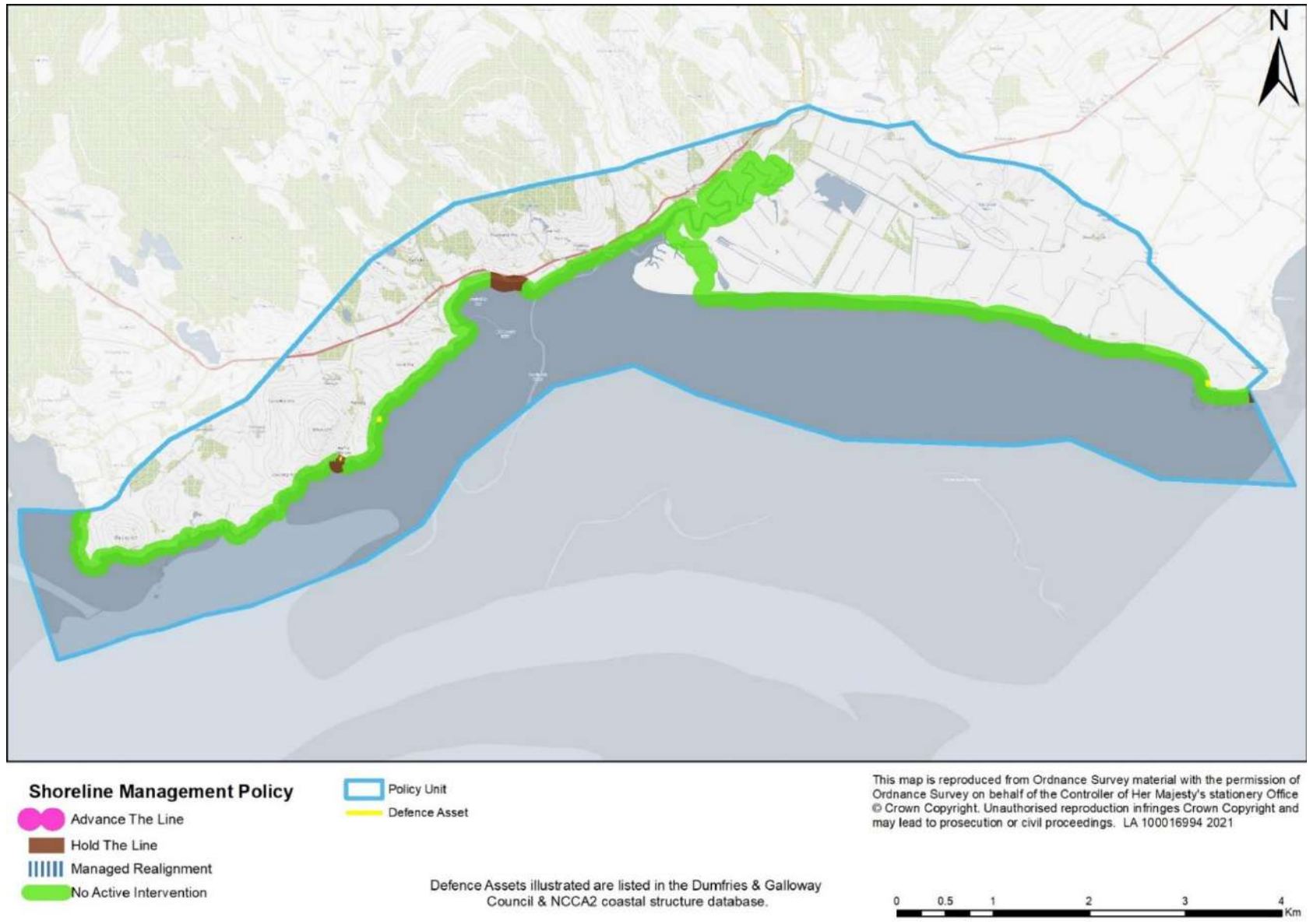


Figure 4-1: Extent of Policy Unit 8, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor risk to A710 at Sandyhills	Monitoring	Monitor the risk from erosion to the A710 at Sandyhills to inform need for management.	D&G Council	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment required to quantify risk to A710 and identify need for management measures or localised implementation of the recommended alternative policy of Hold the Line.	D&G Council	L	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences. This should not allow the expansion of any defence assets.	Defence Owner	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study, particularly concerning the protection of the A710.	Defence Owner	L	Medium / Long

Table 4-2: Action Plan: PU 8 Southernness – Castlehill Point

4.2 Policy Unit 9 – Castlehill Point to Dalbeattie

Policy Unit 9 covers the tidally affected reaches of the Urr Water and Dalbeattie Burn as they flow south towards the Rough Firth, and extends from West Barcloy in the south (NX854529) northwards towards the tidal extent of Urr Water, close to Buittle Castle (NX819616) as shown in Figure 4-2.

The SMP has identified the management policies shown in Table 4-3 for PU 9 over the next 100 years, i.e. essentially a policy of No Active Intervention for the majority of the coastline, with a localised policy of Hold the Line applied to localised existing defences where this can be justified.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	HTL
Alternative	X	X	X

Table 4-3: SMP Management Policies for PU 9

The associated actions required to implement the recommended management policies within PU 9 are listed in Table 4-4.

APPENDIX E - ACTION PLAN

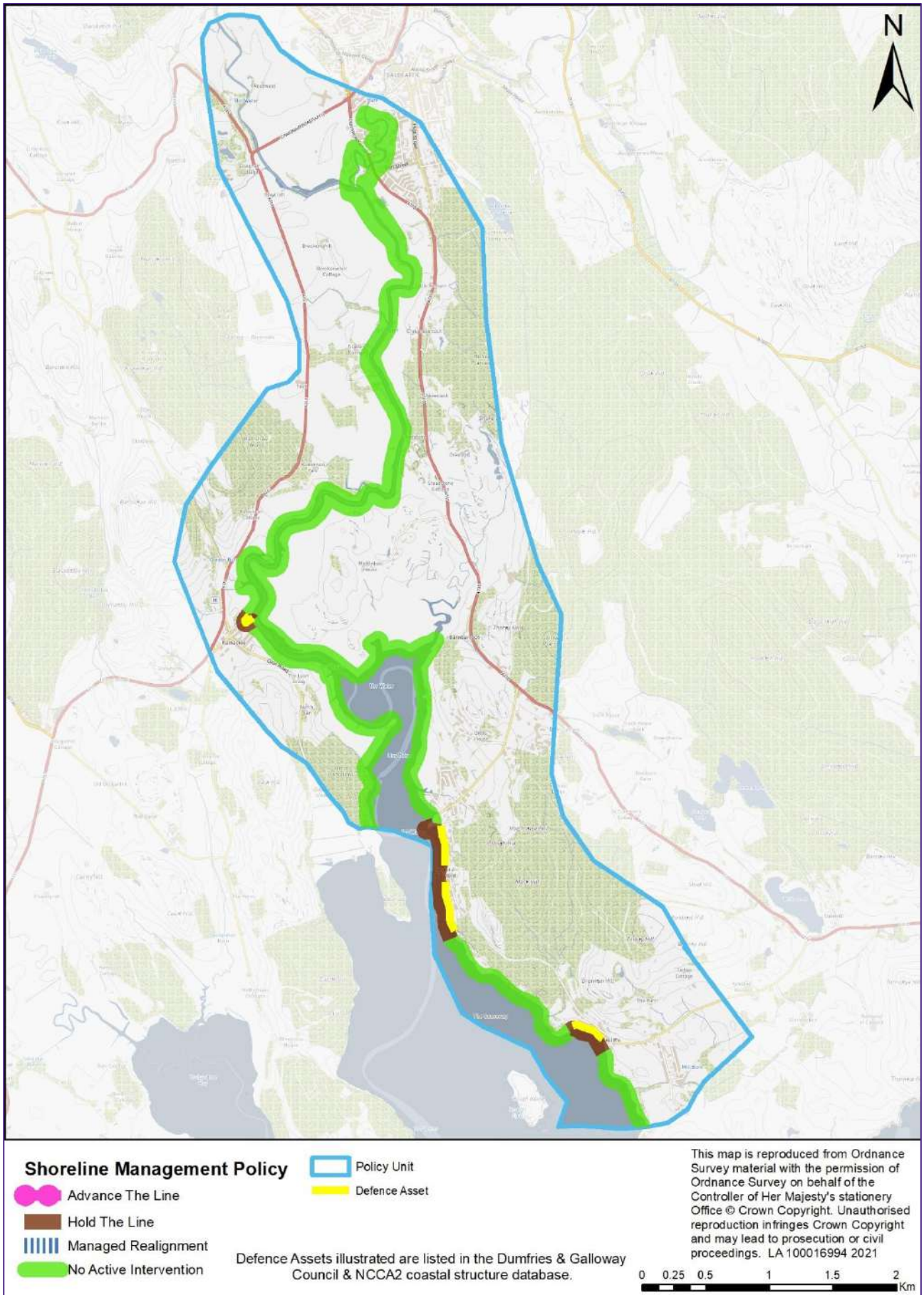


Figure 4-2: Extent of Policy Unit 9, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition/performance of existing defence structures to inform maintenance or upgrade.	D&G Council / Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally.	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment required to quantify risk to properties and identify need for further management measures in the future.	D&G Council / Asset Owners	L	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council / Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council / Asset Owners	L	Medium / Long

Table 4-4: Action Plan: PU 9 Castlehill Point – Dalbeattie

4.3 Policy Unit 10 – Castlehill Point to Balcary Point

Policy Unit 10 includes the western shore of the Rough Firth and the shorelines of Orchard Bay, Auchencairn Bay and Balcary Bay and extends from north of Castlehill (NX828554) towards Balcary Point (NX827494) as shown in Figure 4-3.

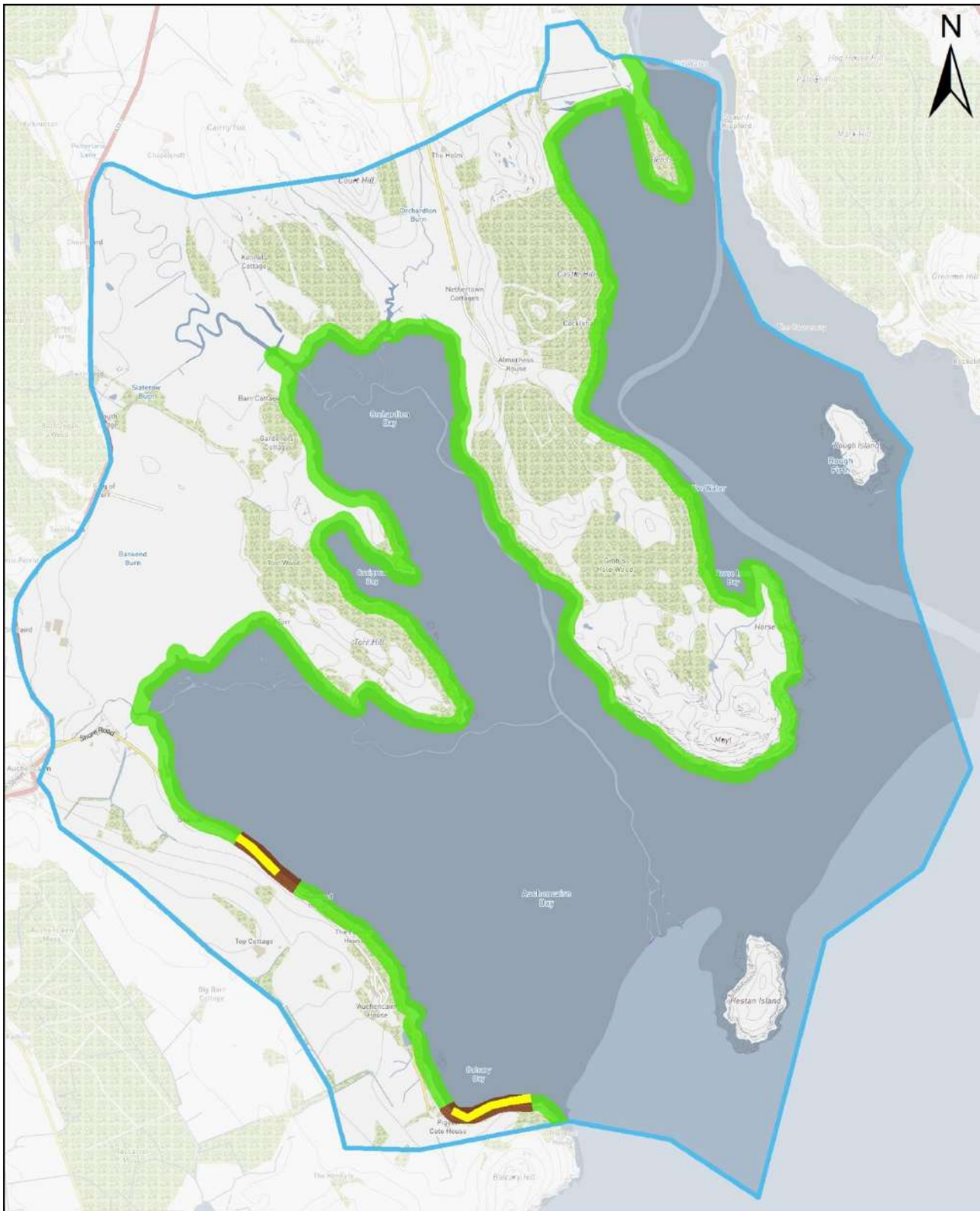
The SMP has identified the management policies shown in Table 4-5 for PU 10 over the next 100 years, i.e. essentially a policy of No Active Intervention for the majority of the coastline, with a localised policy of Hold the Line applied to localised existing defences, such as those protecting the Shore Road and properties at Balcary Bay where this can be justified.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	HTL
Alternative	X	X	X

Table 4-5: SMP Management Policies for PU 10

The associated actions required to implement the recommended management policies within PU 10 are listed in Table 4-6.

APPENDIX E - ACTION PLAN



- Shoreline Management Policy**
- Advance The Line
 - Hold The Line
 - Managed Realignment
 - No Active Intervention
- Policy Unit
- Defence Asset

Defence Assets illustrated are listed in the Dumfries & Galloway Council & NCCA2 coastal structure database.

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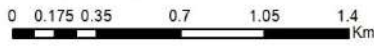


Figure 4-3: Extent of Policy Unit 10, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition/performance of existing defence structures.	D&G Council / Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Wave Overtopping Study	Management Area / Unit Studies	No national dataset is available to indicate wave over-topping risk. Therefore, a detailed assessment of wave over-topping potential at Balcary Bay and along the Shore Road and the evaluation of risk is required.	SEPA / D&G Council	M	Short
Detailed Feasibility Study		Assessment required to quantify risk to properties and identify need for further management measures in the future.	D&G Council / Asset Owners	L	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council / Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council / Asset Owners	L	Medium / Long

Table 4-6: Action Plan: PU 10 Castlehill Point – Balcary Point

4.4 Policy Unit 11 – Balcary Point to Torrs Point

Policy Unit 11 extends from Balcary Point (NX827494) in the east to Torrs Point in the west (NX673448) and is largely rural and land use is dominated agriculture and a large MoD training area as shown in Figure 4-4.

The SMP has identified the management policies shown in Table 4-7 for PU 11 over the next 100 years, i.e. a blanket policy of No Active Intervention for this section of the coastline.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	X	X	X
Alternative	X	X	X

Table 4-7: SMP Management Policies for PU 11

The associated actions required to implement the recommended management policies within PU 11 are listed in Table 4-8.

APPENDIX E - ACTION PLAN



Shoreline Management Policy

- Advance The Line
- Hold The Line
- Managed Realignment
- No Active Intervention

Policy Unit

Defence Asset

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Defence Assets illustrated are listed in the Dumfries & Galloway Council & NCCA2 coastal structure database.



Figure 4-4: Extent of Policy Unit 11, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of “No Development Zones” as necessary.	D&G Council	H	Short
Monitor Evolution of Coastline	Monitoring	Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	L	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	L	Short

Table 4-8: Action Plan: PU 11 Balcary Point – Torrs Point

5 COASTAL PROCESS UNIT 3

Coastal Process Unit 3 of the D&G SMP, Wigtown Bay and Kirkcudbright Bay, extends from Torrs Point in the east to west of Isle of Whithorn, including the tidal reaches of the Rivers Tarff, Dee, Cree and the Water of Fleet. There are seven Policy Units within CPU 3 for which the relevant actions are identified in the following sub-sections.

5.1 Policy Unit 12 – Torrs Point to Doon of Carsluith

Policy Unit 12 is mainly located on the western side of Wigtown Bay, and extends from Torrs Point (NX673448) to Sandside, south of Kirkcudbright at the head of Manxman’s Lake (NX683501) and westwards to Doon of Carsluith (NX488543) as shown in Figure 5-1.

The SMP has identified the management policies shown in Table 5-1 for PU 12 over the next 100 years i.e. essentially a policy of No Active Intervention for the majority of the coastline although a localised policy of Hold the Line/Managed Realignment should be applied where there are existing coastal structures and a detailed assessment indicated this to be justified. This localised policy may also apply to the A75 at Skyburn pending the outcome of a detailed risk assessment.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	HTL
Alternative	X	MR	MR

Table 5-1: SMP Management Policies for PU 12

The associated actions required to implement the recommended management policies within PU 12 are listed in Table 5-2.

APPENDIX E - ACTION PLAN

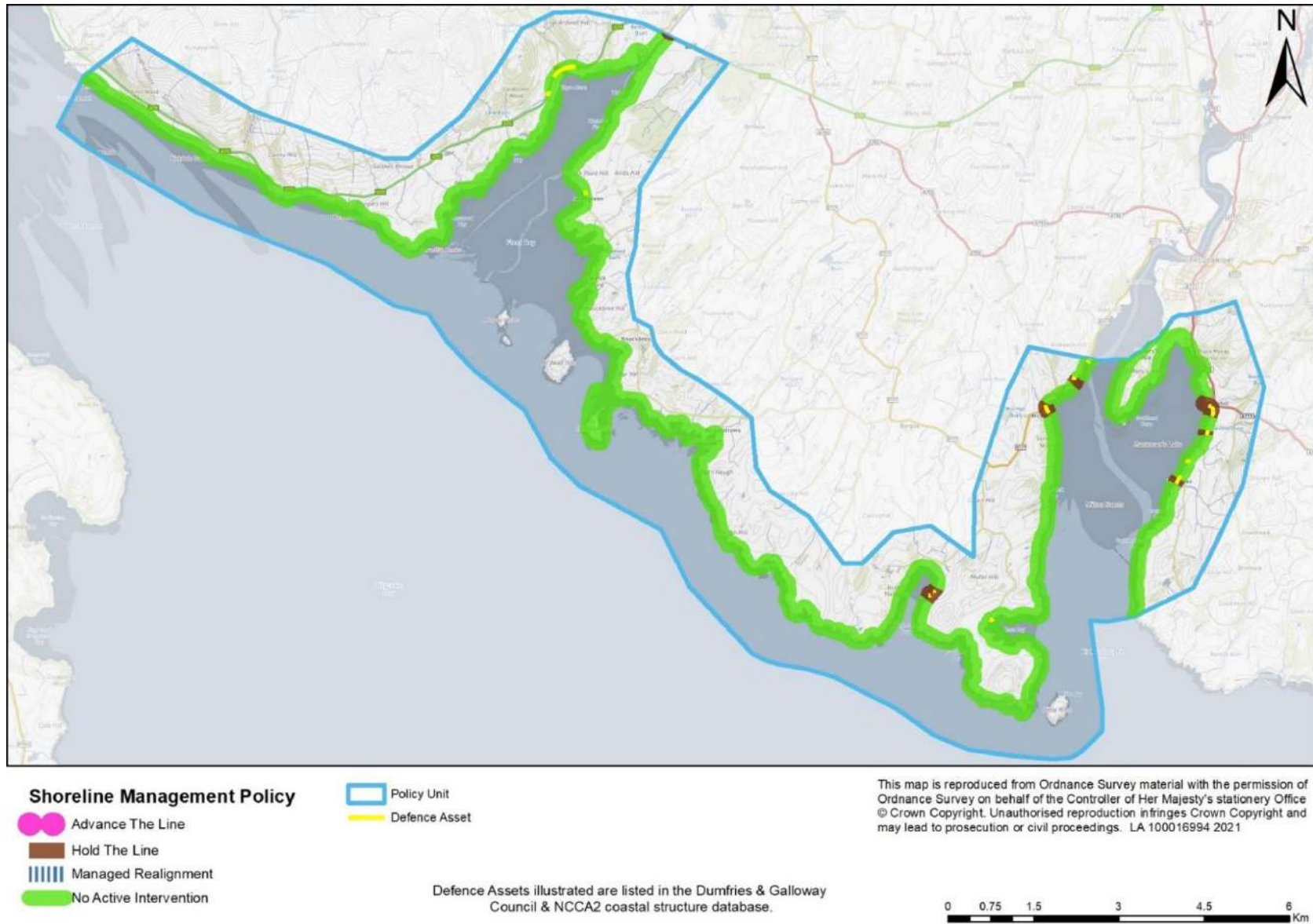


Figure 5-1: Extent of Policy Unit 12, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition/performance of existing defence structures for A75.	Asset Owners	H	Short / Medium
Monitor Coastal Processes		Monitor the impact of coastal processes to inform management requirements for A75.	Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimising Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	All Parties	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	All Parties	H	Short
Wave Overtopping Study	Management Area / Unit Studies	No national dataset is available to indicate wave over-topping risk. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk to the A75 at Skyreburn should be undertaken.	Asset Owners	H	Short
Detailed Feasibility Study		Assessment required to quantify risk to properties and identify need for management measures or localised implementation of the recommended alternative policy of managed realignment.	D&G Council / Asset Owners	L	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council / Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council / Asset Owners	L	Medium

Table 5-2: Action Plan: PU 12 Torrs Point – Doon of Carsluith

5.2 Policy Unit 13 – St Mary’s Isle to Tongland (Kirkcudbright)

Policy Unit 13 encompasses the tidal section of the River Dee that flows through the town of Kirkcudbright from the tidal extent close to Tongland (NX684547) including the confluence of the Tarff and Dee in the north to close to St Marys Isle (NX671493) in the south where it abuts PU 12 as shown in Figure 5-2.

The SMP has identified the management policies shown in Table 5-3 for PU 13 over the next 100 years i.e. essentially a policy of Hold the Line through the urbanised areas with a localised policy of No Active Intervention for the remainder of the coastline. In recognition of the challenges associated with implementing a Hold the Line policy particularly in the longer term an alternative more sustainable policy of Managed Realignment is proposed where this would be applicable.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	HTL
Alternative	MR	MR	MR

Table 5-3: SMP Management Policies for PU 13

The associated actions required to implement the recommended management policies within PU 13 are listed in Table 5-4.

APPENDIX E - ACTION PLAN

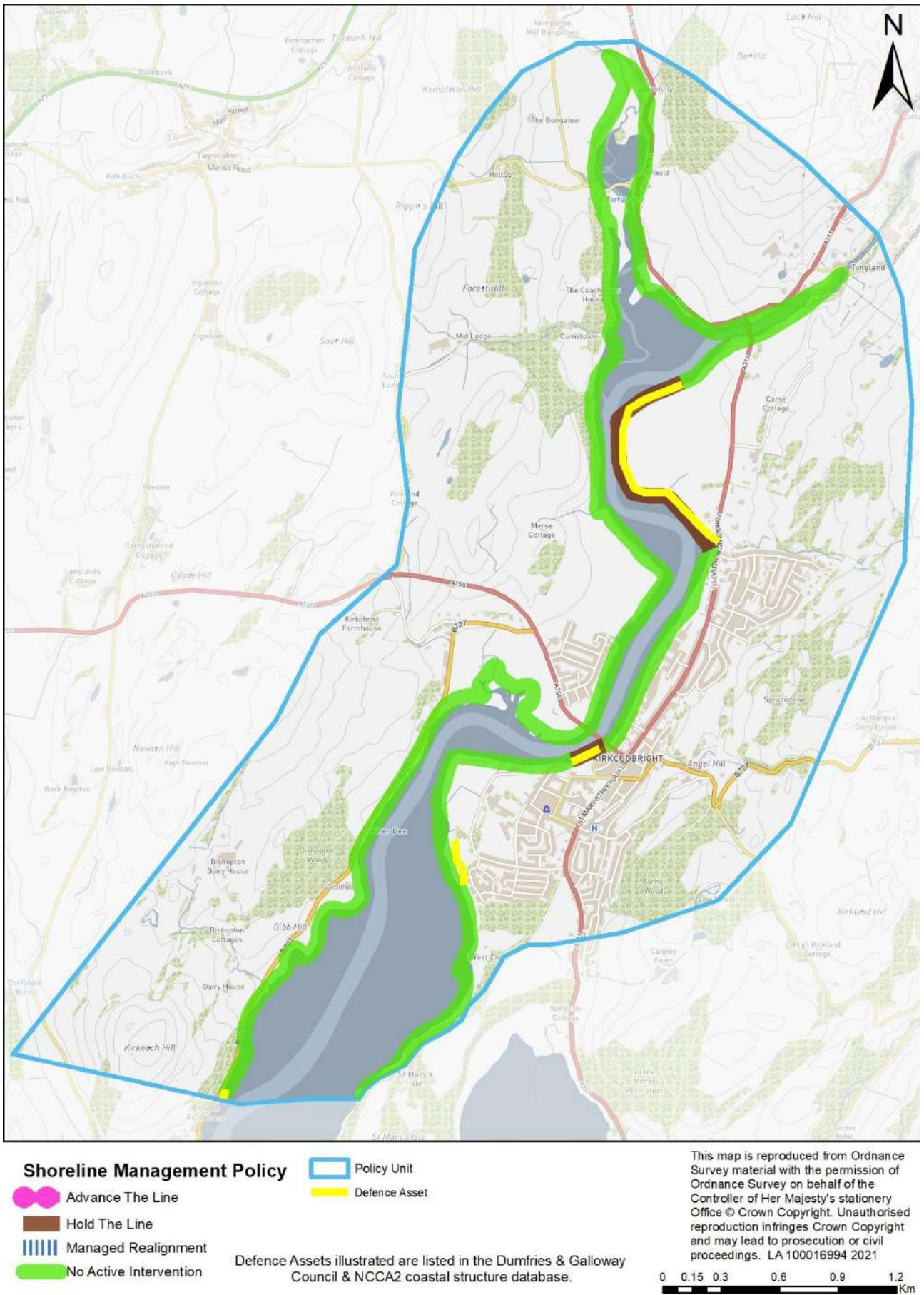


Figure 5-2: Extent of Policy Unit 13, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform maintenance or upgrade.	Asset Owners / D&G Council	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimising Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council/SEPA	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment required to quantify risk to properties and quantify need for further management measures or localised implementation of the recommended alternative policy of managed realignment.	D&G Council / Asset Owners	M	Short
Managed Realignment	Habitat Creation	Consider realignment of defences at Janefield and parkland south of Kirkcudbright to enable growth of saltmarsh/reed beds.	D&G Council	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council / Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council / Asset Owners	L	Medium

Table 5-4: Action Plan: PU 13 St Mary Isle – Tongland

5.3 Policy Unit 14 – Gatehouse of Fleet

Policy Unit 14 encompasses the Water of Fleet from the boundary of PU 12 at (NX590551) to upstream of Gatehouse of Fleet as shown in Figure 5-3.

The SMP has identified the management policies shown in Table 5-5 for PU 14 over the next 100 years i.e. essentially a policy of No Active Intervention through precluding the construction of new defences but still permitting maintenance works to manage flood risk to businesses and properties. Managed Realignment is included as an alternative as opportunities have been identified with PU 14 to potentially use this to mitigate flood risk.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	MR	MR	X

Table 5-5: SMP Management Policies for PU 14

The associated actions required to implement the recommended management policies within PU 14 are listed in Table 5-6.

APPENDIX E - ACTION PLAN

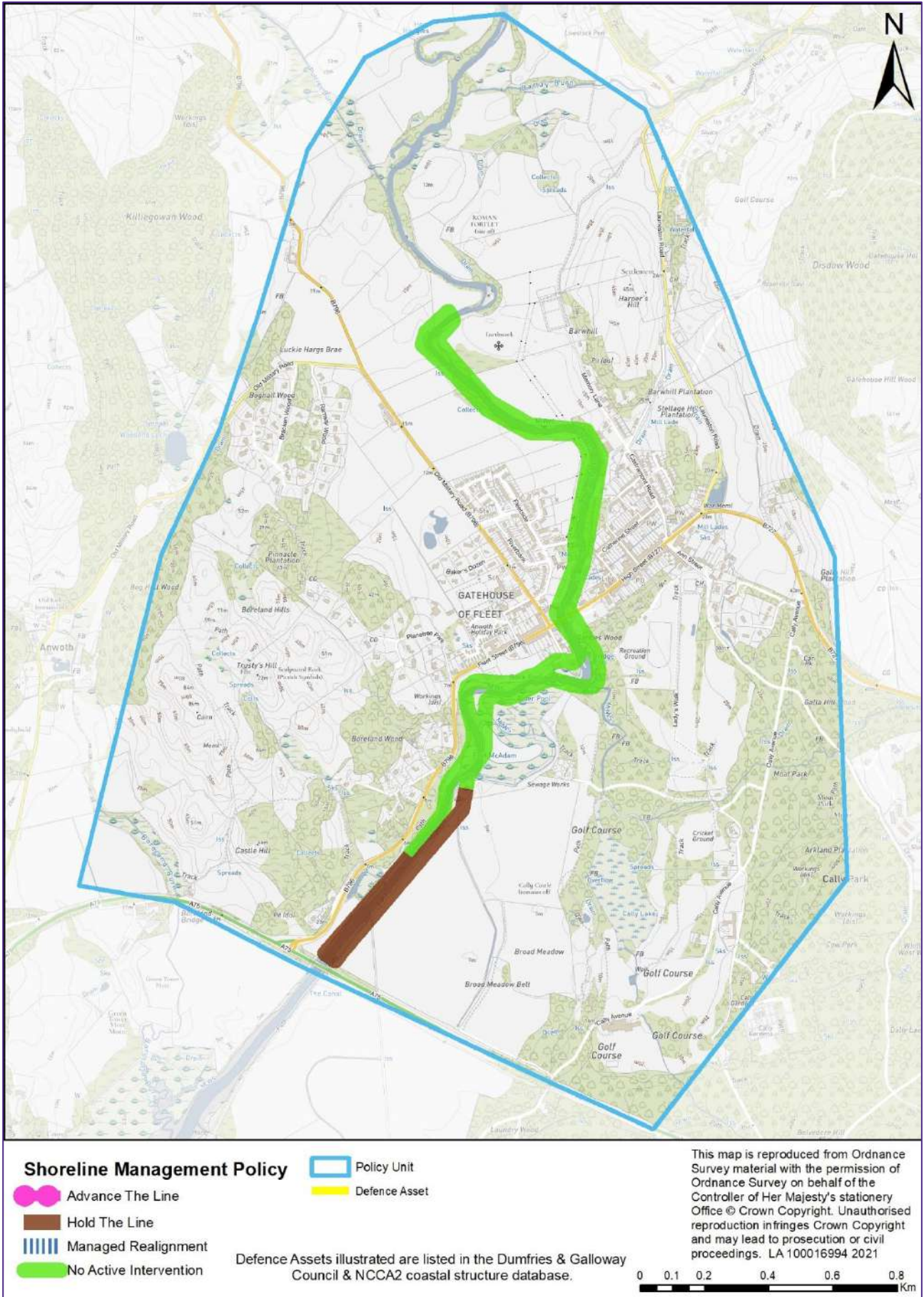


Figure 5-3: Extent of Policy Unit 14, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform maintenance or upgrade.	Asset Owners	L	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimising Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment required to quantify risk to properties and identify need for management measures or localised implementation of the recommended alternative policy of managed realignment.	Asset Owners	L	Short
Managed Realignment	Habitat Creation	Consider realignment of raised embankments at Cally to enable growth of saltmarsh/reed beds and provide flood storage.	D&G Council	M	Medium / Long
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	L	Medium

Table 5-6: Action Plan: PU 14 Gatehouse of Fleet

5.4 Policy Unit 15 – Doon of Carsluith to Eggerness Point

Policy Unit 15 includes the western shoreline of Wigtown Bay and the tidally influenced section of the River Cree as far upstream as Newton Stewart along with other tidally influenced tributaries that join with the River Cree. At low tide extensive areas of mud and sandflat are exposed as identified in the Salt Marsh Survey of Scotland (SMSS). This Policy Unit extends from the Doon of Carsluith (NX488543) towards Eggerness Point (NX493465). The northern extent is defined by the tidal extents of the Bishops Burn (NX423602), River Cree (NX409657) and Palnure Burn (NX458656) as shown in Figure 5-4.

The SMP has identified the management policies shown in Table 5-7 for PU 15 over the next 100 years i.e. essentially a policy of No Active Intervention through precluding the construction of new defences. Hold the Line and Managed Realignment are included as a localised policy to permit maintenance works to manage flood risk to businesses and properties protected by existing defences.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	MR	MR
Alternative	X	X	X

Table 5-7: SMP Management Policies for PU 15

The associated actions required to implement the recommended management policies within PU 15 are listed in Table 5-8.

APPENDIX E - ACTION PLAN

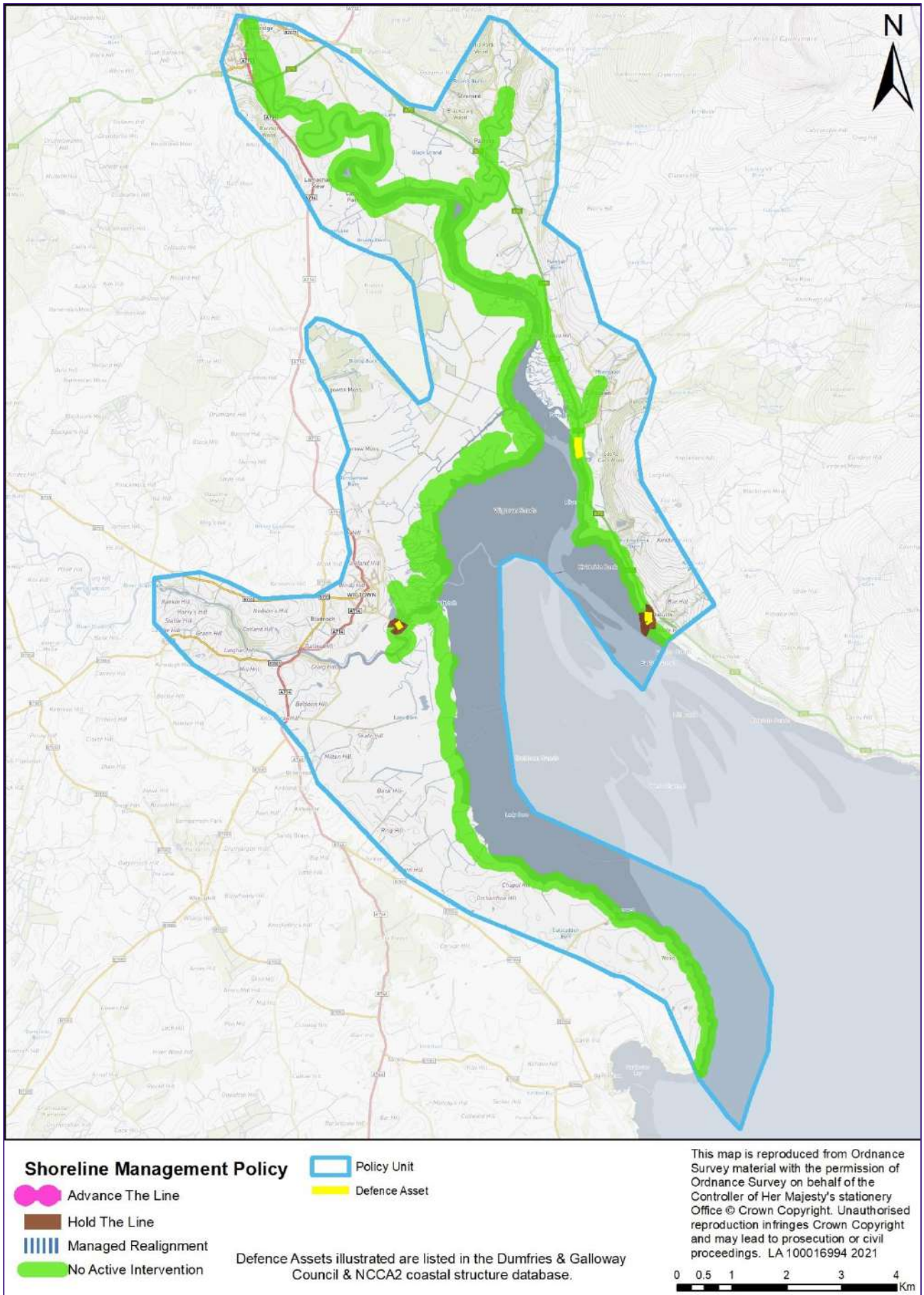


Figure 5-4: Extent of Policy Unit 15, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform maintenance or upgrade.	Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to establish where action other than NAI is required and to inform update of SMP. Risk to A75 to be assessed.	D&G Council / Asset Owners	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Coastal Processes Study	Management Area / Unit Studies	Detailed assessment of coastal processes required to determine suitability of MR.	Asset Owners	H	Short / Medium
Detailed Feasibility Study		Assessment required to quantify risk to properties and identify need for further management measures or localised implementation of the recommended alternative policy of MR.	D&G Council / Asset Owners	L	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council / Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council / Asset Owners	L	Medium

Table 5-8: Action Plan: PU 15 Doon of Carsluith to Eggerness Point

5.5 Policy Unit 16 – Garlieston

Policy Unit 16 extends from Egerness Point (NX493465) to Ringan Point (NX480456) and encompasses Garlieston Bay (NX478468) as shown in Figure 5-5.

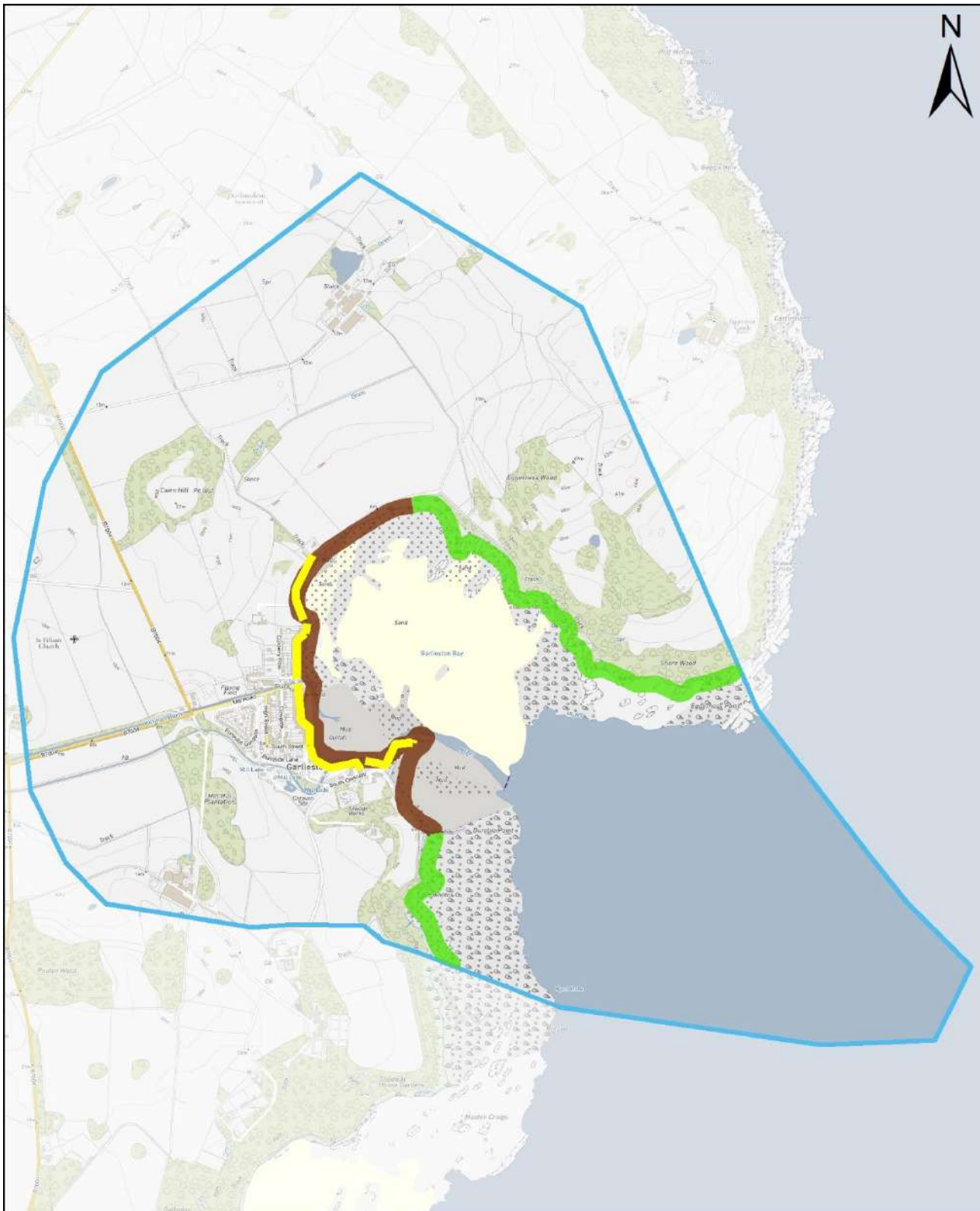
The SMP has identified a management of Hold the Line for PU 16 over the next 100 years. Managed Realignment is included as an alternative policy over the medium to long term while for undefended section of the coastline a localised policy of No Active Intervention is identified shown in Table 5-9.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	HTL	HTL
Alternative	X	MR	MR
Localised Policy	NAI	NAI	NAI
Alternative	X	X	X

Table 5-9: SMP Management Policies for PU 16

The associated actions required to implement the recommended management policies within PU 16 are listed in Table 5-10.

APPENDIX E - ACTION PLAN



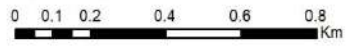
Shoreline Management Policy

- Advance The Line
- Hold The Line
- ▨ Managed Realignment
- No Active Intervention

- Policy Unit
- Defence Asset

Defence Assets illustrated are listed in the Dumfries & Galloway Council & NCCA2 coastal structure database.

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APPENDIX E - ACTION PLAN

Figure 5-5: Extent of Policy Unit 16, Showing Short Term Shoreline Management Policies

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the coastline. Consider introduction of "No Development Zones".	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform maintenance or upgrade.	D&G Council / Asset Owners	H	Short / Medium
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage sites.	Asset Owners	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. undefended parts of the coastline should be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Wave Overtopping Study	Management Area / Unit Studies	No national dataset is available to indicate wave over-topping risk. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk required.	SEPA / D&G Council	H	Short
Detailed Feasibility Study		Assessment of coastal processes required to inform selection of appropriate future management measures. Risk to properties and need for localised implementation of the recommended alternative policy of MR to be established.	D&G Council	H	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council / Asset Owners	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council / Asset Owners	M	Medium

Table 5-10: Action Plan: PU 16 Garlieston

5.6 Policy Unit 17 – Garlieston to Isle of Whithorn

Policy Unit 17 extends from Ringan Point at the southern end of Garlieston Bay (NX480456) to north of the Isle of Whithorn (NX482362) as shown in Figure 5-6.

The SMP has identified the management policies shown in Table 5-11 for PU 17 over the next 100 years i.e. essentially a policy of No Active Intervention virtually everywhere and for all epochs due to the low level of risk. A localised policy of Hold the Line/Managed Realignment is suggested for a section of the B7063.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	X	MR	X

Table 5-11: SMP Management Policies for PU 17

The associated actions required to implement the recommended management policies within PU 17 are listed in Table 5-12.

APPENDIX E - ACTION PLAN

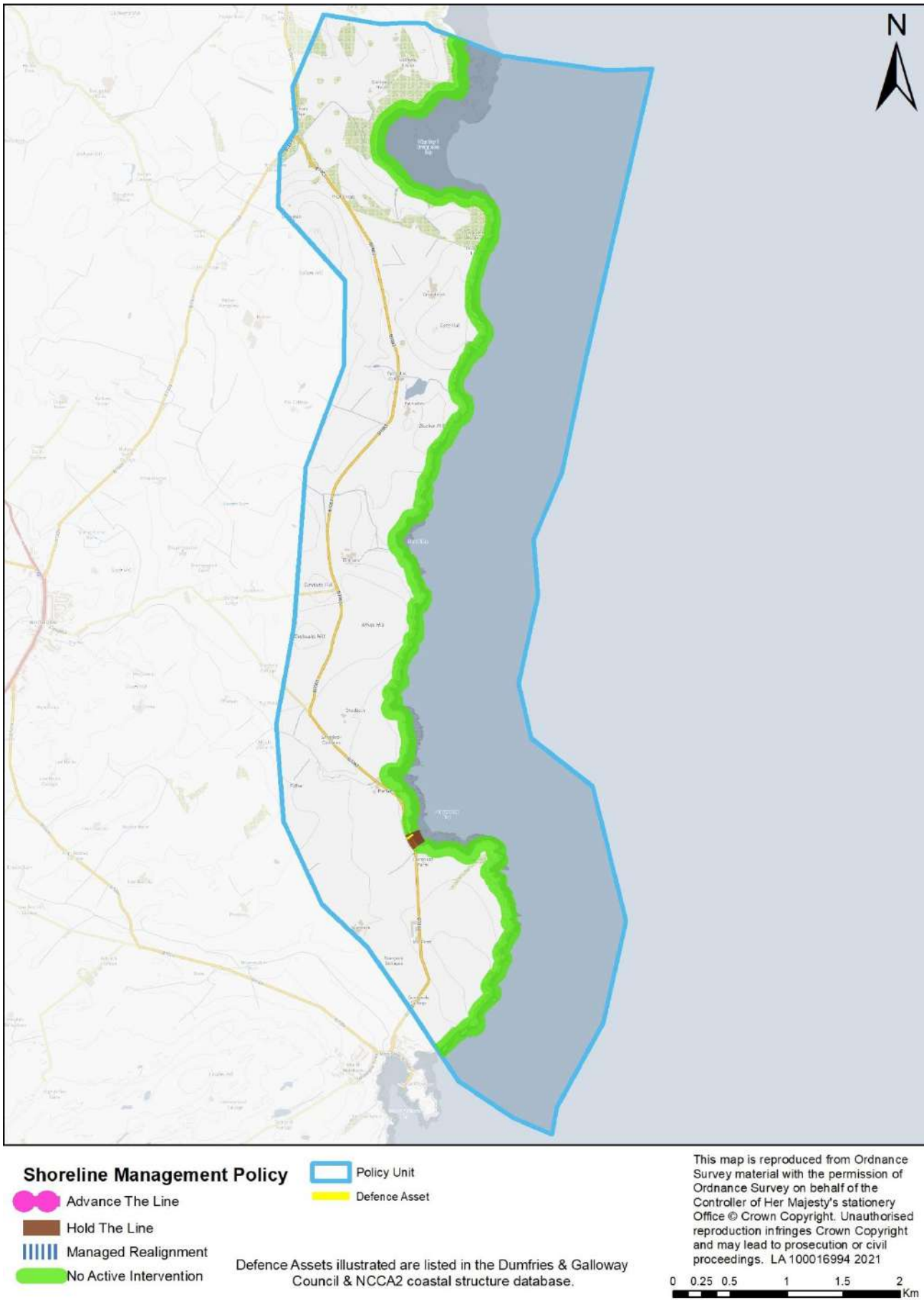


Figure 5-6: Extent of Policy Unit 17, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Awareness of flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of “No Development Zones” as necessary.	D&G Council	H	Short
Monitor risk to B7063	Monitoring	Monitor of the risk to the B7063 to inform decision as to the future integrity of this asset.	D&G Council	H	Short / Medium
Monitor Condition of Defences		Monitor the condition of existing structure adjacent to the B7063.	D&G Council	H	Short / Medium
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage sites.	Asset Owners	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. undefended parts of the coastline should be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment required to quantify risk to public road and identify need for further management measures or localised implementation of the recommended alternative policy of managed realignment for the B7063.	D&G Council	L	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council	L	Medium

Table 5-12: Action Plan: PU 17 Garlieston – Isle of Whithorn

5.7 Policy Unit 18 – Isle of Whithorn

Policy Unit 18 relates to the frontage of Isle of Whithorn village (NX478362) located on the coast north east of Burrow Head at the tip of the Machars peninsula in Galloway (NX475354). Isle of Whithorn is located within an indented bay which has been manipulated to form a harbour as shown in Figure 5-7.

The SMP has identified the management policies shown in Table 5-13 for PU 18 over the next 100 years i.e. essentially a policy of Hold the Line across the developed frontage for as long as this is sustainable moving to a policy of Managed Realignment. A localised policy of No Active Intervention is suggested for undeveloped sections of the coast.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	HTL	HTL
Alternative	X	MR	MR
Localised Policy	NAI	NAI	NAI
Alternative	X	X	X

Table 5-13: SMP Management Policies for PU 18

The associated actions required to implement the recommended management policies within PU 18 are listed in Table 5-14.

APPENDIX E - ACTION PLAN

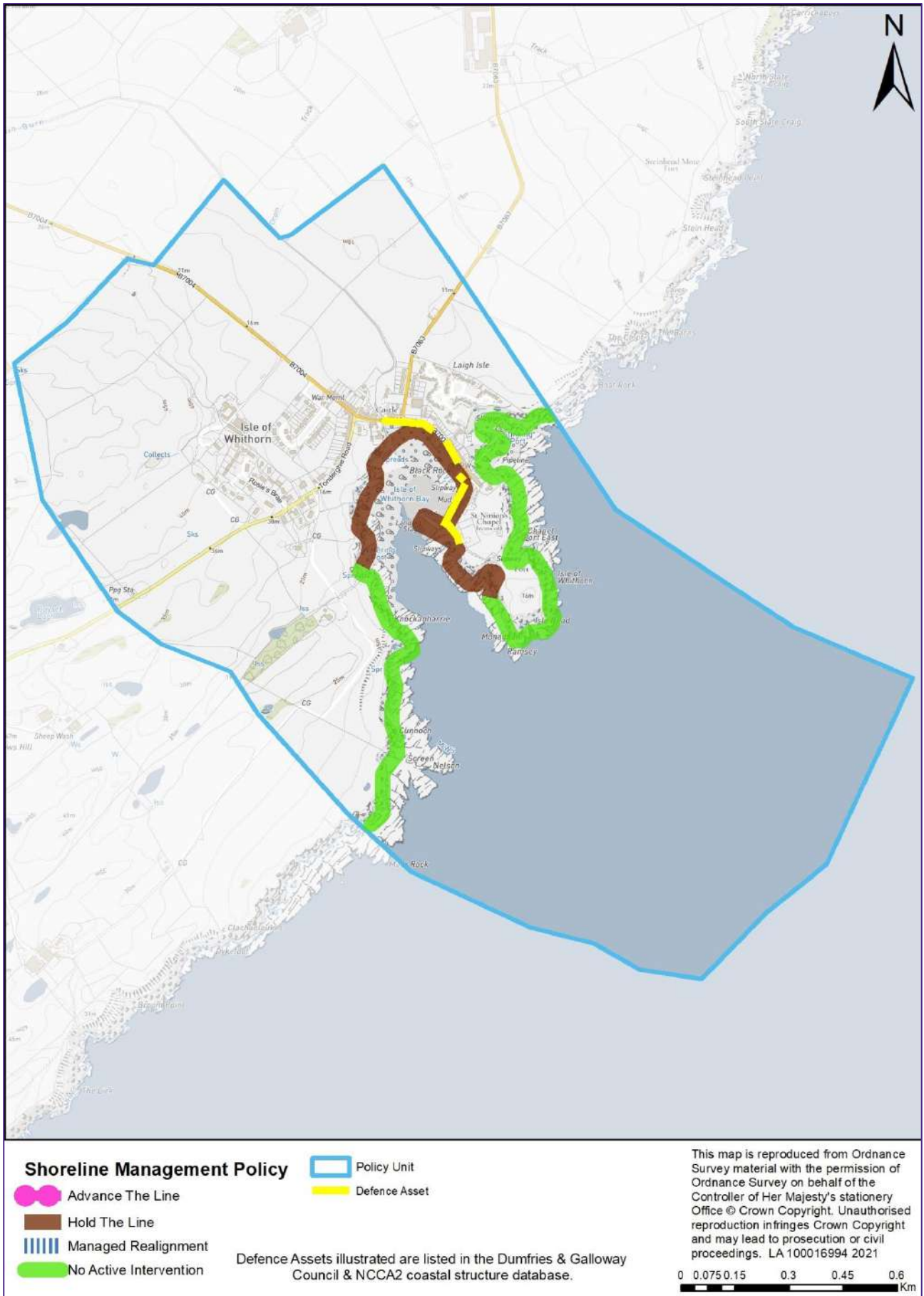


Figure 5-7: Extent of Policy Unit 18, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of defence structures to inform decisions on future maintenance or upgrade.	D&G Council	H	Short / Medium
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage sites.	Asset Owners	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally.	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. undefended parts of the coastline should be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	M	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	M	Short
Wave Overtopping Study	Management Area / Unit Studies	No national dataset is available to indicate wave over-topping risk. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	H	Short
Detailed feasibility study		Assessment required to quantify risk to properties and identify need for further management measures or localised implementation of the recommended alternative policy of managed realignment.	D&G Council	H	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council	M	Medium

Table 5-14: Action Plan: PU 18 Isle of Whithorn

6 COASTAL PROCESS UNIT 4

Coastal Process Unit 4 of the D&G SMP, Luce Bay, extends from Burrow Head in the east to the Mull of Galloway in the west. There are eight Policy Units within CPU 4 for which the relevant actions are identified in the following sub-sections.

6.1 Policy Unit 19 – Isle of Whithorn to Barsalloch Point

Policy Unit 19 extends from the Isle of Whithorn (NX478362) past Burrow Head (NX457339) to Barsalloch Point (NX346410) as shown in Figure 6-1.

The SMP has identified the management policies shown in Table 6-1 for PU 19 over the next 100 years, i.e. a blanket policy of No Active Intervention for this section of the coastline.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	X	X	X
Alternative	X	X	X

Table 6-1: SMP Management Policies for PU 19

The associated actions required to implement the recommended management policies within PU 19 are listed in Table 6-2.

APPENDIX E - ACTION PLAN

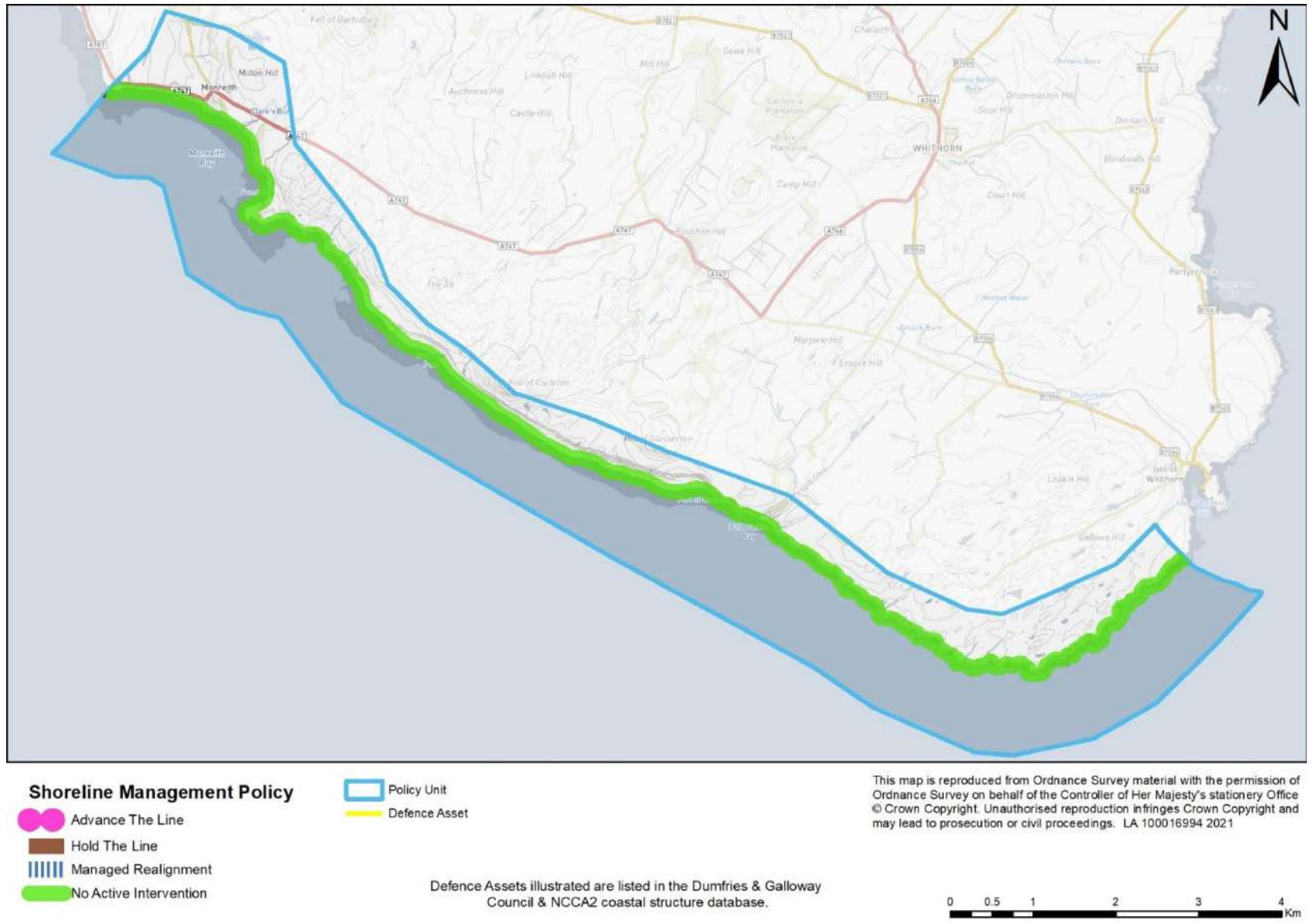


Figure 6-1: Extent of Policy Unit 19, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Risk to cultural heritage	Monitoring	Monitor the response of the coastline to inform decisions as to the risk to cultural heritage features.	Asset Owners / D&G Council	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short

Table 6-2: Action Plan: PU 19 Isle of Whithorn to Barsalloch Point

6.2 Policy Unit 20 – Barsalloch Point to Low Drumskeog (Port William)

Policy Unit 20 extends from Barsalloch Point (NX346410) to the northern extent of the village of Port William (NX335445) as shown in Figure 6-2.

The SMP has identified the management policies shown in Table 6-3 for PU 20 over the next 100 years. Essentially the recommended policy is one of Hold the Line over the short to medium term, with a move towards a policy of Managed Realignment in the medium to long term for presently defended areas of the coastline. Hold the Line is retained as an alternative over the next 100 years, if Managed Realignment opportunities are limited.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	HTL	MR
Alternative	X	X	HTL
Localised Policy	X	X	X
Alternative	X	X	X

Table 6-3: SMP Management Policies for PU 20

The associated actions required to implement the recommended management policies within PU 20 are listed in Table 6-4.

APPENDIX E - ACTION PLAN

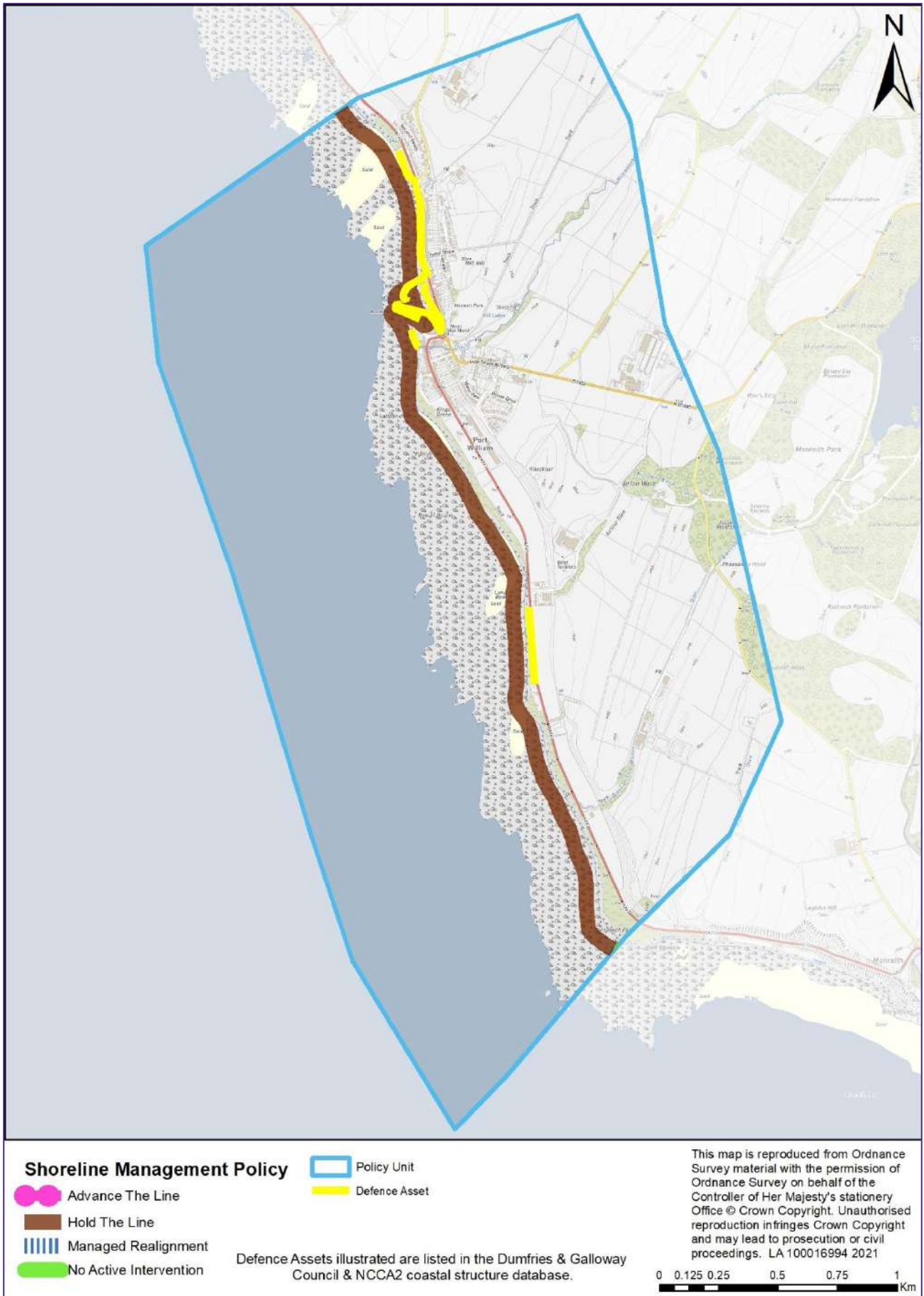


Figure 6-2: Extent of Policy Unit 20, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones".	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of defence structures to inform decisions on future maintenance or upgrade.	D&G Council	H	Short / Medium
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage sites.	Asset Owners	M	Short / Medium
Monitor climate change impacts		Monitor the effects of climate change to inform potential move to MR.	D&G Council	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Optimise Adaptation & Resilience	Adaptation & Resilience	Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	L	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	L	Short
Wave Overtopping Study	Management Area / Unit Studies	During storm conditions, Luce Bay is described to generate a high energy wave environment. Therefore, a detailed assessment of wave overtopping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	H	Short
Detailed Feasibility Study		Assessment of coastal processes to inform selection of appropriate future management measures and risk to properties. Need for localised implementation of the recommended alternative policy of MR to be established.	D&G Council	H	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	D&G Council	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council	M	Medium

Table 6-4: Action Plan: PU 20 Barsalloch Point to Low Drumskeog (Port William)

6.3 Policy Unit 21 – Low Drumskeog (Port William) to Kilfillan Point

Policy Unit 21 covers part of the eastern shoreline of Luce Bay for a distance of about 17.5km from Low Drumskeog (NX335445) to Kilfillan (NX201540) as shown in Figure 6-3.

The SMP has identified the management policies shown in Table 6-5 for PU 21 over the next 100 years i.e. essentially a policy of No Active Intervention although Managed Realignment for the A747 could be accommodated if a detailed assessment indicated this to be justified.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	X	MR	X

Table 6-5: SMP Management Policies for PU 21

The associated actions required to implement the recommended management policies within PU 21 are listed in Table 6-6.

APPENDIX E - ACTION PLAN

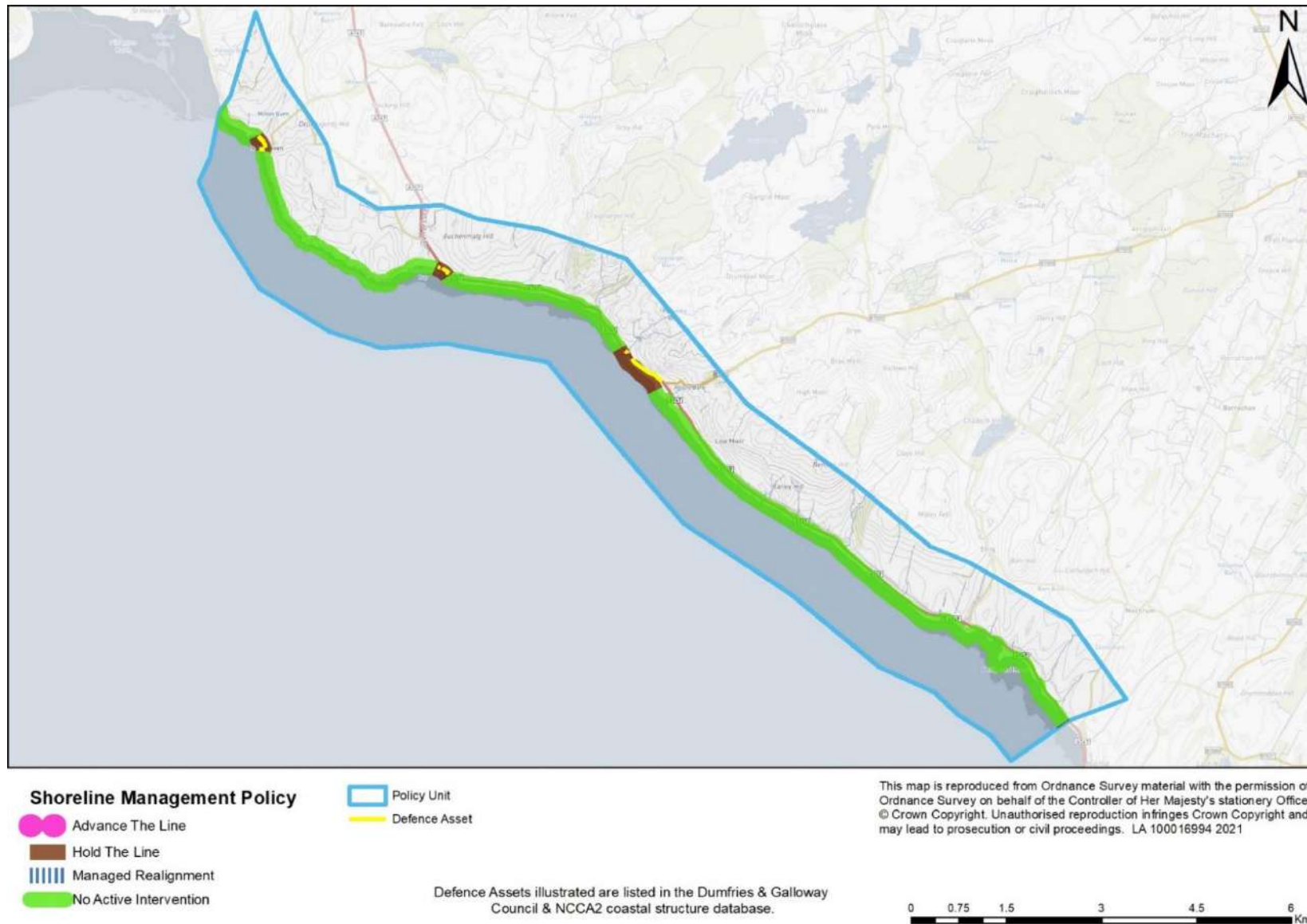


Figure 6-3: Extent of Policy Unit 21, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor risk to A747	Monitoring	Monitor the risk to the A747 to inform decision as to the future integrity of this asset and need for management measures.	D&G Council	M	Medium / Long
Monitor Condition of Defences		Monitor defence structures to inform decision as to the future integrity of assets and need for management measures.	D&G Council	H	Short
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage sites.	Asset Owners	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. undefended parts of the coastline should be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Wave Overtopping Study	Management Area / Unit Studies	During storm conditions, Luce Bay is described to generate a high energy wave environment. No national dataset is available to indicate wave over-topping risk. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	M	Short
Detailed feasibility study		Assessment of coastal flood and erosion risk and feasibility assessment of MR options.	Asset Owners	L	Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	L	Short / Medium

Table 6-6: Action Plan: PU 21 Low Drumskeog (Port William) to Kilfillan Point

6.4 Policy Unit 22 – Kilfillan Point to Sandhead

Policy Unit 22 is located at the head of Luce Bay and covers Luce Sands and Torrs Warren. This Policy Unit includes approximately 13km of shoreline and the tidally influenced Piltanton Burn and Water of Luce. It extends from Kilfillan (NX201540) in the east to Sandhead (NX014509) in the west as shown in Figure 6-4.

The SMP has identified the management policies shown in Table 6-7 for PU 22 over the next 100 years i.e. essentially a policy of No Active Intervention virtually everywhere with limited intervention at the Golf Course for all epochs due to the low level of risk.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	X	MR	X

Table 6-7: SMP Management Policies for PU 22

The associated actions required to implement the recommended management policies within PU 22 are listed in Table 6-8.

APPENDIX E - ACTION PLAN

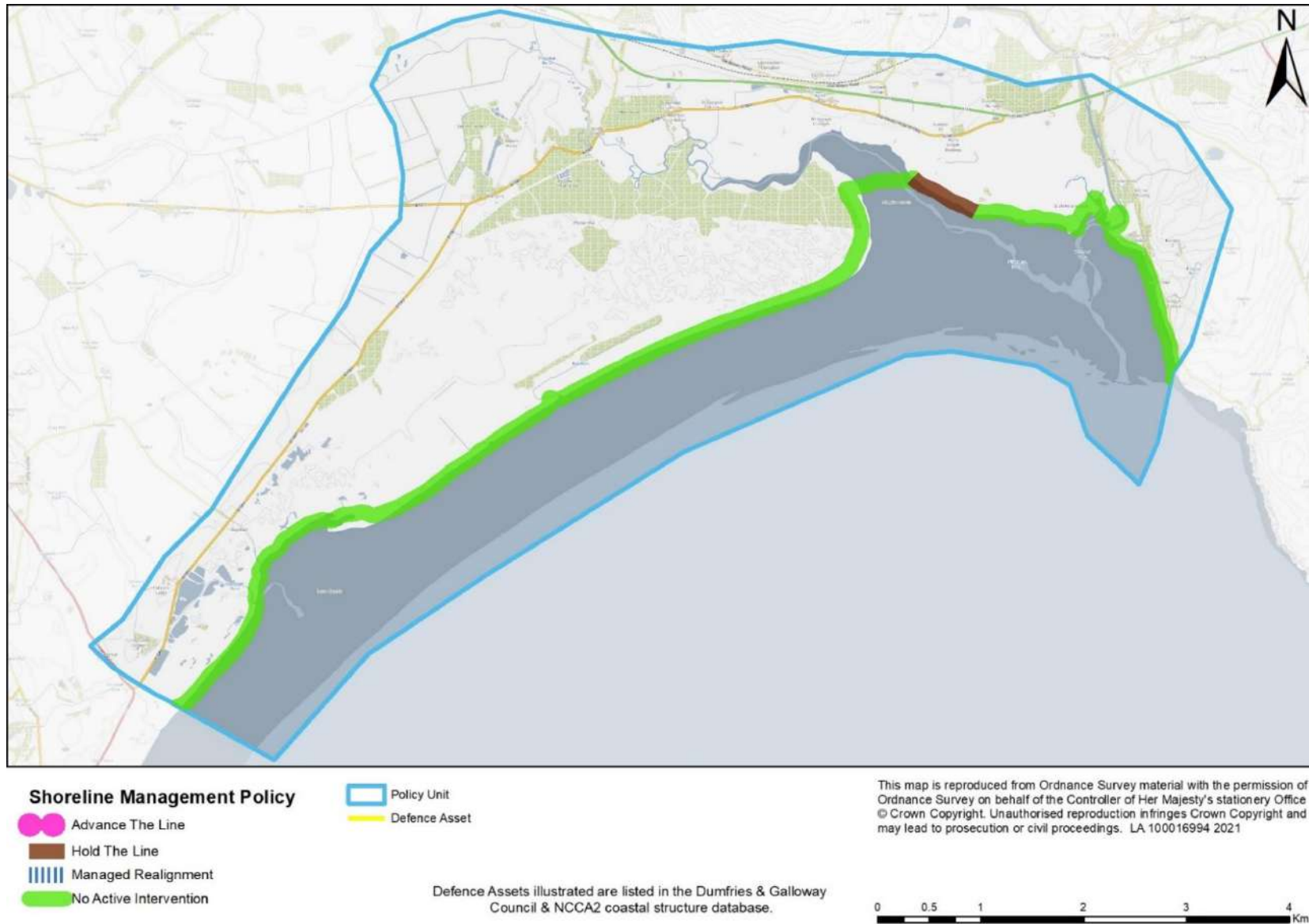


Figure 6-4: Extent of Policy Unit 22, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Habitat Response	Monitoring	Monitor the response of habitats to inform future decision as to need for management measures.	D&G Council / NatureScot	H	Short / Medium / Long
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment of coastal flood and erosion risk and feasibility assessment of MR options.	Asset Owners	L	Short / Medium
Habitat Enhancement	Habitat Creation	Consider options to replace hard defence structures with dune management.	Asset Owners	M	Medium / Long
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	L	Medium

Table 6-8: Action Plan: PU 22 Kilfillan Point to Sandhead

6.5 Policy Unit 23 – Sandhead to Chapel Rossan

Policy Unit 23 extends from the village of Sandhead (NX014509) to Chapel Rossan Bay (NX114447) and includes approximately 7km of shoreline as shown in Figure 6-5.

The SMP has identified the management policies shown in Table 6-9 for PU 23 over the next 100 years. Essentially the recommended policy is one of No Active Intervention for those parts of the coast that do not require intervention in combination with a localised policy of Hold the Line over the short to medium term, with a move towards a policy of Managed Realignment in the medium to long term for presently defended areas of the coastline.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	MR	MR	HTL

Table 6-9: SMP Management Policies for PU 23

The associated actions required to implement the recommended management policies within PU 23 are listed in Table 6-10.

APPENDIX E - ACTION PLAN

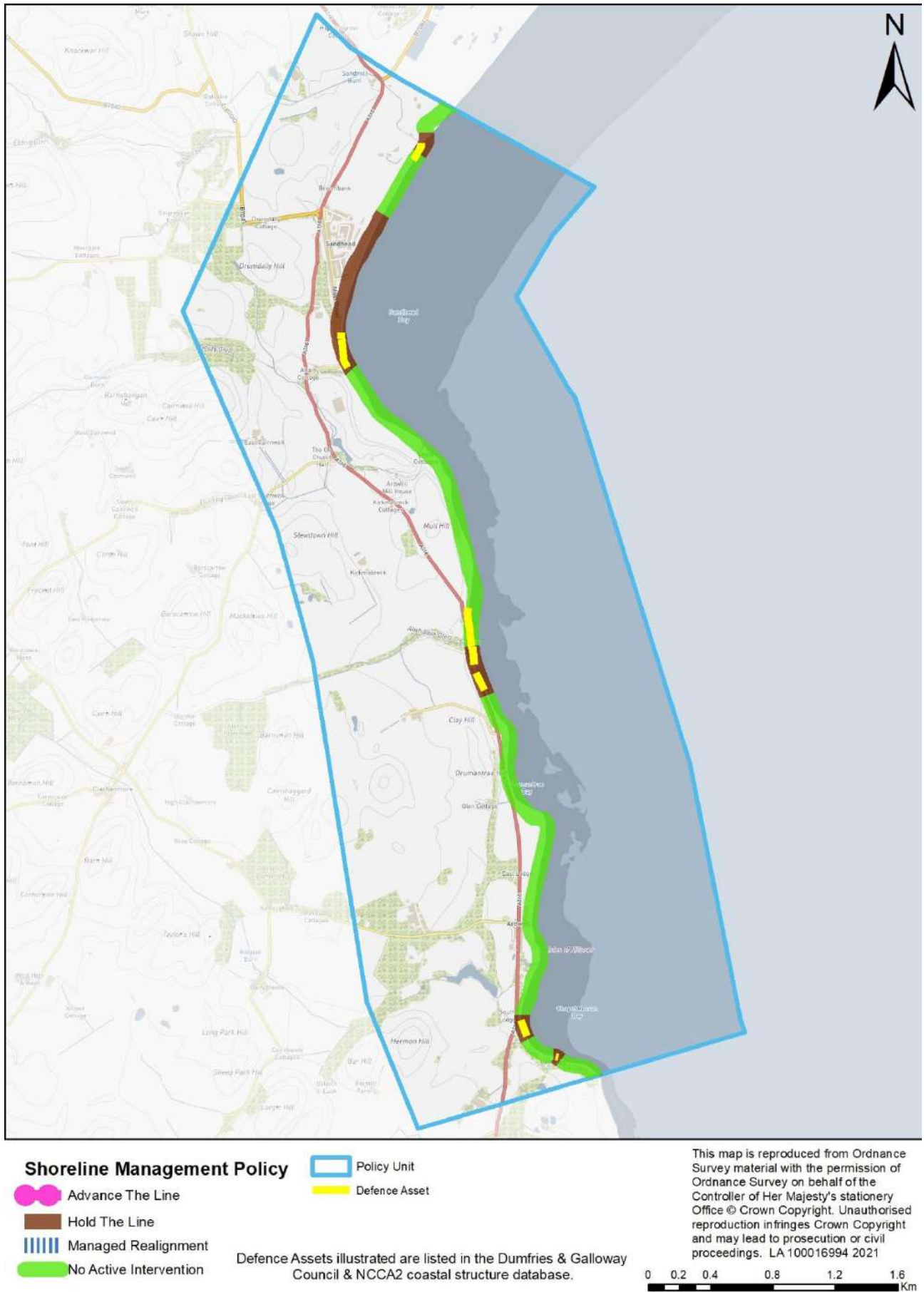


Figure 6-5: Extent of Policy Unit 23, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies for this section of the coastline. Consider introduction of "No Development Zones".	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor defence structures to inform decision as to the future integrity of assets and need for management measures.	D&G Council / Asset Owners	H	Short
Monitor coastal evolution		Monitor response of coastline to sea level rise and risk to properties to inform future policy.	D&G Council	M	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	Unprotected / uninhabited parts of the coastline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	M	Short
Wave Overtopping Study	Management Area / Unit Studies	During storm conditions, Luce Bay is described to generate a high energy wave environment. Therefore, an assessment of wave conditions should be undertaken.	SEPA / D&G Council	H	Short
Detailed Feasibility Study		Assessment of coastal processes required to inform selection of appropriate future management measures, quantify risk to properties and identify need for management measures or localised implementation of MR.	D&G Council	H	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	D&G Council / Asset Owners	M	Short / Medium

Table 6-10: Action Plan: PU 23 Sandhead to Chapel Rossan

6.6 Policy Unit 24 – Chapel Rossan to Drummore

Policy Unit 24 extends from the promontory at south end of Chapel Rossan Bay (NX114447) towards Drummore (Inchmore, NX132375) in the south and includes approximately 8km of shoreline as shown in Figure 6-6.

The SMP has identified a Managed Realignment policy for PU 24 over the next 100 years, as shown in Table 6-11 due to anticipated sea level rise making maintaining the existing Hold the Line policy increasingly challenging over time. Hold the Line is recommended over the short term with a move to a Managed Realignment policy for the medium to long term, as anticipated sea level rise will make maintaining the existing Hold the Line policy increasingly challenging over time. Managed Realignment is recommended over the short term as an alternative primary policy, if the short term implementation of Hold the Line is considered impractical.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	MR	MR
Alternative	MR	X	X
Localised Policy	X	X	X
Alternative	X	X	X

Table 6-11: SMP Management Policies for PU 24

The associated actions required to implement the recommended management policies within PU 24 are listed in Table 6-12.

APPENDIX E - ACTION PLAN

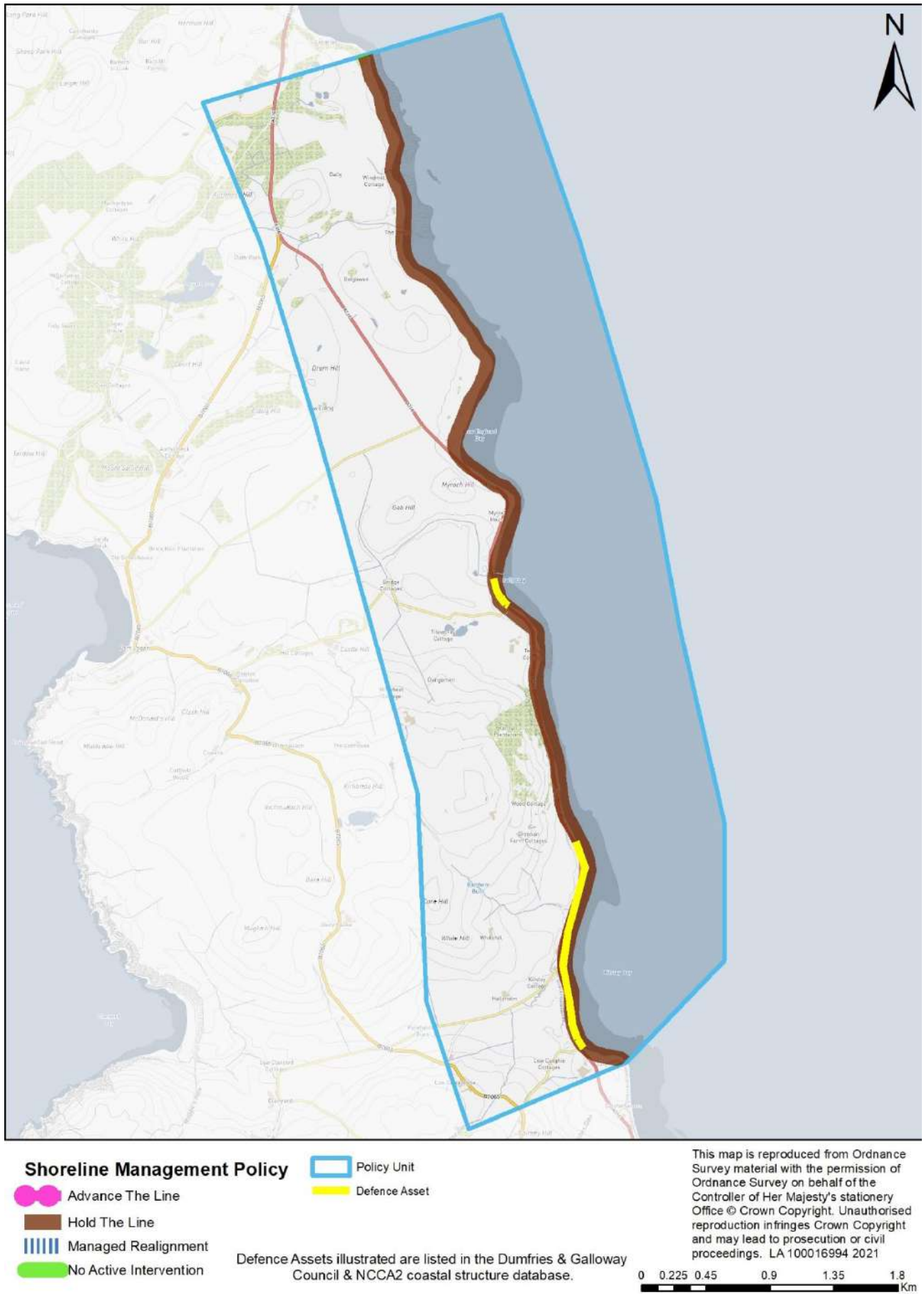


Figure 6-6: Extent of Policy Unit 24, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor risk to A716	Monitoring	Monitor the integrity of the A716 to inform decision as to the need for management measures.	D&G Council	H	Short / Medium
Monitor Condition of Defences		Monitor defence structures to inform decision as to the future integrity of assets and need for management measures.	D&G Council / Asset Owners	H	Short
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage sites.	Asset Owners	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Optimise Adaptation & Resilience	Adaptation & Resilience	Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Wave Overtopping Study	Management Area / Unit Studies	No national dataset is available to indicate wave over-topping risk. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	H	Short
Detailed Feasibility Study		Assessment of coastal flood and erosion risk and feasibility assessment MR options, including the investigation of alternative road infrastructure routes.	D&G Council	H	Short
Maintain Existing Defences	Asset Management	Maintain existing defences to A716 to retain road for as long as possible.	D&G Council	H	Short / Medium

Table 6-12: Action Plan: PU 24 Chapel Rossan to Drummore

6.7 Policy Unit 25 – Drummore

Policy Unit 25 includes approximately 2km of shoreline stretching from Inchmore (NX132375) to Cairngarroch Bay (NX143360) including the village of Drummore as shown in Figure 6-7.

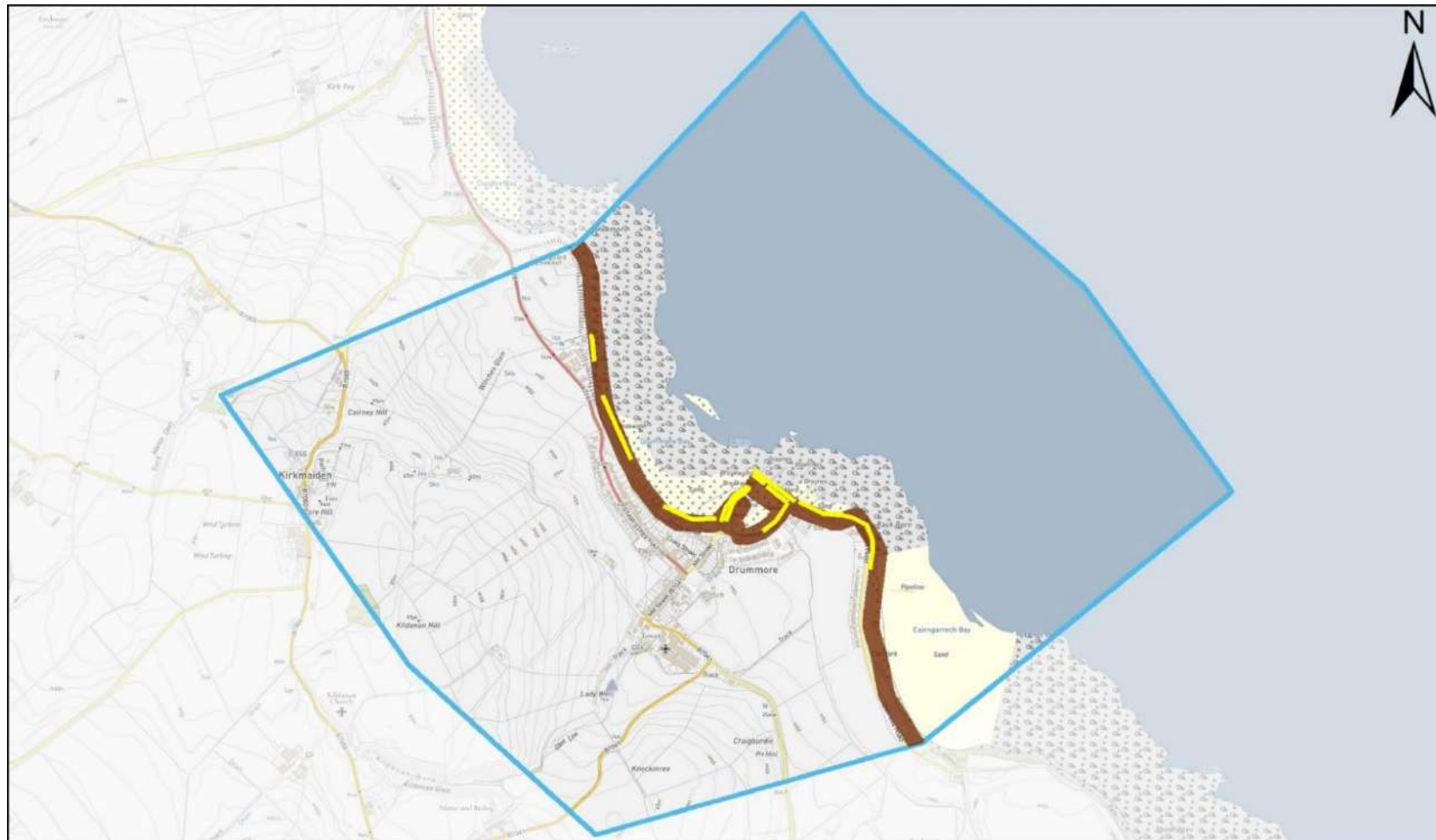
The SMP has identified the management policies shown in Table 6-13 for PU 25 over the next 100 years. Essentially, the recommended policy is one of Hold the Line over the short term, with a move towards a policy of Managed Realignment in the medium to long term for presently defended areas of the coastline.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	MR	MR
Alternative	MR	X	X
Localised Policy	X	X	X
Alternative	X	X	X

Table 6-13: SMP Management Policies for PU 25

The associated actions required to implement the recommended management policies within PU 25 are listed in Table 6-14.

APPENDIX E - ACTION PLAN



Shoreline Management Policy

-  Advance The Line
-  Hold The Line
-  Managed Realignment
-  No Active Intervention

-  Policy Unit
-  Defence Asset

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Defence Assets illustrated are listed in the Dumfries & Galloway Council & NCCA2 coastal structure database.

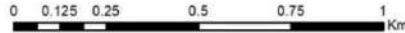


Figure 6-7: Extent of Policy Unit 25, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor defence structures to inform decision as to the future integrity of assets and need for management measures.	D&G Council / Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Optimise Adaptation & Resilience	Adaptation & Resilience	Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	M	Medium
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	M	Medium
Coastal Processes Study	Management Area / Unit Studies	Detailed assessment of coastal processes required to inform selection of appropriate future management measures.	D&G Council	M	Short / Medium
Wave Overtopping Study		During storm conditions, Luce Bay is described to generate a high energy wave environment. No national dataset is available to indicate wave over-topping risk. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	H	Short
Detailed Feasibility Study		Assessment of coastal flood and erosion risk and feasibility assessment of HTL / MR options.	Asset Owners	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners / D&G Council	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners / D&G Council	M	Medium

Table 6-14: Action Plan: PU 25 Drummore

6.8 Policy Unit 26 – Drummore to the Mull of Galloway

Policy Unit 26 includes 7.5km of shoreline within Coastal Process Unit 4, from Cairngarroch Bay (NX143360) to the Mull of Galloway (NX160305) as shown in Figure 6-8.

The SMP has identified a primary policy of No Active Intervention for PU 26 over the next 100 years as shown in Table 6-15. A localised policy of Hold the Line moving to Managed Realignment is proposed for the small section of coastline at Maryport.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	X	MR	HTL

Table 6-15: SMP Management Policies for PU 26

The associated actions required to implement the recommended management policies within PU 26 are listed in Table 6-16.

APPENDIX E - ACTION PLAN

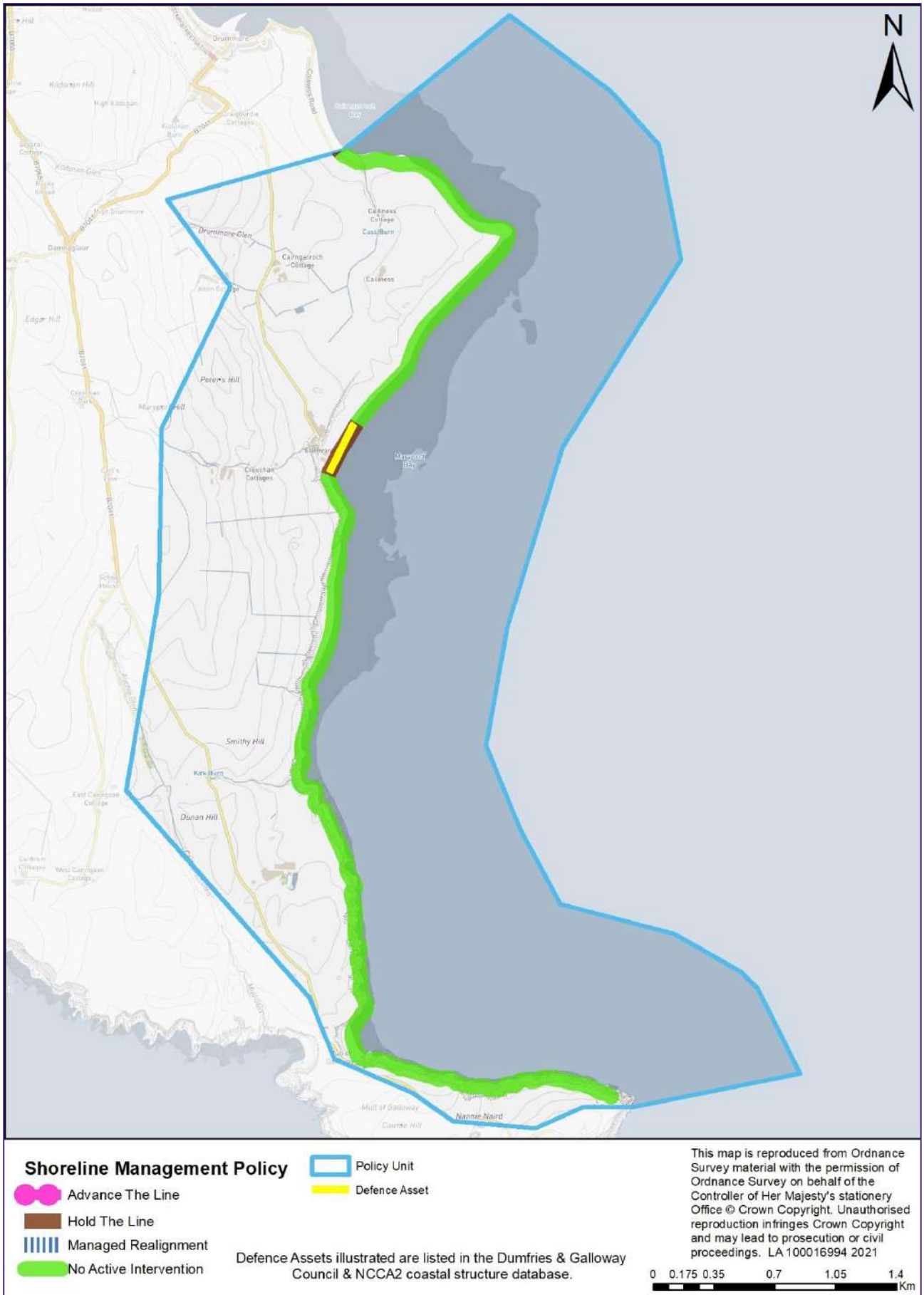


Figure 6-8: Extent of Policy Unit 26, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor defence structures to inform decision as to the future integrity of assets and need for management measures.	Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment of coastal flood and erosion risk and feasibility assessment of HTL / MR options.	Asset Owners	L	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	L	Medium

Table 6-16: Action Plan: PU26 Drummore to the Mull of Galloway

7 COASTAL PROCESS UNIT 5

Coastal Process Unit 5 of the D&G SMP, the Western Rhinns, extends from the Mull of Galloway in the south to Milleur Point in the north. There are four Policy Units within CPU 5 for which the relevant actions are identified in the following sub-sections.

7.1 Policy Unit 27 – Mull of Galloway to Portpatrick

Policy Unit 27 includes a 33km stretch of shoreline extending from the Mull of Galloway (NX160305) to Lagnawinny (NX001536), just south of Portpatrick as shown in Figure 7-1.

The SMP has identified a policy of No Active Intervention for the majority of the coastline with a localised policy of Hold the Line or Managed Realignment where there are existing defence structures at Port Logan for PU 27 over the next 100 years as shown in Table 7-1.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	HTL
Alternative	MR	MR	MR

Table 7-1: SMP Management Policies for PU 27

The associated actions required to implement the recommended management policies within PU 27 are listed in Table 7-2.

APPENDIX E - ACTION PLAN

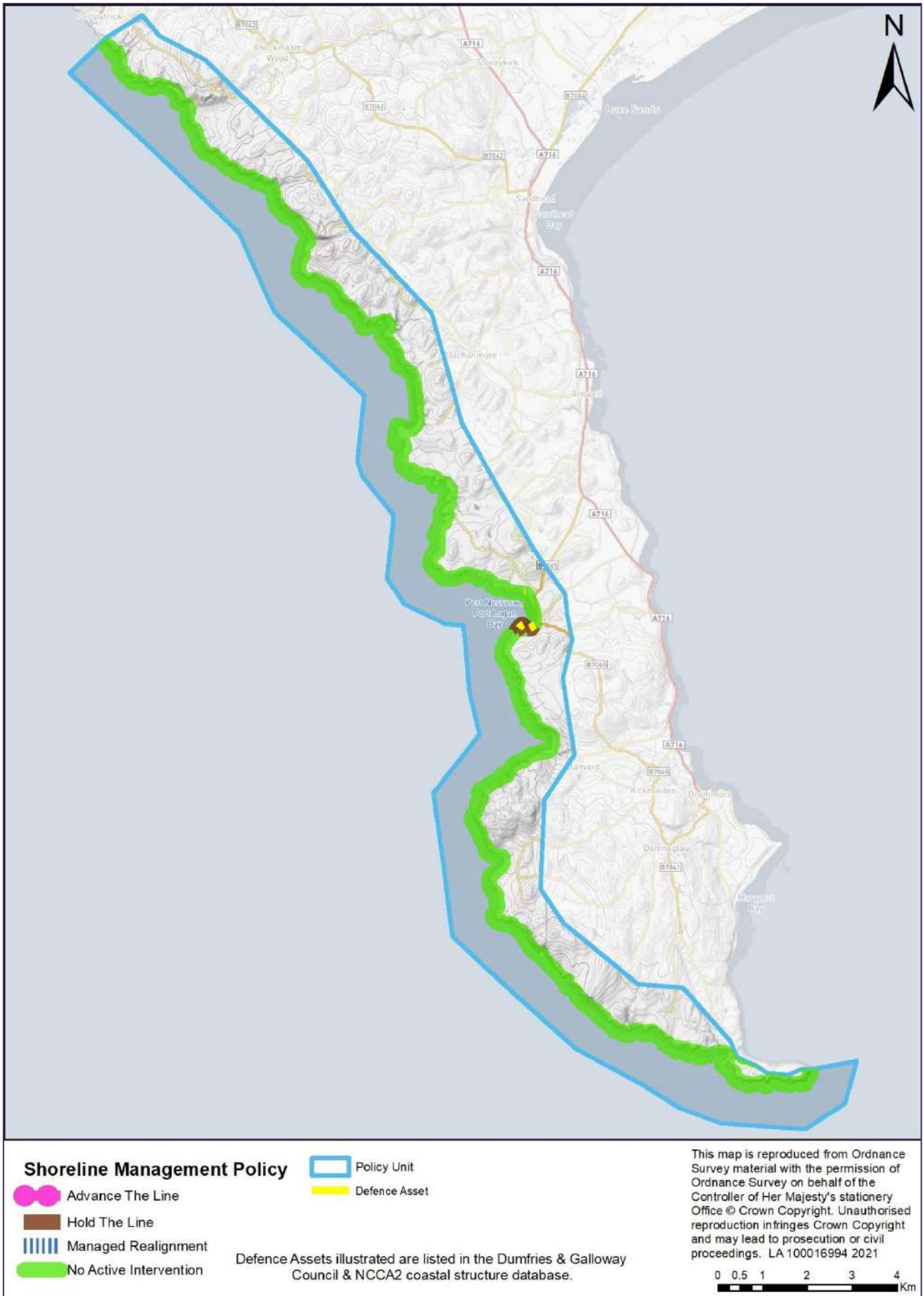


Figure 7-1: Extent of Policy Unit 27, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor defence structures to inform decision as to the future integrity of assets and need for management measures.	Asset Owners	H	Short / Medium
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage sites.	Asset Owners	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs)	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Wave Overtopping Study	Management Area / Unit Studies	Port Logan may be subject to significant wave over-topping although no national dataset is available to corroborate this. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	M	Short
Detailed Feasibility Study		Assessment of coastal flood and erosion risk and feasibility assessment of localised managed realignment options.	Asset Owners	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	H	Short to Long-term
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	M	Medium

Table 7-2: Action Plan: PU 27 Mull of Galloway to Portpatrick

7.2 Policy Unit 28 – Portpatrick

Policy Unit 28 includes approximately 1.5km of shoreline extending from Lagnawinny (NX001536) to north of Portpatrick (NW993544) as shown in Figure 7-2.

The SMP has identified the management policies shown in Table 7-3 for PU 28 over the next 100 years i.e. essentially a policy of Hold the Line across the developed frontage for the short term moving to a policy of Managed Realignment over the medium to long term. Hold the Line is retained as an alternative primary policy over the medium term as it is identified that Managed Realignment will be challenging to accommodate. A localised policy of No Active Intervention is suggested for undeveloped sections of the coast.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	MR	MR
Alternative	X	HTL	X
Localised Policy	NAI	NAI	NAI
Alternative	X	X	X

Table 7-3: SMP Management Policies for PU 28

The associated actions required to implement the recommended management policies within PU 28 are listed in Table 7-4.

APPENDIX E - ACTION PLAN

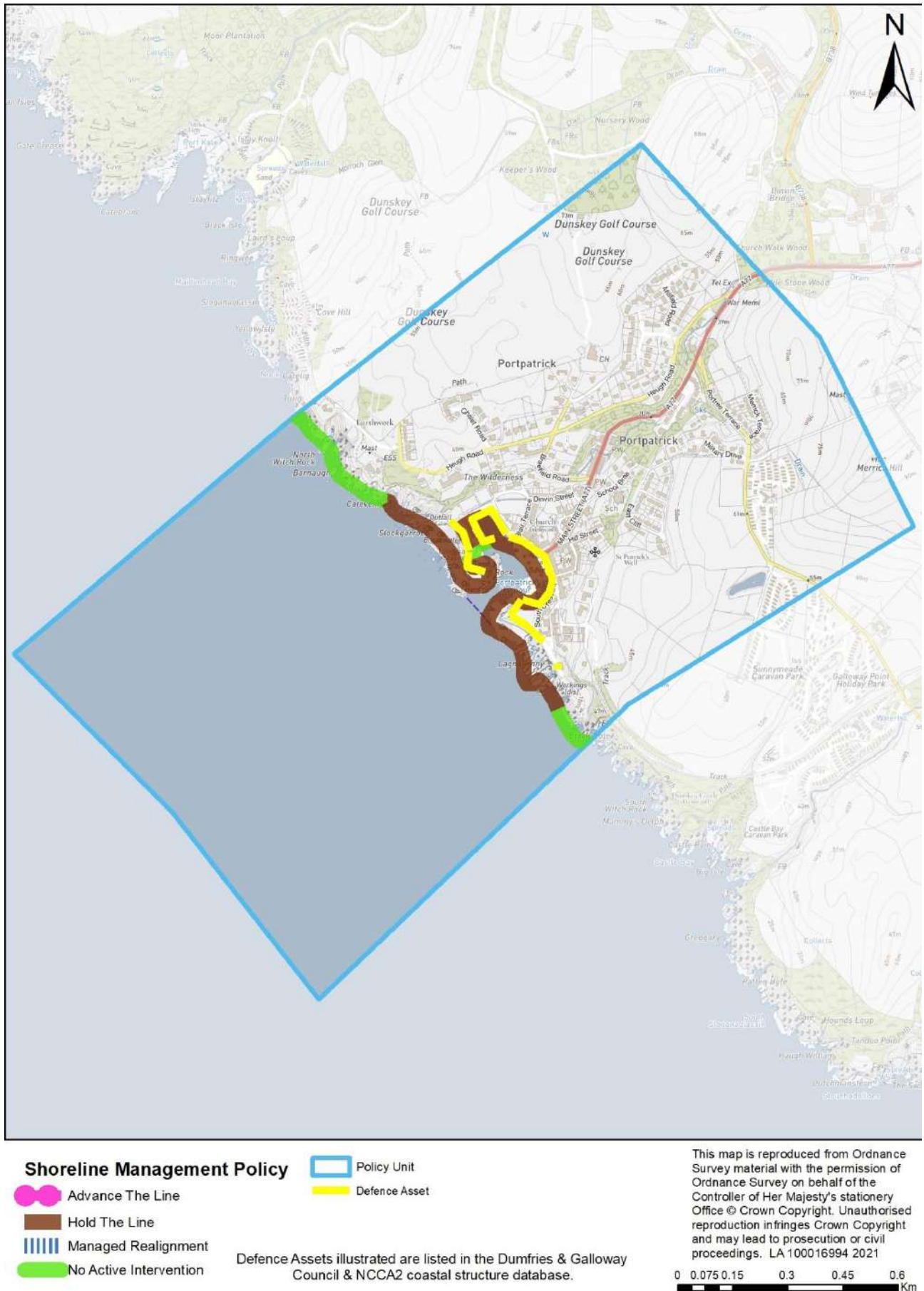


Figure 7-2: Extent of Policy Unit 28, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the coastline. Consider introduction of "No Development Zones".	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structure in policy unit 28 to inform decisions as to future maintenance or upgrade.	D&G Council	H	Short / Medium
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage sites.	Asset Owners	M	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented at unprotected parts of the coastline. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Wave Overtopping Study	Management Area / Unit Studies	Portpatrick has been reported to be subject to significant wave over-topping. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	H	Short
Detailed Feasibility Study		Assessment of coastal flood and erosion risk and feasibility assessment of MR options with the incorporation of wave over-topping risk.	Asset Owners / D&G Council	M	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners/ D&G Council	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners/ D&G Council	M	Medium

Table 7-4: Action Plan: PU 28 Portpatrick

7.3 Policy Unit 29 – Portpatrick to Milleur Point

Policy Unit 29, encompasses the northern part of the Rhinns peninsula, from north of Portpatrick (NW993544) to Milleur Point (NX021738) as shown in Figure 7-3.

The SMP has identified a blanket policy of No Active Intervention for this section of the coastline over the next 100 years as shown in Table 7-5.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	X	X	X
Alternative	X	X	X

Table 7-5: SMP Management Policies for PU 29

The associated actions required to implement the recommended management policies within PU 29 are listed in Table 7-6.

APPENDIX E - ACTION PLAN

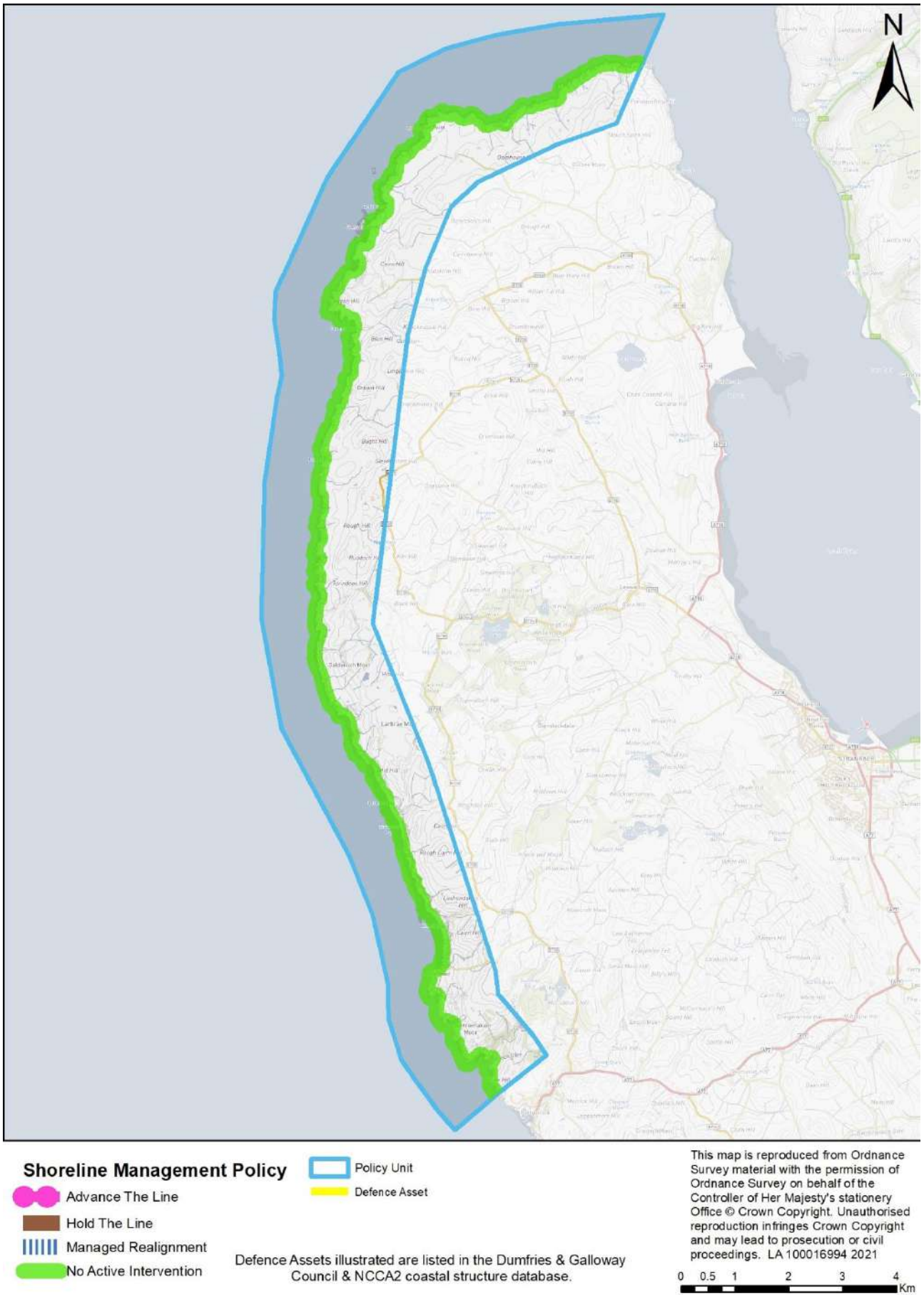


Figure 7-3: Extent of Policy Unit 29, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Evolution of Coastline	Monitoring	Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs)	D&G Council / SEPA / Scottish Government	M	Medium
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost	D&G Council / SEPA / Scottish Government	M	Medium

Table 7-6: Action Plan: PU 29 Portpatrick to Milleur Point

8 COASTAL PROCESS UNIT 6

Coastal Process Unit 6 of the Dumfries & Galloway SMP, Loch Ryan, extends from Milleur Point in the west to the Galloway Burn and the administrative boundary with South Ayrshire in the east. There are six Policy Units within CPU 6 for which the relevant actions are identified in the following sub-sections.

8.1 Policy Unit 30 – Milleur Point to Kirkcolm

Policy Unit 30, encompasses the section of the coastline between Milleur Point (NX021738) and the Fox Plantation at Kirkcolm (NX035696), encompassing approximately 4.6km of the western shoreline of Loch Ryan as shown in Figure 8-1.

The SMP has identified the management policies shown in Table 8-1 for PU 30 over the next 100 years, i.e. a general policy of No Active Intervention for this section of the coastline. A localised policy of Hold the Line moving towards Managed Realignment is also proposed to allow local landowners to maintain existing private defences.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	HTL	MR
Alternative	X	MR	X

Table 8-1: SMP Management Policies for PU 30

The associated actions required to implement the recommended management policies within PU 30 are listed in Table 8-2.

APPENDIX E - ACTION PLAN

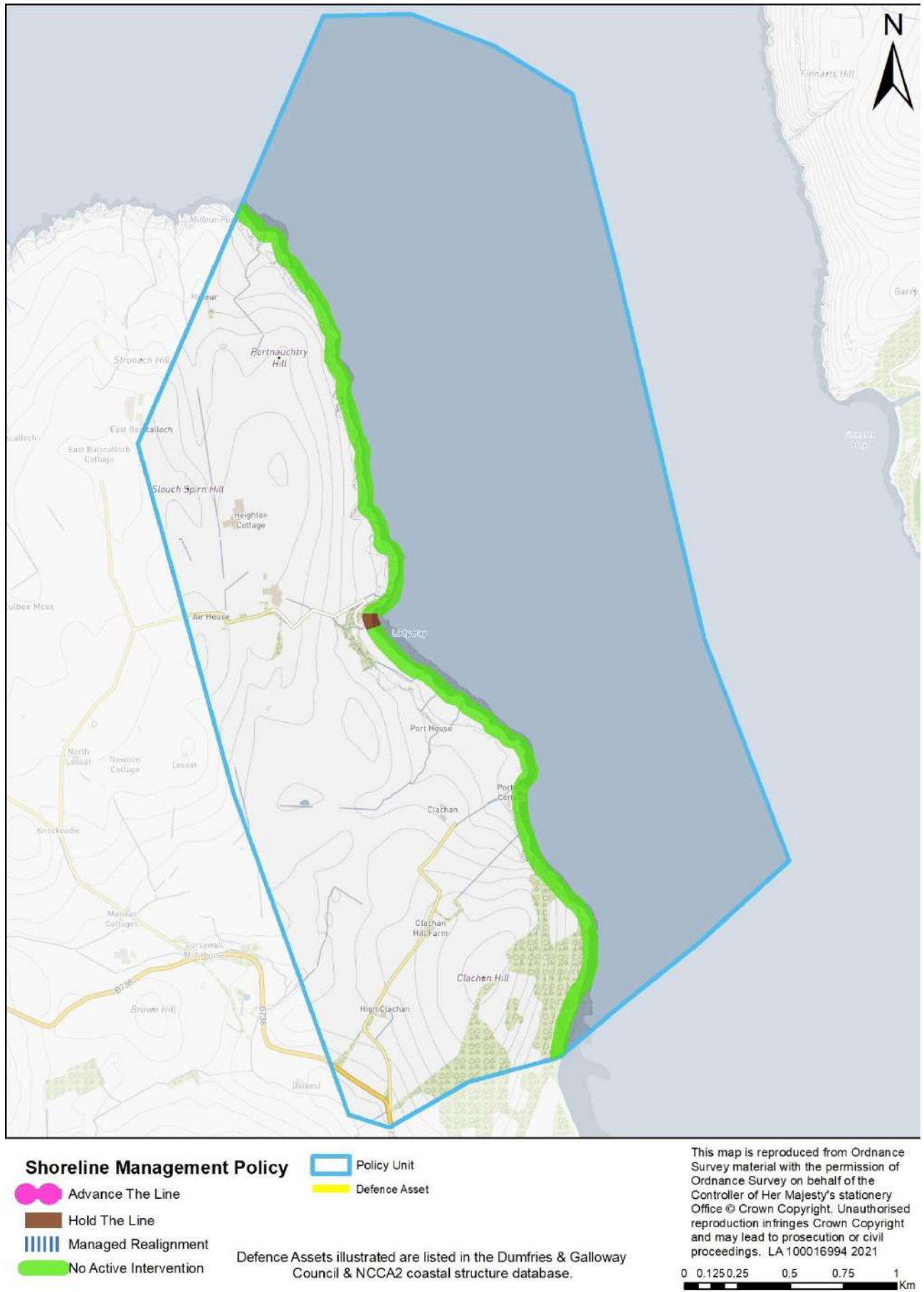


Figure 8-1: Extent of Policy Unit 30, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Evolution of Coastline	Monitoring	Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs)	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment of coastal flood and erosion risk and feasibility assessment of MR options.	Asset Owners	L	Short / Medium
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	L	Medium / Long

Table 8-2: Action Plan: PU 30 Milleur Point to Kirkcolm

8.2 Policy Unit 31 – Kirkcolm to McCullochs Point

Policy Unit 31 includes approximately 8km of the low-lying western shoreline of Loch Ryan and extends from the Fox Plantation at Kirkcolm (NX035696) to McCullochs Point (NX045628) as shown in Figure 8-2.

The SMP has identified a policy of No Active Intervention through precluding the construction of new defences for PU 31 over the next 100 years. Hold the Line and Managed Realignment are included as a localised policy to permit maintenance works to manage risk to the A718 and properties protected by existing defences, as shown in Table 8-3.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	HTL	MR	MR
Alternative	X	X	X

Table 8-3: SMP Management Policies for PU 31

The associated actions required to implement the recommended management policies within PU 31 are listed in Table 8-4.

APPENDIX E - ACTION PLAN

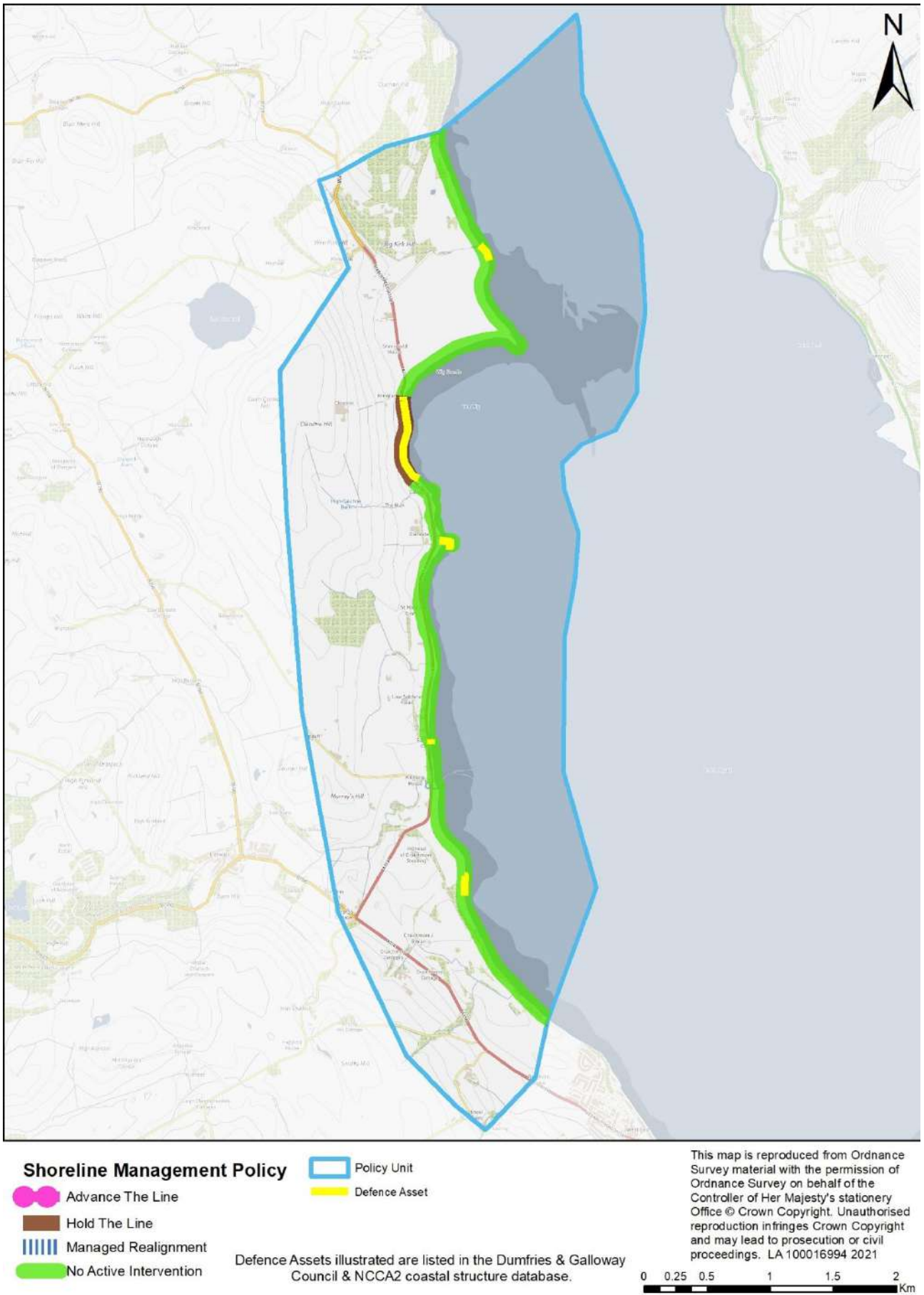


Figure 8-2: Extent of Policy Unit 31, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the coastline. Consider introduction of "No Development Zones".	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structure in Policy Unit 31 to inform decisions as to future maintenance or upgrade.	D&G Council	H	Short / Medium
Monitor climate change impacts		Monitor the effects of climate change on the road infrastructure to inform potential move to MR.	D & G Council	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term
Optimise Adaptation & Resilience		Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs).	D&G Council / SEPA / Scottish Government	H	Short
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Detailed Feasibility Study	Management Area / Unit Studies	Assessment required to quantify risk to properties and identify need for management measures or localised implementation of MR for the at risk section of the A718.	D&G Council / Asset Owners	M	Short
Wave Overtopping Study		Wave over-topping may add to the risk to the A718 and no national dataset is available to corroborate this. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	M	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	M	Medium

Table 8-4: Action Plan: PU 31 Kirkcolm to McCullochs Point

8.3 Policy Unit 32 – McCullochs Point to Innermessan (Stranraer)

Policy Unit 32 includes approximately 7km of shoreline around the head of Loch Ryan and extends from McCullochs Point (NX045628) to Innermessan (NX087632) as shown in Figure 8-3.

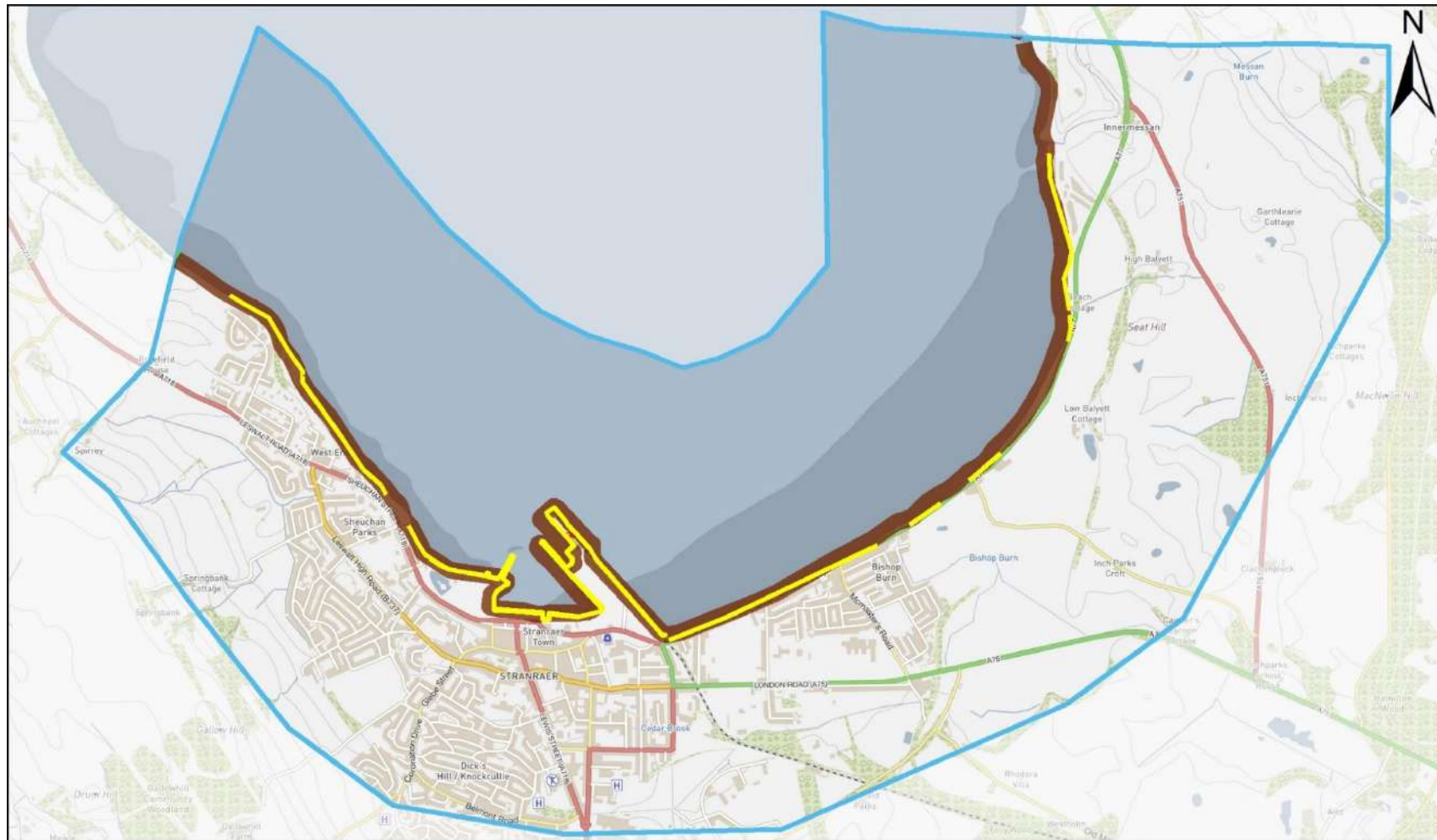
The SMP has identified the management policies shown in Table 8-5 for PU 32 over the next 100 years, essentially the recommended policy is one of Hold the Line possibly in combination with Managed Realignment (landward movement of roads in the future) for the majority of the coastline. Managed Realignment was also considered as part of the Waterfront Masterplan, involving the relocation of the railway.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	HTL	HTL
Alternative	X	MR	MR
Localised Policy	X	X	X
Alternative	X	X	X

Table 8-5: SMP Management Policies for PU 32

The associated actions required to implement the recommended management policies within PU 32 are listed in Table 8-6.

APPENDIX E - ACTION PLAN



Shoreline Management Policy

- Advance The Line
- Hold The Line
- Managed Realignment
- No Active Intervention

Policy Unit

Defence Asset

Defence Assets illustrated are listed in the Dumfries & Galloway Council & NCCA2 coastal structure database.

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Figure 8-3: Extent of Policy Unit 32, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of "No Development Zones" as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structures to inform decisions as to future maintenance or upgrade.	Asset Owners	H	Short / Medium
Monitor risk to cultural heritage		Monitor potential risk to cultural heritage site NW of Stranraer.	Asset Owners	M	Short / Medium
Monitor climate change impacts		Monitor the effects of climate change on risk to the road infrastructure to inform/support potential move to MR.	Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Optimise Adaptation & Resilience	Adaptation & Resilience	Sharing information, knowledge and guidance, i.e. Local Resilience Partnerships (LRPs)	D&G Council / SEPA / Scottish Government	M	Short / Medium
Preparation for Coastal Flooding and Erosion		Preparation for flood and erosion risk as a result of climate change to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government	M	Short / Medium
Detailed Feasibility Study	Management Area / Unit Studies	Assessment to quantify risk to properties and identify need for management measures or localised implementation of an alternative policy of MR.	Asset Owners	M	Short / Medium
Wave Overtopping Study		Stranraer is subject to significant wave action therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	SEPA / D&G Council	H	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	H	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	M	Medium

Table 8-6: Action Plan: PU 32 McCullochs Point to Innermessan (Stranraer)

8.4 Policy Unit 33 – Innermessan to Bankhead

Policy Unit 33 is a 3.5km long low-lying stretch of shoreline located along the eastern shore of Loch Ryan extending from Innermessan (NX087632) in the south to Bankhead in the north (NX073670) as shown in Figure 8-4.

The SMP has identified a policy of Hold the Line over the short term, with a move towards a policy of Managed Realignment in the medium to long term for presently defended areas of the coastline for PU 33. This acknowledges the challenge of anticipated sea level rise in maintaining a Hold the Line policy thus the move to a primary policy of Managed Realignment for the medium and long term as shown in Table 8-7.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	MR	MR
Alternative	X	X	X
Localised Policy	X	X	X
Alternative	X	X	X

Table 8-7: SMP Management Policies for PU 33

The associated actions required to implement the recommended management policies within PU 33 are listed in Table 8-8.

APPENDIX E - ACTION PLAN

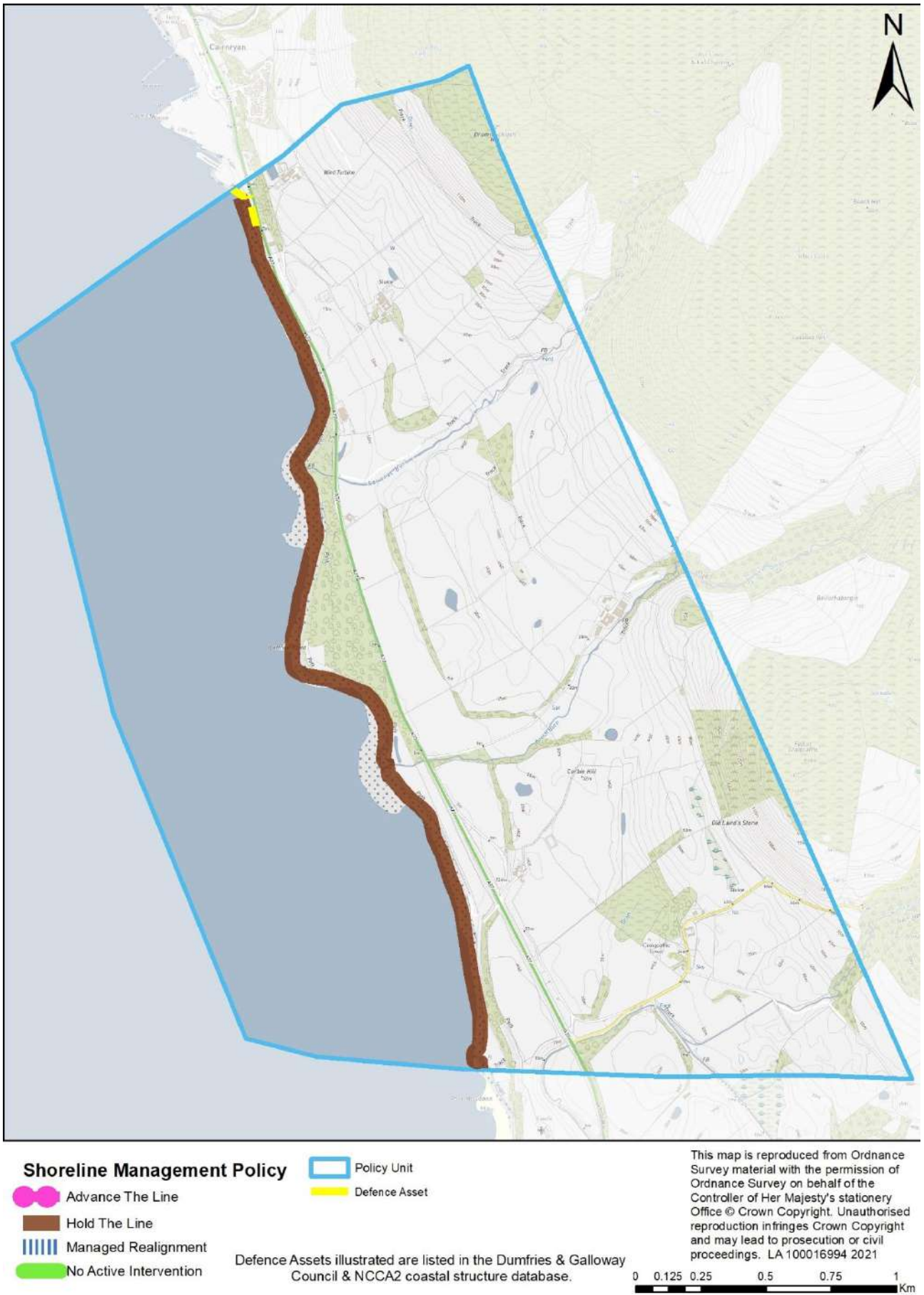


Figure 8-4: Extent of Policy Unit 33, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise societal impact and cost.	D&G Council / SEPA / Scottish Government / Asset Owners	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of “No Development Zones” as necessary.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structure in Policy Unit 33 to inform decisions as to future maintenance or upgrade.	Asset Owners	H	Short / Medium
Monitor Climate Change Impacts		Monitor the effects of climate change on risk to the road infrastructure to inform/support potential move to MR.	Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Detailed Feasibility Study	Management Area / Unit Studies	Assessment of coastal flood and erosion risk and feasibility assessment of MR options.	Asset Owners	M	Short / Medium
Wave Overtopping Study		This area is exposed to waves although no national dataset is available to quantify the risk. Therefore, a detailed assessment of wave overtopping potential and the evaluation of the risk associated with this should be undertaken.	Asset Owners / SEPA	M	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	M	Short
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	M	Medium

Table 8-8: Action Plan: PU 33 Innermessan to Bankhead

8.5 Policy Unit 34 – Bankhead to Old House Point

Policy Unit 34 extends from Bankhead (NX073670) to Old House Point (NX059703) and includes the village of Cairnryan and the Cairnryan and Old House Point (Loch Ryan Port) ferry ports as shown in Figure 8-5.

The SMP has identified a policy of Hold the Line or Advance the Line, to allow for the flexibility of continual maintenance / upgrade of defence assets at the Ferry Ports, for PU 34 over the next 100 years as shown in Table 8-9.

Policy	Short Term	Medium Term	Long Term
Primary Policy	HTL	HTL	HTL
Alternative	ATL	ATL	ATL
Localised Policy	X	X	X
Alternative	X	X	X

Table 8-9: SMP Management Policies for PU 34

The associated actions required to implement the recommended management policies within PU 34 are listed in Table 8-10.

APPENDIX E - ACTION PLAN

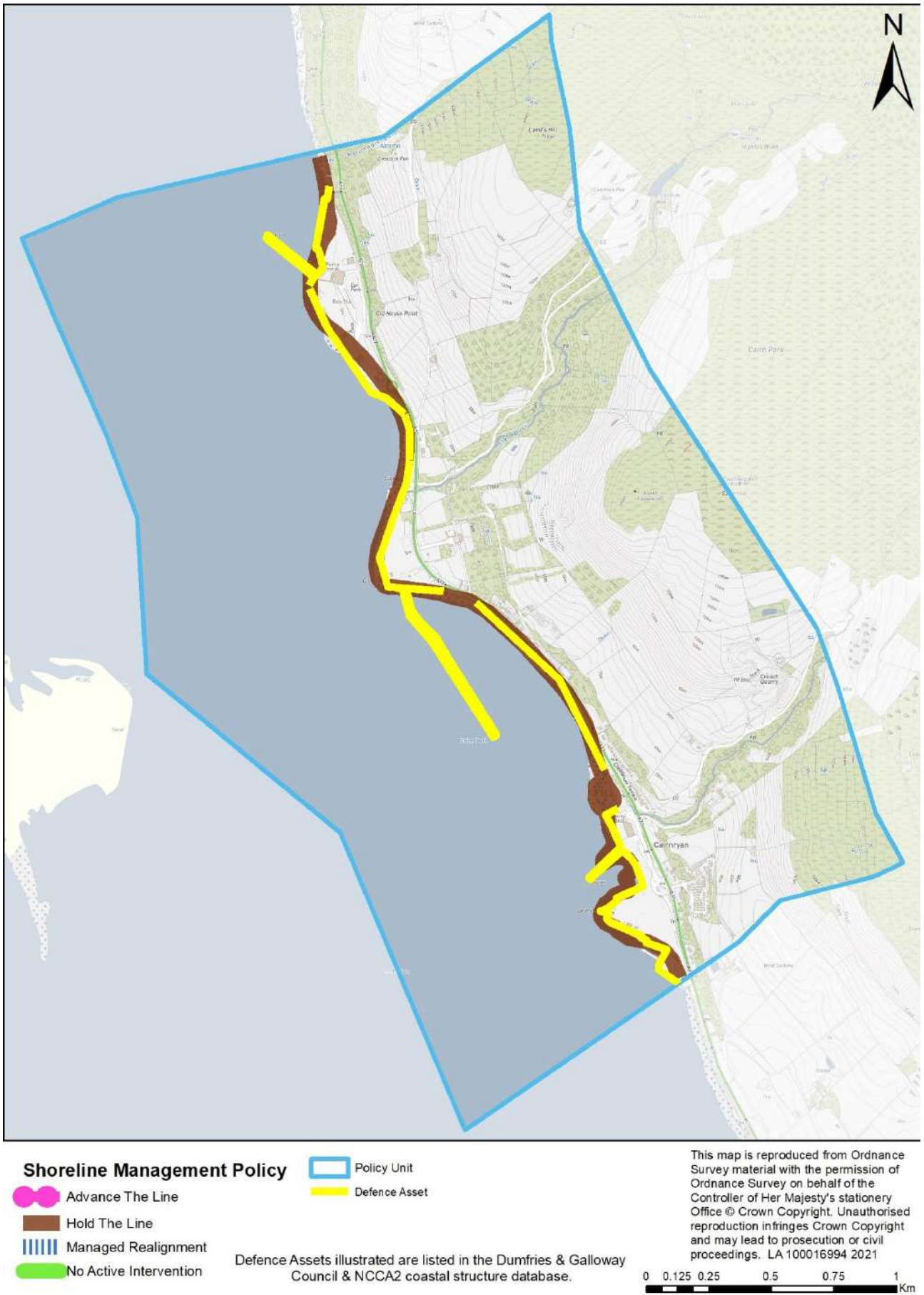


Figure 8-5: Extent of Policy Unit 34, Showing Short Term Shoreline Management Policies

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Awareness Raising	Communication	Raise awareness of flood and erosion risk to minimise impact and cost.	D&G Council / SEPA / Scottish Government / Asset Owners	H	Short
Update Planning Policy		Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline.	D&G Council	H	Short
Monitor Condition of Defences	Monitoring	Monitor the condition of existing defence structure in policy unit 34 to inform decisions as to future maintenance or upgrade.	Asset Owners	H	Short / Medium
Monitor Evolution of Coastline		Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Contamination assessment Cairn Point	Management Area / Unit Studies	The HTL / ATL policy at Cairn Point has been assigned on a precautionary principle due to the former military and ship breaking use of the hinterland and the risk of erosion to releasing potentially contaminated material into the marine environment. Quantification of any contamination would enable future consideration of a change in policy to MR or possible NAI.	Site Owner	H	Medium
Detailed Feasibility Study		Assessment of coastal flood and erosion risk and feasibility assessment of HTL / ATL options.	Asset Owners	M	Medium
Wave Overtopping Study		This area is exposed to waves although no national dataset is available to quantify the risk. Therefore, a detailed assessment of wave over-topping potential and the evaluation of the risk associated with this should be undertaken.	Asset Owners / SEPA	M	Short
Maintain Existing Defences	Asset Management	Subject to appropriate consents being granted defence owners should be allowed to maintain existing defences.	Asset Owners	L	Short / Medium
Coastal Flood and Erosion protection Scheme		Implement feasible measures based on feasibility study.	Asset Owners	M	Medium

Table 8-10: Action Plan: PU 34 Bankhead to Old House Point

8.6 Policy Unit 35 – Old House Point to Galloway Burn

Policy Unit 35 is a 2.8km stretch of shoreline that extends from just north of Loch Ryan Port at Old House Point (NX059703) to the Galloway Burn (NX056715) and the administrative boundary with South Ayrshire as shown in Figure 8-6.

The SMP has identified a blanket policy of No Active Intervention for PU 35 over the next 100 years as shown in Table 8-11.

Policy	Short Term	Medium Term	Long Term
Primary Policy	NAI	NAI	NAI
Alternative	X	X	X
Localised Policy	X	X	X
Alternative	X	X	X

Table 8-11: SMP Management Policies for PU 35

The associated actions required to implement the recommended management policies within PU 35 are listed in Table 8-12.

APPENDIX E - ACTION PLAN



Shoreline Management Policy

-  Advance The Line
-  Hold The Line
-  Managed Realignment
-  No Active Intervention

-  Policy Unit
-  Defence Asset

Defence Assets illustrated are listed in the Dumfries & Galloway Council & NCCA2 coastal structure database.

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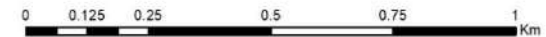


Figure 8-6: Extent of Policy Unit 35, Showing Short Term Shoreline Management Policy

APPENDIX E - ACTION PLAN

Action	Action Type	Description	Involved Parties	Priority (H/M/L)	Target Timescale
Update Planning Policy	Communication	Ensure development plans etc. reflect the management policies proposed for this section of the D&G coastline. Consider introduction of “No Development Zones” as necessary.	D&G Council	H	Short
Monitor Evolution of Coastline	Monitoring	Monitor the evolution of the coastline to inform future revisions of the SMP.	D&G Council	H	Short / Medium
Allow shoreline to function naturally	Adaptation & Resilience	No new coastal defence measures are to be implemented in this policy unit. The shoreline will be allowed to evolve naturally.	All Parties	H	Short to Long-term

Table 8-12: Action Plan: PU 35 Old House Point to Galloway Burn



9 SUMMARY OF ACTIONS

The various actions identified to implement the management policies recommended by the D&G SMP over the short, medium and long term for each Policy Unit are summarised in Table 9-1.

Policy unit	Awareness Raising	Update Planning Policy	Monitoring	Allow Shoreline to Function Naturally	Optimise Adaptation & Resilience	Prepare for Flooding and Erosion	Review SMP Policy	Coastal Flood & Erosion Feasibility Study	Wave Over-topping Study	Contamination Study	Coastal Process Study	Habitat Creation Study	Maintain Existing Defences	Coastal Flood & Erosion Protection Scheme
1	S	S	S/M	S/M/L	S	S		S					S/M	M
2	S	S	S/M		S	S		S/M					S/M	M
3	S	S	S/M	S/M/L	S	S		S/M					S/M	M
4	S	S	S/M	S/M/L	S	S		S/M	S				S/M	M
5	S	S	S/M	S/M/L	S	S		S/M						M
6	S	S	S/M	S/M/L	S	S		S/M					S/M	M
7	S	S	S/M	S/M/L	S	S		S/M	S				S/M	M
8	S	S	S/M	S/M/L	S	S		S					S/M	M/L
9	S	S	S/M	S/M/L	S	S		S					S/M	M/L
10	S	S	S/M	S/M/L	S	S		S	S				S/M	M/L
11	S	S	S/M	S/M/L	S	S								
12	S	S	S/M	S/M/L	S	S		S	S				S/M	M
13	S	S	S/M	S/M/L	S	S		S				S/M	S/M	M
14	S	S	S/M	S/M/L	S	S		S				M/L	S/M	M
15	S	S	S/M	S/M/L	S	S		S/M			S/M		S/M	M
16	S	S	S/M	S/M/L	S	S		S	S				S/M	M
17	S	S	S/M	S/M/L	S	S		S					S/M	M
18	S	S	S/M	S/M/L	S	S		S	S				S/M	M
19	S	S	S/M	S/M/L	S	S								
20	S	S	S/M		S	S		S	S				S/M	M
21	S	S	S/M/L	S/M/L	S	S		M	S				S/M	
22	S	S	S/M/L	S/M/L		S		S/M				M/L	S/M	M
23	S	S	S/M	S/M/L	S	S		S/M	S				S/M	S/M
24	S	S	S/M		S	S		S	S				S/M	
25	S	S	S/M		M	M		S/M	S		S/M		S/M	M
26	S	S	S/M	S/M/L	S	S		S/M					S/M	M
27	S	S	S/M	S/M/L	S	S		S/M	S				S/M/L	M
28	S	S	S/M	S/M/L	S	S		S/M	S				S/M	M
29	S	S	S/M	S/M/L	M	M								
30	S	S	S/M	S/M/L	S	S		S/M					S/M	M/L
31	S	S	S/M	S/M/L	S	S		S	S				S/M	M
32	S	S	S/M		S/M	S/M		S/M	S				S/M	M
33	S	S	S/M					S/M	S				S	M
34	S	S	S/M					M	S	M			S/M	M
35		S	S/M	S/M/L										

Table 9-1: Summary of Actions