

DUMFRIES & GALLOWAY SHORELINE MANAGEMENT PLAN

Non-Technical Summary



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NON-TECHNICAL SUMMARY

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1 NON-TECHNICAL SUMMARY

1.1 The Dumfries & Galloway Shoreline

The section of shoreline under the responsibility of Dumfries & Galloway Council extends from the Scottish Border all the way along the northern shoreline of the Solway Firth, around Luce Bay, the Western Rhinns and the shoreline of Loch Ryan. It is estimated that there is approximately 340km of shoreline within the Dumfries & Galloway Council operational area. This entire section of the Scottish coastline is covered by the Dumfries & Galloway Shoreline Management Plan as shown in Figure 1-1.

The current form of the Dumfries & Galloway coastline is strongly influenced by its geology, and the impact of various Ice Ages that happened in the past. Over time sea level change has reworked sediment into the beaches, coastal dunes and saltmarsh located along this shoreline. The Dumfries & Galloway shoreline is dynamic, which means it is always changing, meaning that coastal processes such as coastal erosion and flooding can impact people who live there.

1.2 What is a Shoreline Management Plan?

A Shoreline Management Plan (SMP) is a Plan for managing flood and erosion risk for a particular stretch of shoreline, looking at the short, medium and long term. SMPs identify the best ways to manage coastal flood and erosion risk to people and the developed, historic and natural environment. They also identify opportunities where shoreline management can work with others to make improvements. The outcome of the SMP will be management of the shoreline that achieves the best possible balance between all values and features. This document provides a non-technical summary of the findings and recommendations of the Dumfries & Galloway SMP.

This SMP sets out the plan for flood and erosion risk management for the Dumfries & Galloway coast for the next century, split into three Epochs, the short, medium and long term, corresponding broadly to time periods of 0 to 20 years, 20 to 50 years, and 50 to 100 years respectively. The policy for the medium and long term sets a vision for the future but is based on our current knowledge and understanding. Therefore, it is recommended that the SMP is reviewed every 10 years to account for changing understanding of the response of the coastline to climatic and anthropogenic change. The intent of the SMP is to set management policies, that are realistic, particularly in the short term. Implementation of SMP policies will require funding, which may be from national government, local government and / or third parties and the mention of a particular policy within the SMP does not infer that funding will be made available.

A Strategic Environmental Assessment and Habitats Regulations Assessment have been developed through a parallel and integrated process with the development of the SMP, to support decisions potentially affecting the impact of the proposed policies on the integrity of any international sites.

1.3 Background to the Shoreline Management Plan

The Solway Local Flood Risk Management Plan published by Dumfries & Galloway Council, as Lead Local Authority, included an action to develop the understanding of coastal flooding and erosion along the Dumfries & Galloway coastline. The current SMP for the coast was produced in 2005 and it hence it was recognised that a review was required to establish how to continue to manage coastal erosion and flooding in the light of improved knowledge.

1.4 Assessment of the Dumfries & Galloway coast

To facilitate assessment of the issues and risk around the Dumfries & Galloway coast and identify appropriate management policy it was split into sections. Traditionally in shoreline management planning this would involve the use of Coastal Cells, however much of the Scottish coast does not behave in the same manner as other shorelines particularly in England and Wales that use the coastal cell concept. Consequently, to address this difference in coastline behaviour, the Dumfries & Galloway coastline was divided into six Coastal Process Units (CPU) and further divided into 35 Policy Units rather than what would have been two coastal cells. The resulting coastal cells, CPUs and Policy units are listed in Table 1-1 below



Figure 1-1 Geographical Extent of the Dumfries & Galloway Shoreline Management Plan

Coastal Cell	CPU	Policy Unit	Boundary Location
7	1	1	Gretna - Browhouses
		2	Browhouses – Dornock Burn
		3	Dornock Burn - Waterfoot
		4	Waterfoot to Nethertown
		5	Nethertown to Drum Mains
		6	Glencaple to Dumfries
		7	Drum Mains to Southernness
	2	8	Southernness to Castlehill Point
		9	Castlehill Point to Dalbeattie
		10	Castlehill Point to Balcary Point
		11	Balcary Point to Torrs Point
	3	12	Torrs Point to Doon of Carsluith
		13	St Mary’s Isle to Tongland
		14	Gatehouse of Fleet
		15	Doon of Carsluith to Eggerness Point
		16	Garlieston
		17	Garlieston to Isle of Whithorn
		18	Isle of Whithorn
	4	19	Isle of Whitehorn to Barsalloch Point
		20	Barsalloch Point to Low Drumskeog (Port William)
		21	Low Drumskeog to Killfillan Point
		22	Killfillan to Sandhead
		23	Sandhead to Chapel Rossan
		24	Chapel Rossan to Drummore
		25	Drummore
26		Drummore to the Mull of Galloway	
6	5	27	Mull of Galloway to Portpatrick
		28	Portpatrick
		29	Portpatrick to Milleur Point
6d	6	30	Milleur Point to Kirkcolm
		31	Kirkcolm to McCullochs Point
		32	McCullochs Point to Innermessan (Stranraer)
		33	Innermessan to Bankhead
		34	Bankhead to Old School House Point
		35	Old School House Point to Galloway Burn

Table 1-1 List of Policy Units

Each of these sections of the shoreline, policy units, was studied and assessed using everything we know about it. This knowledge was gathered from the people who live there and know this shoreline the best as well as from the latest available scientific information. This included coastal change information provided by Dynamic Scotland and coastal flood information provided by Scottish Environmental Protection Agency (SEPA).

A combination of this information and knowledge has helped to identify the key issues associated with the coast. Issues such as coastal flooding and erosion, that cause potential damage and loss of property, facilities, assets, infrastructure, and habitats were identified for the present day and the future. This

information has helped RPS and Dumfries & Galloway Council to establish how best to sustainably manage this shoreline now and in the future.

1.5 Summary of Shoreline Management Policies

The SMP identified the extent of coastal flood and erosion risk for each area listed in Table 1-1. In addition, the location and condition of coastal defences was also established for each area, and how long these defences might last (Residual Life) was estimated. This information helped to select the appropriate management policy from those indicated in Table 1-2.

Policy	Description
Advance the Line (ATL)	The shoreline is advanced, defences are built seawards of the existing defence line or land is reclaimed for development. This policy requires active management and construction. It should be noted that setting this policy for a section of shoreline does not represent a requirement that actions must be taken to advance the defence line, rather it indicates that these actions are considered acceptable, however it is important to note that lesser actions which will hold the existing defence line or indeed allow the coastline to retreat are also acceptable.
Hold the Line (HTL)	The shoreline is proposed to be held in its contemporary position. This policy is likely to require active management and construction and may require maintenance or improvement of the standard of protection presently afforded. In addition to covering situations where the existing defence structures need to be maintained, this policy also covers those situations where work or operations are carried out in front of the existing defences (such as beach recharge, rebuilding the toe of a structure, building offshore breakwaters and so on) to improve or maintain the standard of protection provided by the existing defence line. This policy also includes other policies that involve operations to the rear of existing defences (such as building secondary floodwalls) where they form an essential part of maintaining the current coastal defence system.
Managed Realignment (MR)	This policy allows the shoreline to move backwards or forwards, with management to control or limit movement such as building new defences on the landward side of the original defences. This approach has also been termed as managed retreat and setback.
No Active Intervention (NAI)	No action is taken and natural uninterrupted coastal processes, including erosion and accretion continue.

Table 1-2 List of Management Policies

1.6 Summary of Preferred Policies (by Policy Unit)

Table 1-3 below shows the coastal management policies selected for each section of the Dumfries & Galloway shoreline, over the next 100 years. Within this table the policies are identified as follows, **ATL** - Advance the Line, **HTL** - Hold the Line, **MR** - Managed Realignment and **NAI** - No Active Intervention. Often more than one management policy has been proposed during a single epoch. Where this is the case the management policy was specified as either a combination of primary (1st row in table) and localised policies (2nd row in table) or as a primary or localised policy with an alternative (alternative policy in *italics* in either row).

Coastal Process Unit	Policy Unit	Short Term	Medium Term	Long Term	Coastal Process Unit	Policy Unit	Short Term	Medium Term	Long Term	
1	1	NAI	NAI	NAI	4	19	NAI	NAI	NAI	
		HTL/MR	MR	MR			X	X	X	
	2	MR/NAI	MR/NAI	MR/NAI		20	20	HTL	HTL	MR/HTL
		HTL	HTL/MR	HTL/MR				X	X	X
	3	NAI	NAI	NAI		21	21	NAI	NAI	NAI
		HTL	HTL/MR	HTL/MR				HTL	HTL/MR	MR
	4	NAI	NAI	NAI		22	22	NAI	NAI	NAI
		HTL	HTL/MR	HTL/MR				HTL	HTL/MR	MR
	5	NAI	NAI	NAI		23	23	NAI	NAI	NAI
		X	MR	MR				HTL/MR	HTL/MR	MR/HTL
	6	HTL	HTL/MR	HTL/MR		24	24	HTL/MR	MR	MR
		NAI	NAI	NAI				X	X	X
	7	NAI	NAI	NAI		25	25	HTL/MR	MR	MR
		HTL	HTL/MR	MR				X	X	X
2	8	NAI	NAI	NAI	5	26	NAI	NAI	NAI	
		HTL	HTL/MR	MR			HTL	HTL/MR	MR/HTL	
	9	NAI	NAI	NAI		27	27	NAI	NAI	NAI
		HTL	HTL	HTL				HTL/MR	HTL/MR	HTL/MR
	10	NAI	NAI	NAI		28	28	HTL	MR/HTL	MR
		HTL	HTL	HTL				NAI	NAI	NAI
11	NAI	NAI	NAI	29	29	NAI	NAI	NAI		
	X	X	X			X	X	X		
3	12	NAI	NAI	NAI	6	30	NAI	NAI	NAI	
		HTL	HTL/MR	HTL/MR			HTL	HTL/MR	MR	
	13	NAI	NAI	NAI		31	31	NAI	NAI	NAI
		HTL/MR	HTL/MR	HTL/MR				HTL	MR	MR
	14	NAI	NAI	NAI		32	32	HTL	HTL/MR	HTL/MR
		HTL/MR	HTL/MR	MR				X	X	X
	15	NAI	NAI	NAI		33	33	HTL	MR	MR
		HTL	MR	MR				X	X	X
16	HTL	HTL/MR	HTL/MR	34	34	HTL/ATL	HTL/ATL	HTL/ATL		
	NAI	NAI	NAI			X	X	X		
17	NAI	NAI	NAI	35	35	NAI	NAI	NAI		
	HTL	HTL/MR	MR			X	X	X		
18	HTL	HTL/MR	HTL/MR							
	NAI	NAI	NAI							

Table 1-3 List of Preferred Policies

Typically, **Primary** policies cover the greater spatial extent of a Policy Unit or are preferred in terms of sustainability. **Secondary / Localised** policies are of localised spatial extent to address specific risks, while **Alternative** policies are identified in situations where there are uncertainties regarding the need for or sustainability of the primary or localised policy, particularly where the justification for a particular management policy may become challenging because of climate change.

1.7 Summary of Actions

Once the SMP is adopted various actions are required to put the coastal management policies into practice. Table 1-4 provides a list of the 'Actions' suggested to implement the SMP over the short (**S**), medium (**M**) and long term (**L**).

1.8 Strategic Environmental Assessment

This looked at any likely impacts on the environment arising from the implementation of the SMP and considered ways in which predicted negative effects should be further addressed at the next stage of policy development, when details of the physical shoreline management measures (e.g., if something suggested might look out of place) can be better made through further detailed studies and design to limit impacts. Where possible, the use of natural flood management and soft / green engineering methods are encouraged to reduce the negative environmental impacts of any scheme.

Monitoring of coastal change is a key aspect of sustainable shoreline management, both in terms of informing policy decisions and in establishing the effectiveness of policies and quantifying any impacts. Additionally, the SEA Directive requires that the SMP is monitored to spot at an early stage any negative effects and facilitate changes required to address these. A monitoring programme is therefore recommended, with detailed monitoring to be undertaken before, during and after construction, where and when appropriate.

1.9 Consultation and Stakeholder Engagement

Communication is key in the development and implementation of a SMP (and SEA) therefore consultation and stakeholder engagement meetings were set-up giving stakeholder and the community the opportunity to comment. During the Covid-19 pandemic, a virtual consultation room was developed, so that people could still have an opportunity to take part and a chance to agree or disagree with the preferred policies and actions suggested. During these events, information, opinions, suggestions, and feedback was collected with the overall aim of identifying ways to make the SMP the best it possibly could be and allow people to have ownership of the Plan.

1.10 Next Steps

The draft SMP and associated SEA were subject to formal consultation from June to September 2022 and has subsequently been reviewed alongside all comments received and a final SMP produced for adoption by Dumfries & Galloway Council. Once adopted the SMP will provide guidance on the management of the Dumfries & Galloway coastline for the next decade. However the SMP is a 'live' document with change encouraged to accommodate changes in planning requirements, environmental factors or improved understanding of coastal processes.

While there has been consultation and engagement throughout the preparation of the SMP to improve awareness and encourage response, further dissemination of the SMP is encouraged. This is particularly important where the recommended shoreline management approach is one of no active intervention as stakeholders, including the public, need to be made aware of any residual risk in order that they can plan accordingly.

The shoreline management planning process does not finish with the adoption of the SMP, there is a need for periodic review of the SMP and for continued oversight of the recommended policies especially in the light of climate change impacts. Responsibility for reviewing SMP policy and updating the SMP as necessary lies with the authorities involved and given the range of organisations with interest in the Dumfries & Galloway coast close co-operation will be necessary, with information being shared.



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 1-4 List of Actions