



Department for
Infrastructure

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**Strategic
Environmental Statement**
for

Northern Ireland Flood Risk
Management Plan
2021-2027

DEC 2021

Acknowledgements

This report was prepared by **RPS Group Plc** for Water and Drainage Policy Division (WDPD) of the Department for Infrastructure (Dfi).

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1 INTRODUCTION

1.1 Purpose of this Report

This Strategic Environmental Assessment (SEA) Statement has been prepared as part of the SEA for the 2nd cycle Northern Ireland Flood Risk Management Plan (NI FRMP) 2021-2027, hereafter referred to as 'the Plan'. This document provides information on the decision-making process, and further details the ways in which environmental considerations, the views of consultees, the recommendations of the SEA Environmental Report, SEA Monitoring Report, and the Habitats Regulations Assessment (HRA) carried out under Regulation 43 of The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995, as amended (the 'Habitats Regulations') have influenced, and been taken into account by, the Plan.

The SEA of the Plan has been developed on behalf of the Water and Drainage Policy Division (WDPD) of the Department for Infrastructure (DfI) Northern Ireland. The overall objectives of the Plan are:

- To inform the implementation of land use policies to prevent flooding;
- To reduce the likelihood of flooding, where possible, taking into account economic and environmental factors; and
- To raise awareness of flood risk and planning for an emergency response and recovery.

The 2nd cycle Plan takes into account the updated Northern Ireland Flood Risk Assessment (NIFRA) 2018, highlighting the flood hazards and risks from rivers, the sea and surface water, and setting out how the relevant authorities will work together with local communities to manage flood risk. The Plan focusses on the twelve Areas of Potential Significant Flood Risk (APSFR) identified in the NIFRA 2018, planning for measures to manage flood risk in those areas between 2021 and 2027.

This SEA Statement has been prepared in accordance with the European Communities Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive) and in accordance with the Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004 (S.R.280/2004) (the 'SEA Regulations').

As specified by Article 15(4) of the SEA Regulations, this SEA Statement summarises the following information:

- How environmental considerations have been integrated into the plan or programme (**Section 2**);
- How the environmental report has been taken into account (**Section 3**);
- How the opinions expressed in response to the invitations mentioned in regulation 12 have been taken into account (**Section 4**);
- How the results of any consultations entered into under regulation 13(4) have been taken into account (**Section 4**);
- The reasons for choosing the plan or programme, as adopted, in the light of the other reasonable alternatives dealt with (**Section 5**); and

- The measures that are to be taken to monitor the significant environmental effects of the implementation of the plan or programme (**Section 6**).

2 HOW ENVIRONMENTAL CONSIDERATIONS HAVE BEEN INTEGRATED INTO THE PLAN

2.1 Introduction

The SEA Regulations require that certain Plans and Programmes, prepared by statutory bodies, which are likely to have a significant impact on the environment, are subject to the SEA process. SEA legislation and guidance recommends that Plan preparation, SEA and HRA should be integrated and prepared in an iterative manner, in order to facilitate the ongoing assessment and evaluation of environmental considerations during preparation of the Plan. The SEA process is broadly comprised of the stages of screening, scoping, environmental assessment and SEA statement, as shown in **Figure 2-1**, which are given a summary description in **Table 2-1**. In this instance, the current Plan is the 2nd cycle of an existing Plan, the NI FRMPs for 2015-2021 (produced as three separate plans, corresponding to the three River Basin Districts in Northern Ireland), therefore the SEA stages for the 1st cycle Plans have been included in **Table 2-1**.

The SEA and HRA assessment processes for the 1st cycle Plans were developed and undertaken in an integrated manner with the development and assessment of the Plans. The Plans were guided by the wider environmental objectives, which were integrated with the flood risk management objectives, to ensure more sustainable flood risk management. This section presents a summary of how environmental considerations have informed the Plan preparation process during the 1st and 2nd cycle Plans.

Table 2-1 Summary Description of the Main Stages in the SEA Process

Stage	Description	Status
Screening (1 st cycle)	Determines whether SEA is required for a Plan / Programme, in consultation with the designated statutory consultees.	Screening was undertaken for the 1 st cycle Plans and determined that SEA was required.
Scoping (1 st cycle)	Determines the scope and level of assessment detail for the SEA, in consultation with the designated statutory consultees.	Scoping was undertaken for the 1 st cycle Plans to establish the relevant SEA topics and the level of detail appropriate for the ER.
Environmental Assessment (1 st cycle)	Formal and transparent assessment of the likely significant impacts on the environment arising from implementation of the Plan / Programme, including all reasonable alternatives. The output from this is an Environmental Report which must go on public display along with the draft Plan.	Environmental assessment was undertaken for the 1 st cycle Plans, and a draft Environmental Report was available for public consultation along with the draft 1 st cycle Plans in December 2014.
SEA Statement (1st cycle)	Summarises the process undertaken and identifies the manner in which environmental considerations and consultations have been integrated into the final Plan / Programme.	An SEA Statement was published alongside the final 1 st cycle Plans in December 2015.
Screening (2 nd cycle)	Determines whether SEA is required for a Plan / Programme, in consultation with the designated statutory consultees.	Screening was undertaken for the 2 nd cycle Plan in April 2020 and determined that full new SEA was not required, but that the findings and recommendations outlined in the SEA Environmental Report for the 1 st cycle Plans remained valid.

SEA Statement (2nd cycle)

Summarises the process undertaken and identifies the manner in which environmental considerations and consultations have been integrated into the final Plan / Programme.

Current Stage.

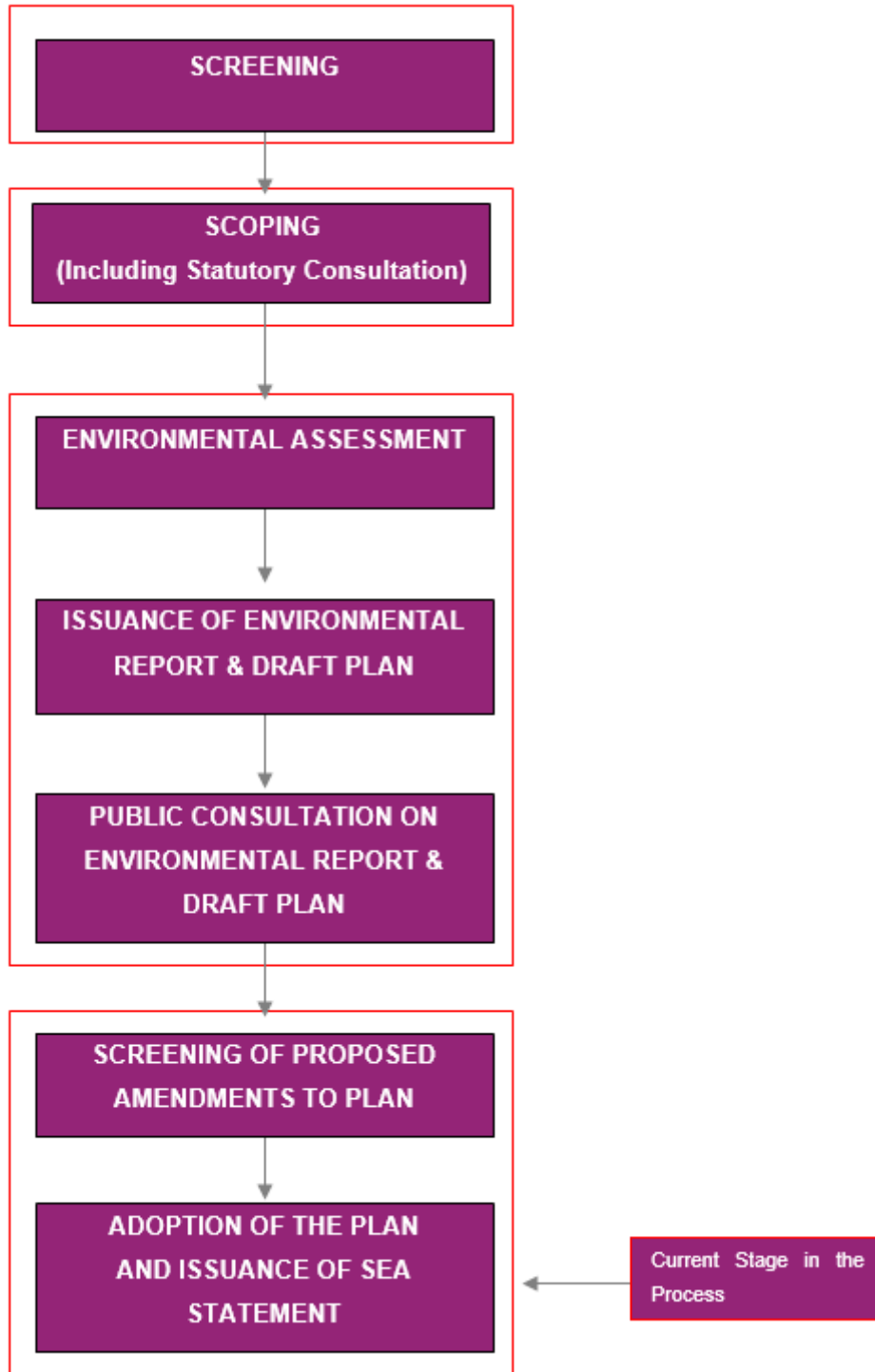


Figure 2-1 Overview of SEA Process

2.2 SEA Screening

SEA was undertaken for the 1st cycle Plans 2015-2021 in order to satisfy the requirements of the SEA regulations, and to ensure that any likely significant effects of the Plans on the environment were addressed as far as possible. It was determined that SEA was required for the 1st cycle Plans owing to the following:

- The Plans were prepared for water management related development;
- The Plans contained policies and proposals which could potentially give rise to significant environmental effects; and
- The Plans were prepared by DARD, Rivers Agency for adoption at a national level.

On behalf of DfI, RPS carried out an SEA Screening of the 2nd cycle Plan in April 2020. The only minor modification contained within the 2nd cycle Plan is the change of risk category for some of the 'at risk' areas. Larne is now included as an APSFR, and therefore measures have been proposed in the 2nd cycle Plan to manage the flood risk in this area. As this site was not included in the 1st cycle Plans, this minor modification was screened. The outcomes of the pre-screening stage for the 2nd cycle Plan were as follows:

- The Plan is subject to preparation and adoption by a national authority, DfI;
- The Plan is required under the Floods Directive, as implemented in Northern Ireland through The Water Environment (Floods Directive) Regulations (Northern Ireland) 2009' and amendments;
- The Plan is prepared for water management;
- The 2nd cycle 2021-2027 Plan is a minor modification of the 1st cycle 2015-2021 Plans, with the potential to provide a framework for development consent for projects listed in the Environmental Impact Assessment (EIA) Directive. As no additional measures are included in the 2nd cycle Plan, above and beyond those outlined in the 1st cycle Plans, the potential for the Plan modification to provide a framework for development consent for projects subject to EIA relates solely to the inclusion of Larne as a new APSFR in the updated Plan.

Environmental significance screening was undertaken in order to establish the environmental significance of this Plan modification. None of the measures proposed for the management of flood risk in APSFR have changed from those outlined in the 1st cycle Plans. These measures were all assessed nationally in the SEA Environmental Report prepared for the 1st cycle Plans, and therefore there is nothing additional to be assessed for the updated Plan. Given that the SEA Screening determined that the minor modifications proposed in the 2nd cycle Plan do not have the potential for significant effects on the environment at the Plan level, DfI concluded that no further SEA steps were required for the 2nd cycle Plan. The Plan would, however, need to consider the outcomes and recommendations of the SEA Environmental Report for the 1st cycle Plans, as these remain valid.

2.3 Integration of environmental assessment within the Plan development process

The SEA process for the 1st cycle Plans was undertaken concurrently with the production of the Plans. The Plans were strategic in nature; under the measure headings of Prevention, Preparedness and Protection, measure types included those of a generic nature (e.g. planning policy) and non-structural measures (e.g.

emergency plans, flood resilience measures), as well as those with a structural nature (e.g. defence structures, culvert upgrades, watercourse maintenance).

Potential impacts arising from the implementation of these proposed Plan measures on the SEA environmental topics were identified during the SEA for the 1st cycle Plans, and these are outlined in Section 4.4, Table 6 of the SEA Environmental Report. Through the assessment of potential impacts of these measure types, and the typical measure activities that may be undertaken to implement them, the SEA identified those activities with potential to have a significant impact on the environment. In this manner, the SEA process fed into the measure types that were included within the Plans, and identified measure types and measure activities where further assessment of impacts is necessary at the option selection stage of project level flood defence works. As outlined in the SEA screening for the 2nd cycle Plan, the measure types and activities have remained the same for the 2nd cycle, and this assessment and its recommendations remain valid, as stated in Section 7 of the Plan.

A HRA was carried out to assess the implications for European sites from implementation of the 2nd cycle Plan. This assessment identified situations where there is potential for a European site to be adversely affected, by any measure types or activities included in the Plan. This strategic level assessment outlined where there is a need for more detailed HRA, which will be integrated with the option selection process at project level, thereby ensuring that any potential adverse effects on European sites are identified, assessed and avoided, or mitigated for, at an early stage.

2.4 SEA Environmental Report

An SEA Environmental Report was completed for the 1st cycle Plan that detailed the environmental assessments undertaken on the Plan. The preparation of an Environmental Report on the likely significant effects on the environment of the Plan's implementation included consideration of:

- Baseline data relating to the current state of the environment;
- Links between the Plan and other relevant Strategies, Policies, Plans, Programmes and Environmental Protection Objectives;
- Key environmental issues in the area of the Plan;
- Alternatives available;
- The likely significant positive and negative effects of a number of reasonable alternatives on the environment;
- Measures envisaged for the prevention, reduction and mitigation of any significant adverse effects; and
- Monitoring measures to ensure that positive and negative environmental effects will be identified, allowing for appropriate remedial action to be taken if necessary.

The SEA Environmental Report identified the potential impacts from the proposed draft Plan measures on the environmental topics listed within the SEA process. This stage is outlined in more detail in **Section 3.1** of this SEA Statement.

As outlined in **Section 2.2** of this SEA Statement DfI, in consultation with the competent authority DAERA, determined that there was no requirement to undertake a new environmental assessment or prepare a new

SEA Environmental Report for the 2nd cycle Plan, as the outcomes and recommendations of the SEA Environmental Report for the 1st cycle Plan remain valid.

2.5 Consultations

Environmental factors have been taken into account throughout the development of the Plan and the supporting environmental assessments. The SEA Screening Report and draft HRA report for the 2nd cycle Plan were sent to the Department of Agriculture, Environment and Rural Affairs (DAERA), as the statutory consultee in Northern Ireland, and to the following statutory and non-statutory consultees in the Republic of Ireland, in June 2020:

- Environmental Protection Agency (EPA)
- Department of Housing, Planning and Local Government (Department of Housing, Local Government and Heritage (DHLGH) since September 2020)
- Department of Agriculture, Food and the Marine (DAFM)
- Department of Communications, Climate Action and Environment (Department of the Environment, Climate and Communications (DECC) since September 2020)
- Department of Culture, Heritage and the Gaeltacht (Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (DTCAGSM) since September 2020)
- Office of Public Works (OPW)

DAERA responded to the screening and, having considered the 2nd cycle SEA Screening and Monitoring Reports, were satisfied that DfI had identified, assessed and proposed mitigation measures for any potential environment impacts associated with the implementation of the 2nd cycle Plan, and that there was no further requirement to complete a full SEA. They provided recommendations on additions to strengthen the SEA Screening and Monitoring Reports, and these were taken on board in the draft reports.

Responses were received from the OPW, the Department of Housing, Planning and Local Government, and the EPA during the statutory consultation period; these consultees did not disagree with DfI's decision making.

Public consultation on the draft Plan, SEA Environmental Report for the 1st cycle Plans, SEA Screening Report, SEA Monitoring Report and HRA Report for the 2nd cycle Plan commenced in December 2020 and ran for 6 months. The draft Plan, and associate environmental reports were available digitally via the DfI consultation website – <https://www.infrastructure-ni.gov.uk/consultations/consultation-draft-flood-risk-management-plan-2021-2027-second-cycle>. All responses received during this consultation phase, and any subsequent action taken, are summarised in **Section 4**, and in Annex B of the Public Consultation Report.

2.6 Habitats Regulations Assessment

In addition to the SEA process, and in accordance with The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995, as amended (the 'Habitats Regulations'), the potential for the Plan to impact negatively on European designated sites, including Special Protection Areas (SPAs), Special Areas of

Conservation (SACs) and Ramsar sites, was assessed. Regulation 43 of the Habitats Regulations requires that:

“A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which is likely to have a significant effect on a European site in Northern Ireland (either alone or in combination with other plans or projects), and is not directly connected with or necessary to the management of the site, shall make an appropriate assessment of the implications for the site in view of that site’s conservation objectives”.

A Habitats Regulations Assessment of the 1st cycle Plan was undertaken in parallel with the SEA process, and the HRA outcomes guided development of the alternatives to be considered as part of the SEA process. The findings of the HRA report were integrated into the SEA Environmental Report for the 1st cycle Plan, and subsequently into the Plan.

DfI carried out a HRA screening for the updated 2nd cycle Plan and, in consultation with DAERA as the competent authority, determined that HRA should be undertaken. Although none of the measures proposed for the management of flood risk in APSFR have changed from those outlined in the 1st cycle Plan, the inclusion of Larne as a new APSFR, along with the potential for additions to the network of European sites since the 1st cycle Plan was published, advised that the HRA process should be undertaken for the 2nd cycle Plan.

2.7 SEA Statement

The main purpose of this SEA Statement is to provide information on the decision-making process for the Plan in order to illustrate how decisions were taken and used to make the development process more transparent. In doing so, the SEA Statement documents how the recommendations of the SEA Environmental Report for the 1st cycle Plan, the SEA monitoring report, and the HRA for the updated 2nd cycle Plan, as well as the views of the statutory consultees and other submissions received during consultation, have influenced the preparation of the Plan. It further provides information on the mitigation methods and processes that will be used during implementation of the Plan, and updated information on the arrangements put in place for monitoring the potential impacts from implementation of the 2nd cycle Plan. The SEA Statement is available to the public, along with the adopted Plan.

2.8 Adoption of the Plan

Following the public and statutory consultation on the draft Plan and associated environmental reports, the final Plan was then provided to the Minister for Infrastructure, for approval. The Plan was adopted on 13 December 2021. This, along with the SEA Environmental Report for the 1st cycle Plan, the SEA monitoring report and SEA Statement will be used for the purpose of informing further studies and the detailed design of the proposed options within the Plan.

3 HOW THE SEA ENVIRONMENTAL REPORT HAS BEEN TAKEN INTO ACCOUNT IN THE PLAN

3.1 Environmental assessment of the objectives and measure types of the draft Plan

At the SEA screening stage of the updated 2nd cycle Plan DfI, in consultation with DAERA as the competent authority, determined that a full SEA including preparation of a new SEA Environmental Report was not required. This was due to the fact that no measures proposed for the management of flood risk had changed from those outlined in the 1st cycle Plan; as these measures were all assessed at a strategic level in the SEA Environmental Report that was prepared for the 1st cycle Plan, there was nothing additional that required assessment. There was, however, a requirement to consider any outcomes or recommendations arising from the 1st cycle SEA Environmental Report. This Section, therefore, outlines the SEA assessment process, as undertaken for the 1st cycle Plan.

SEA defines nine environmental topics that need to be considered for inclusion within the assessment process. During the SEA scoping stage of the 1st cycle Plan, eight of these topics were scoped in as requiring assessment for the Plan, as follows:

- Biodiversity, Flora and Fauna
- Population and Human Health
- Geology and Soil
- Water
- Climatic Factors
- Material Assets
- Cultural Heritage
- Landscape & Visual Amenity

For each of these topics, the SEA for the 1st cycle Plan established at least one SEA objective; in total, ten SEA objectives were identified, as shown in **Table 3-1**. The goal of these SEA objectives was to assess and minimise any potential impacts of the Plan, and the measures and measure types contained within.

The 1st cycle Plan also had its own inherent objectives, under the required headings of **Economic Activity**, **Environmental** (including cultural heritage) and **Human Health** and social. These Plan objectives remain unchanged for the 2nd cycle Plan.

The SEA process tested, in the first instance, whether any conflict existed between the SEA objectives and the overall Plan objectives. This assessment is detailed within Appendix 1 of the SEA Environmental Report for the 1st cycle Plan. It found that there was an overall broad agreement between the two sets of objectives.

The second stage of the SEA process tested for any conflicts between the SEA objectives and the measure types proposed in the Plan, i.e. the methods through which the Plan would achieve its objectives. This

assessment is detailed within Appendix 2 of the SEA Environmental Report for the 1st cycle Plan. It found that, although there were some potential impacts from measure types (primarily measure types of a structural nature listed under the Protection heading), it was difficult to assess these definitively, as no site specific works had been identified. Therefore, the potential for impacts was based on an assessment of the generic measure type, rather than based on proposed works at a specified location.

Table 3-1 Strategic Environmental Objectives

SEA Topic	SEA Objective No.	SEA Objective
Biodiversity, Flora and Fauna	1	Protect internationally and nationally designated sites.
	2	Protect, maintain and, if possible, improve linkages between existing green spaces to allow for ecological connectivity and biodiversity.
	3	Preserve, maintain and, if possible, improve existing habitats and native species of flora and fauna.
Population and Human Health	4	Promote and enhance quality of life for communities throughout the plan area through the promotion of relevant and appropriate flood risk management options
Geology and Soil	5	Safeguard soil quality, quantity and function, including valuable soil resources such as agricultural land and carbon rich soils.
Water	6	Maintain compliance with requirements arising from the implementation of the Water Framework Directive and improve water quality where possible.
Climatic Factors	7	Manage the effects of climate change through flood risk management.
Material Assets	8	Ensure adequate protection, where possible, and sustainable use of material assets.
Cultural Heritage	9	Protect cultural heritage sites (listed buildings, maritime history, historic parks, gardens and demesnes, scheduled monuments, etc.) and, where appropriate, enhance opportunities for the public to interact with them.
Landscape	10	Protect, maintain and, where possible, enhance identified landscapes of value. Manage and maintain landscape features that contribute to the landscape characteristics of the RBDs.

3.2 Recommended mitigation

SEA mitigation measures were recommended and provided in Section 8 of the SEA Environmental Report for the 1st cycle Plan, where there was considered to be a risk of potential negative impacts from its implementation. Two forms of mitigation were identified as being required to prevent, reduce and, as fully as possible, offset, any significant adverse effects on the environment due to the implementation of measures within the Plan; suggested Plan-level actions, and EIA guidance and project-level mitigation (including HRA requirements). Specific mitigation measures by SEA topic were detailed in Appendix 3 of the SEA

Environmental Report, and summarised in Table 3 of the SEA Statement for the 1st cycle Plan, as replicated in Table 3-2 below. They are referenced in Section 7.3 of the 2nd cycle Plan, which makes the commitment that this mitigation will be fully taken into consideration and utilised, where appropriate, at the next stage of planning for the proposed schemes and projects that are progressed from the Plan.

Table 3-2 Mitigation by SEA Topic

SEA Topic	Sub Topic	Measure	Measure Type	Mitigation
Biodiversity, Flora and Fauna	Protected sites / species / habitats	Protection	Flood walls and embankments	<ul style="list-style-type: none"> • HRA/assent as required • EIA process • Liaison with DAERA/LA • Agreed maintenance regime (maintenance agreement) • Enhancement opportunities
			Culvert works	<ul style="list-style-type: none"> • HRA/assent as required • EIA process • Liaison with DAERA/LA • Agreed maintenance regime (maintenance agreement) • Enhancement opportunities • Best practice culvert design (continuity for fish, mammals and sediment)
			Enhanced channel maintenance	<ul style="list-style-type: none"> • HRA/assent as required • Liaison with DAERA/LA • Agreed maintenance regime (maintenance agreement) • Enhancement opportunities • Best practice working practice standards
			SuDS	<ul style="list-style-type: none"> • HRA/assent as required • EIA process • Liaison with DAERA/LA • Agreed maintenance regime • Enhancement opportunities
		Prevention	Development outside flood risk areas	<ul style="list-style-type: none"> • Not required
		Preparedness	Community resilience	
			Flood emergency response	
	Flood warning			
	Non-protected sites	Protection	Flood walls and embankments	<ul style="list-style-type: none"> • EIA process • Consultation with environmental bodies • Enhancement opportunities • Timing of works and work methodology • Agreed maintenance regime
			Culvert works	<ul style="list-style-type: none"> • EIA process • Consultation with environmental bodies (DAERA/LA) • Enhancement opportunities • Best practice culvert design (continuity for fish, mammals and sediment)
			Enhanced channel maintenance	<ul style="list-style-type: none"> • EIA process • Consultation with environmental bodies • Enhancement opportunities • Timing of works and work methodology • Agreed maintenance regime

			SuDS	<ul style="list-style-type: none"> EIA process Consultation with environmental bodies Enhancement opportunities Timing of works and work methodology Agreed maintenance regime
		Prevention	Development outside flood risk areas	<ul style="list-style-type: none"> Not required
		Preparedness	Community resilience	
			Flood emergency response	
			Flood warning	
		Fish	Protection	Flood walls and embankments
	Culvert works			<ul style="list-style-type: none"> EIA process Consultation with environmental bodies (DAERA/LA) Agreed maintenance regime Enhancement opportunities Best practice culvert design (continuity for fish, mammals and sediment)
	Enhanced channel maintenance			<ul style="list-style-type: none"> Liaison with DAERA/LA Agreed maintenance regime Enhancement opportunities Morphological assessment (low flow and secondary channels) Good working practice standards Timing of works
	SuDS			<ul style="list-style-type: none"> Liaison with DAERA/LA EIA process Consultation with environmental bodies Enhancement opportunities Timing of works and work methodology Agreed maintenance regime
	Prevention		Development outside flood risk areas	<ul style="list-style-type: none"> Not required
	Preparedness		Community resilience	
			Flood emergency response	
			Flood warning	
	Population and Human Health	Noise	Protection	Flood walls and embankments
Culvert works				<ul style="list-style-type: none"> Noise control measures built into work methods and timings
Enhanced channel maintenance			<ul style="list-style-type: none"> Noise control measures built into work methods and timings 	
SuDS			<ul style="list-style-type: none"> BS5228 "Noise and Vibration Control on Construction and Open Sites" Noise control measures built into contract documents and work methods 	
Prevention		Development outside flood risk areas	<ul style="list-style-type: none"> Not required 	

		Preparedness	Community resilience			
			Flood emergency response			
			Flood warning			
	Economy (incl. agriculture, recreation and tourism and commerce)	Protection		Flood walls and embankments	<ul style="list-style-type: none"> Stakeholder communication Minimise land take Agree access and timing of works Agree specific mitigation restoration and enhancement measures 	
				Culvert works		
			Enhanced channel maintenance	<ul style="list-style-type: none"> Stakeholder communication Agree access and timing of works Agree specific mitigation measures 		
			SuDS	<ul style="list-style-type: none"> Stakeholder communication Multi-benefit landuse plans Agree access and timing of works Agree specific mitigation restoration and enhancement measures 		
		Prevention		Development outside flood risk areas	<ul style="list-style-type: none"> Not required 	
		Preparedness		Community resilience		
				Flood emergency response		
				Flood warning		
		Residential	Protection		Flood walls and embankments	<ul style="list-style-type: none"> Stakeholder communication Minimise land take Agree access and timing of works Agree specific mitigation and restoration measures
					Culvert works	
	Enhanced channel maintenance			<ul style="list-style-type: none"> Stakeholder communication Agree access and timing of works 		
	SuDS			<ul style="list-style-type: none"> Stakeholder communication Multi-benefit landuse plans Agree access and timing of works Agree specific mitigation restoration and enhancement measures 		
	Prevention			Development outside flood risk areas	<ul style="list-style-type: none"> Not required 	
	Preparedness			Community resilience		
				Flood emergency response		
				Flood warning		
Soil			Protection	Flood walls and embankments	<ul style="list-style-type: none"> Adoption of good practice for soil storage and working Timing of works (weather) Instate erosion and sediment controls Restore disturbed areas 	
				Culvert works		
		Enhanced channel maintenance		<ul style="list-style-type: none"> Instate erosion and sediment controls 		
		SuDS		<ul style="list-style-type: none"> Adoption of good practice for soil storage and working Timing of works (weather) 		

				<ul style="list-style-type: none"> • Instate erosion and sediment controls • Restore disturbed areas 	
		Prevention	Development outside flood risk areas	<ul style="list-style-type: none"> • Not required 	
		Preparedness	Community resilience		
			Flood emergency response		
			Flood warning		
Water		Protection	Flood walls and embankments	<ul style="list-style-type: none"> • Adhere to all relevant Guidance for Pollution Prevention • Sediment control plans • Pollution control plans • Liaise with NIEA WMU 	
			Culvert works		
			Enhanced channel maintenance		<ul style="list-style-type: none"> • Adhere to all relevant Guidance for Pollution Prevention • Sediment control plan
			SuDS		
		Prevention	Development outside flood risk areas	<ul style="list-style-type: none"> • Not required 	
		Preparedness	Community resilience		
			Flood emergency response		
		Flood warning			
Climatic factors		Protection	Flood walls and embankments	<ul style="list-style-type: none"> • Appropriate maintenance of equipment 	
			Culvert works		
			Enhanced channel maintenance		
			SuDS		
		Prevention	Development outside flood risk areas	<ul style="list-style-type: none"> • Not required 	
		Preparedness	Community resilience		
			Flood emergency response		
		Flood warning			
Material Assets	Infrastructure and Utilities	Protection	Flood walls and embankments	<ul style="list-style-type: none"> • Liaise with operators regarding information and methods 	
			Culvert works		
			Enhanced channel maintenance		
			SuDS		

		Prevention	Development outside flood risk areas	<ul style="list-style-type: none"> • Not required 	
		Preparedness	Community resilience		
			Flood emergency response		
			Flood warning		
	Waste	Protection	Flood walls and embankments	<ul style="list-style-type: none"> • Waste management plans 	
			Culvert works		
			Enhanced channel maintenance	<ul style="list-style-type: none"> • Good standard working practice 	
			SuDS	<ul style="list-style-type: none"> • Waste management plans 	
		Prevention	Development outside flood risk areas	<ul style="list-style-type: none"> • Not required 	
		Preparedness	Community resilience		
Flood emergency response					
Flood warning					
Cultural		Protection	Flood walls and embankments	<ul style="list-style-type: none"> • Liaise with Built Heritage • Archaeological Plan 	
			Culvert works		
			Enhanced channel maintenance	<ul style="list-style-type: none"> • Liaise with Built Heritage • Good standard working practice 	
			SuDS	<ul style="list-style-type: none"> • Liaise with Built Heritage • Archaeological Plan 	
	Prevention	Development outside flood risk areas	<ul style="list-style-type: none"> • Not required 		
	Preparedness	Community resilience			
		Flood emergency response			
		Flood warning			
	Landscape		Protection	Flood walls and embankments	<ul style="list-style-type: none"> • Post works landscaping if required
				Culvert works	
Enhanced channel maintenance				<ul style="list-style-type: none"> • Good standard working practice 	
SuDS				<ul style="list-style-type: none"> • Assimilate SuDS structures into local landscape 	
Prevention		Development outside flood risk areas	<ul style="list-style-type: none"> • Not required 		
Preparedness		Community resilience			
		Flood emergency response			

			Flood warning	
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3.2.1 Project-specific mitigation through the EIA process

All projects or schemes that are proposed by DfI are subject to environmental assessment, in accordance with the Drainage (Environmental Impacts Assessment) Regulations (NI) 2006. DfI have developed a procedure and recording system in order to facilitate this process and to ensure that all of the required areas of the environment are fully addressed.

The EIA process is a robust and well tested assessment methodology, which has been refined over the years, to incorporate new legislation and trends. The design of this EIA process records the progress from initial project consideration, to preferred option selection, taking into account any environmental constraints and/or opportunities, to production of a fully assessed scheme approved by both engineering and environmental personnel. In this fashion, the process satisfies the requirements of several pieces of European Directives and national legislation (e.g. the Water Framework Directive, Floods Directive, and Habitats Directive). Potential options are considered at an early stage in the development of projects; for flood alleviation schemes, options for consideration can include measures away from the site of flood impact.

There are four stages to the EIA process, as follows:

Stage 1: Instigation of the scheme – This is undertaken at the stage of a pre-feasibility study. At this stage, environmental constraints, such as designated sites, fisheries interests, archaeological interests, priority habitats, etc. are identified.

Stage 2: Consideration of options - This should include measures away from the site of impact. At this stage, potential benefits to other Directives and strategies such as WFD, Biodiversity Strategy, Fisheries plans, etc. are identified. The outcome of this stage is a preferred option.

Stage 3: Characteristics of the preferred option - This focuses on the work size and location, and the work processes and methods.

Stage 4: Site-specific environmental assessment - This is field based assessment, to fine tune the important aspects of the site, in light of the information produced in the earlier stages. This identifies the characteristics of any potential impact of the preferred option to a range of areas including:

- Human beings
- Flora
- Fauna
- Soil
- Water
- Air
- Climate
- Landscape

- Biodiversity (genetics, species and ecosystems)
- Interaction between any of the foregoing
- Material assets
- Cultural Heritage.

As part of this stage, the following are required to be assessed: the extent of the potential impact (including temporary or permanent nature), the probability of the impact occurring, and the duration of the potential impact; the potential for both direct and indirect impacts are considered. Mitigation measures are also proposed at this stage, in order to negate or reduce any potential impacts identified.

Throughout this EIA process, DfI is also committed to consult with a range of statutory consultees, including both governmental and non-governmental environmental groups of relevance. Depending on the location or nature of the proposed scheme, additional consultees may also be identified. The need for pre and/or post development monitoring is also considered during the process, and any potential for enhancement opportunities are identified linking, where possible, with the objectives of other relevant Directives or Plans.

3.2.2 HRA mitigation

The HRA process was undertaken for the 2nd cycle Plan, including production of a HRA report. In addition to the SEA mitigation outlined above, the HRA report identified measures to mitigate against adverse effects on the integrity of European sites. Where a likely significant adverse effect has been identified (or cannot be discounted) during the Plan level HRA, mitigation measures can be implemented to address the adverse effect.

In developing future projects, DfI will seek to find options that avoid impacts on European sites, and flood management infrastructure that is developed through the implementation of the Plan will be subject to Constraints Studies. Through these processes, significant direct and indirect effects on European sites can be identified and avoided, where possible. Any future projects developed as a result of the Plan will be subject to examination of constraints and, where appropriate, to project level HRA. As all European sites are also ASSIs under national legislation, any proposals will have to go through the assent process, with all proposals and approaches requiring agreement from NIEA before any works can proceed. This process will act as a second line of protection for European sites, and will ensure that any approaches implemented have been agreed through consultation with NIEA as the statutory environmental consultee. The proposals will also have to undergo assessment through the Drainage (Environmental Impact Assessment) Regulations (Northern Ireland) 2006, which will assess any potential impact on European sites, along with a number of other criteria.

Assessment of potential impacts for a project, where the design details are known and where the location of infrastructure has been confirmed through constraints studies and the site selection process, will allow for accurate prediction of effects on European sites, their protected species and habitats. Project level HRA, where required, will include timely consultation with relevant planning and environmental authorities. Should any case arise, whereby protected species or habitats within the Republic of Ireland have potential to be adversely affected by the implementation of projects arising from the Plan, there should be consultation with the National Parks and Wildlife Service (NPWS) of the DHLGH. Avoidance of European sites will always be a key

consideration in future flood protection projects. HRA screening / full HRA will be carried out on all relevant projects and, where impacts are identified that may prevent achieving conservation objectives for the features of any given European site, mitigation measures will be proposed to ensure that does not happen. This will be informed by detailed ecological survey and assessment, so that sensitive receptors are avoided.

Consideration will also be given to the planning and timing of any construction works. Flood protection works on adjoining reaches of rivers should not be scheduled to occur simultaneously with each other, or with other parallel projects.

The following measures will be incorporated into future project specific HRAs and Ecological Impact Assessments (EclAs) / Environmental Impact Assessments (EIAs), where appropriate, as referenced within Section 7.3 of the Plan. This list of mitigation measures is not designed to be exhaustive and shall be supplemented by project and site-specific mitigation developed by project level HRA and EclA.

3.2.2.1 Habitat Loss

Direct habitat loss within European sites will be avoided for new-build infrastructure and avoided where reasonably practicable for refurbishment of infrastructure within European sites.

Where construction occurs within a designated site, sensitive construction techniques will be used to minimise the potential impact, such as the use of bog mats for machinery access.

Ecological monitoring will be undertaken at sensitive sites during construction, as appropriate. Such sites will be identified on a case by case basis.

Restricted working areas will be imposed to ensure minimal disturbance to sensitive habitats.

Re-distribute vegetation and soil stripped from the construction areas to provide a seedbank and do not re-seed with Perennial Ryegrass.

Land within the working area will be reinstated to its former condition or as near as is reasonably practicable.

3.2.2.2 Water Quality

In all cases where works have the potential to impact on protected surface water or riparian habitats within or upstream of a European site, measures must be put in place to manage and minimise the risk of escape of elevated levels of suspended solids or polluting substances into watercourses.

Develop, implement and enforce an Erosion and Sedimentation Control Plan (ESCP) where risks are identified to downstream European sites.

The ESCP must include sufficient pollution control measures to prevent run-off, silt, hydrocarbons or any other harmful substances or substrates from entering any surrounding surface waters.

Storage facilities would contain and prevent the release of fuels, oils and chemicals associated with plant, refuelling and construction equipment into the environment.

All protective coatings used would be suitable for use in the aquatic environment and used in accordance with best environmental practice.

Develop, implement and enforce a Water Pollution Prevention and Environmental Emergency Response Plan for all work sites. This should include good site practices as described in NIEA Pollution Prevention Guidance and applicable CIRIA Technical Guidance (CIRIA, 2001; CIRIA, 2006)¹ including methods and procedures to deal with any spills and the timely reporting of incidents.

- Silty water will be collected in settlement ponds prior to discharge to watercourses.
- All works involving open cut crossings shall be carried out during the period May to September to avoid interruption of salmonid spawning runs, spawning, incubation of eggs and the early developmental stages.
- Where appropriate and practical, bank vegetation and bed material which has been removed shall be stored to facilitate its replacement when channel works in the vicinity of a watercourse have been completed.
- Works in the vicinity of a watercourse shall be carried out with reference to a water quality protection or surface water management plan for each site which shall ensure that:
 - All necessary measures shall be taken to minimise the generation and release of sediments into all watercourses.
 - Levels of suspended solids in watercourses shall be monitored during the works.
 - Precautions shall be put in place to avoid spillages of diesel, oil or other polluting substances.

3.2.2.3 Disturbance and Displacement

Birds

Site clearance involving the cutting or destruction of vegetation and hedgerows shall not take place in the bird breeding season between March 1st and August 31st inclusive.

Mitigation measures to reduce disturbance effects on Sites of Community Importance (SCI) bird species may include but not be limited to:

- Timing of works (e.g. avoiding works in the vicinity of SPAs with over wintering birds between the months of November and March inclusive).
- Avoid working simultaneously with other projects which could also cause disturbance.
- Screening of works to reduce disturbance impacts.

Marine Mammals

Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise (JNCC, 2010²), Guidance for assessing the significance of noise disturbance against Conservation

¹ <https://www.ciria.org/>

² <https://hub.jncc.gov.uk/assets/31662b6a-19ed-4918-9fab-8fbcff752046>

Objectives of harbour porpoise SACs (England, Wales & Northern Ireland) (jncc.gov.uk), and appropriate legislation (i.e. The Habitats Regulations (as amended) and Wildlife (NI) Order 1985 (as amended)) will be followed for any marine based activities arising from implementation of the Plan.

Otter

Best practice protocols and Standard Operating Procedures (SOPs), including otter SOPs, should be strictly adhered to during any construction and maintenance works in order to minimise physical disturbance.

In-channel working should be avoided, unless essential.

No in-channel or bankside works to be conducted within 50m of a known or potential otter holt / resting site.

4 HOW CONSULTATIONS HAVE BEEN TAKEN INTO ACCOUNT IN THE PLAN

4.1 Introduction

Throughout the development of the Plan, consultation has been undertaken at key points in the process. Consultation regarding the SEA Screening report has been discussed in **Section 2** of this SEA Statement. The SEA Regulations require the SEA Statement to summarise how consultations under Article 12 and Article 13(4) have been taken into account in the Plan. This Section summarises key points regarding these consultations, and how they were addressed during the SEA process and preparation of the final Plan.

4.2 Public Consultation on the proposed Plan and associated environmental reports

Article 12 of the Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004, requires that environmental authorities and the public must be given an opportunity to make submission on a draft Plan and accompanying SEA Environmental Report prior to any final decision regarding the Plan.

DfI engaged in Public Consultation on the proposed Plan, including the SEA Environmental Report for the 1st cycle Plans, and SEA Screening Report, SEA Monitoring Report and HRA Report for the 2nd cycle Plan, over a six month period from 22nd December 2020 until 25th June 2021. Public Consultation comprised the following:

- Details of the Consultation was directly emailed to over 260 consultees, including Section 75 groups, MPs, MLAs, government departments and consultees identified in the legislation. Other stakeholders internal and external to government, including flood affected communities, were also included. See **Appendix A** for full details;
- A Press Release was issued on 22nd December 2020 to mark the start of the Consultation period and advertisements were placed in a range of National newspapers;
- Information was made available on the DfI website, and social media updates were issued via Twitter, throughout the Consultation period. Consultees were invited to respond to the Consultation, on a Consultation Response Form (CRF), by email to floods.directive@infrastructureni.gov.uk or to submit responses by post. The consultation and related SEA and HRA reports remain available on the DfI website.

A total of 22 responses were received in relation to the Public Consultation, and electronic copies of these are held on an internal database by DfI. Five of the responses consisted of; two acknowledgements; two requests for hardcopies; and one individual made comments which were not directly related to this Consultation, and this was forward to DfI Rivers to be addressed. This left 17 substantive responses from representative bodies, local government and industry, as follows:

- Lagan Branch Inland Waterways Association of Ireland (IWAI);
- Fermanagh and Omagh District Council (FODC);

- Mid and East Antrim Borough Council (MEABC);
- Watertight International;
- Belfast City Council (BCC);
- Sinn Fein;
- British Red Cross (BRC);
- NI Water;
- Institution of Civil Engineers (ICE);
- Royal Society for the Protection of Birds (RSPB);
- Consumer Council;
- Climate NI;
- Loughs Agency;
- Department of Agriculture, Food and the Marine (DAFM), RoI;
- Environmental Protection Agency (EPA), RoI;
- DAERA Strategic Environmental Assessment Team NI (including responses from the Natural Environment Division (NED), Protected Landscape Team, Marine and Fisheries Division Team, Marine Plan Team, Inland Fisheries and the Historic Environment Division (HED) of the Department for Communities (DfC); and
- Department of Housing, Local Government and Heritage (DHLGH), RoI;

4.3 Consultation regarding transboundary environmental effects

Article 13 of the SEA Regulations require that, where a Member State considers that implementation of a Plan is likely to have significant effects on the environment within another Member State, or where another Member State likely to be significantly affected so requests, the Member State in whose territory the Plan is being prepared must, prior to Plan adoption, forward a copy of the draft Plan and Environmental Report to the other Member State, who may indicate whether they wish to enter into consultation regarding the likely transboundary environmental effects of implementing the Plan.

The SEA Screening report for the 2nd cycle Plan concluded that there was no requirement for DfI to undertake a full SEA for the 2nd cycle of the Plan. The draft Plan, along with this SEA Screening Report, SEA Monitoring Report and SEA Environmental Report for the 1st cycle Plans were sent to the statutory transboundary consultees in the Republic of Ireland in June 2020, as outlined in **Section 2.5** of this SEA Statement.

A response was received from the DHPLG during the statutory consultation period; this consultee agreed that the decision by DfI to screen out the further assessment of potential transboundary impacts was reasonable. The EPA also responded during this consultation period however, as the header incorrectly referenced a different Plan, it was not seen at this time and therefore not taken into account prior to the Public Consultation stage. However, recommendations provided within this response, as well as those received from the EPA

during the Public Consultation stage have been fully considered. Additional responses were received from transboundary consultees during the Public Consultation stage, and these have been taken into account, as further described in **Section 4.4** of this Statement.

4.4 How consultation feedback has influenced the final Plan

All submissions relating to the proposed Plan and associated environmental reports received during the Public Consultation period have been addressed as comprehensively as possible. DfI have presented the Public Consultation findings in a Public Consultation Report, prepared in November 2021. This report summarises the Public Consultation responses received, providing a broad synopsis of the key issues raised by respondents.

The public consultation asked 10 specific questions, as follows:

Draft Flood Risk Management Plan 2021-2027

1. Do you agree that, using the methodology noted, the draft Plan highlight the most significant flood risk areas in each of the three River Basin Districts? If not, please give your reasons below. Please add any additional comments you may wish to make about the methodology.
2. Do you understand and agree with the objectives as described in the draft Plan? If not, please give your reasons. Please add any additional comments you may wish to make about the objectives.
3. Do you agree that there is the right balance between the social, economic and environmental objectives? If not, what could be done to redress the balance? Please give your views below.
4. Do you agree with the proposed measures identified for each of the Areas of Potential Significant Flood Risk (APSFRR)? If not, what would you change and why? Please give your views below.
5. What measures do you think should be given the highest priority to manage the flood risk in your area? Please explain what they are and why they should be given a high priority.
6. Do you see any ways that you or your community can support and contribute to any of the measures set out in the draft Plan to reduce the flood risk? If yes, explain what could be done.
7. Are there things you think should be done to improve the co-ordination of river basin and flood risk management planning? If yes, explain what could be done.

Strategic Environmental Assessment and Habitats Regulations Assessment

8. Do you agree with the conclusions of the environmental reports? If not, please explain why.
9. Are there any further significant environmental effects of the draft Plan which you think should be considered? If yes, please describe what they are.
10. Are there any further mitigations or opportunities that should be considered for the Plan? If yes, please explain.

Table 6.2 of the Public Consultation Report provides a summary of the responses received to each question. Not all respondents answered the 10 questions, with some preferring to make general comments, and not all respondents submitted their response on the standard CRF.

DfI comprehensively reviewed all comments received from consultees during the Public Consultation stage, including those comments relating to the environmental reports, and those comments relating to the Plan itself. A detailed summary of all comments received, and DfI's responses to same are provided in Annex B of the Public Consultation Report. Section 7 of the Public Consultation Report identifies and summarises the key issues raised by consultees in the Public Consultation responses; these key issues, and the response provided by DfI in the Public Consultation Report are outlined in **Table 4-2**.

No material amendments were made to the Plan, SEA Screening Report, SEA Monitoring Report or HRA Report on foot of comments received during the Public Consultation stage.

Minor amendments and additions have been included in the environmental reports and the Plan, and these are summarised, in turn, in the following Sections. The Public Consultation Report, along with the detailed Departmental response to each consultation comment received contained within, and the updates to the final Plan, form DfI's overall response to the Public Consultation.

Table 4-1 Key issues raised during Public Consultation and DfI response

Key Issues Raised	DfI Response
<p>All respondents agreed with the methodology used to determine the APSFR and several welcomed the inclusion of ‘surface water’ in determining flood risk. However, some comments were raised with regard to greater emphasis on Climate Change and extreme events; also the inclusion of reservoirs inundation mapping in the FRMP. One respondent queried the reason for reduction from three FRMPs in the first cycle to one FRMP for the second cycle. One other respondent raised the issue of the need to use the most up to date United Kingdom Climate Prediction (UKCP) data.</p> <p>The Department noted that respondents welcomed the additional second cycle consideration of surface water (pluvial) flooding in the identification of the APSFR and the inclusion of Measures to consider surface water flooding within the Plan. Respondents recognised that surface water has the potential to cause significant localised flood impacts and that no single government organisation has the lead responsibility for surface water management and so a collaborative approach between the various risk management agencies is required to ensure that problems relating to surface water flooding are effectively addressed.</p> <p>Several respondents raised the issue of Reservoirs and the risk they pose to public health and safety through potential breach. One suggested the inclusion of reservoir inundation mapping within the Plan. Respondents suggested that this risk should be included within the FRMP even though Reservoirs are covered by separate legislation.</p> <p>Respondents sought clarification as to why the decision was made to change from the three FRMPs in first cycle to one single FRMP in the second cycle. Several respondents raised issues regarding Climate Change suggesting a stronger emphasis in the Plan. The Department was reminded that updated UKCP18 Climate Projections are available. Detailed responses to these queries are provided in Annex B of the Public Consultation Report.</p>	<p>Based on the responses received, the unanimous consensus is that the methodology used by the Department to determine the APSFR is appropriate. However the Department acknowledges that there are some issues to be addressed within the final FRMP and that Climate Change and its effects on flooding are major challenges faced by us all. The transition to updated UKCP information has been included as a Measure within the Plan.</p> <p>The Department does not intend to include Reservoir flood risk within the Plan because it is covered by other legislation but there are links to reservoir inundation mapping included for information purposes.</p> <p>The second cycle Plan differs from the first cycle Plans in that we now have a single Plan covering the three River Basin Districts (RBDs). The move to a single plan simply removes duplication and consolidates information on the three RBDs in the one document, without any reduction in the quality or level of detail. The production of a single FRMP also mirrors the approach taken by DAERA for the River Basin Management Planning.</p>

Not all respondents addressed this question but of those that did, the majority agreed with the objectives detailed under the headings of Prevention, Protection and Preparedness for the FRMP, some stating they were clear and concise.

Several welcomed the inclusion of Climate Change in the objectives while others suggested that the Climate Change objective be worded more strongly or Climate Change is incorporated into other objectives;

Natural Flood Management (NFM) was raised throughout the Consultation responses and most respondents were pleased to see these practices mentioned within the objectives. It was suggested that all areas would benefit from a 'Living With Water' approach which incorporates sustainable drainage solutions such as NFM; blue/green infrastructure etc.

All Respondents supported the environmental aspects of the objectives and emphasised the close and indeed legislative relationship between the Floods Directive and the Water Framework Directive (WFD).

A few respondents considered that the objectives could be 'SMARTer' and there should be clear links between measures and objectives with greater inclusion of targets and indicators.

Generally, the consensus is that respondents believe the objectives for the FRMP are appropriate and their priority is satisfactory. It was evident though that certain respondents had particular leanings towards objectives pertaining to their specific areas of expertise. Following up on comments received, the Department has reviewed the objectives but as they all carry an equal priority no changes are intended to be made in this regard.

However, the Department has amended the wording of objective 8 regarding Climate Change, as raised in the Consultation and will add additional information on the linkage between the objectives and measures.

The Department has tried to include targets or indicators for measures proposed in the FRMP. However, it is not always possible to set targets especially when the Plan relates to a six year cycle and completion of measures may be dependent on annual budgeting. Also some measures relate to non-capital programmes e.g. community resilience. At this stage in Plan preparation these may be difficult to programme within the six year cycle and the extent of the work involved may also be unclear. This is also true of drainage maintenance programmes which are included as flood risk management measures and for which required work and allocation of resources may not be predictable at the Plan preparation stage.

The majority of respondents agreed that the balance between social, economic and environmental objectives was appropriate and comments were generally positive;

A request was raised for the Department to review the relationship of funding between Prevention, Protection and Preparedness measures. This particular request was aimed towards greater funding for Preparedness.

The effect of flooding on the Socially Vulnerable, the risk to life and the mental well-being of those affected by flooding were considered by a number of respondents to be of significant importance. Those respondents felt that vulnerability should receive greater cognisance in the Plan process.

Others believed the balance of objectives should be re-prioritised to illustrate how the climate and environment objectives underpin both the human health and economic objectives.

With regard to the measures identified for each of the APSFR, respondents offered conflicting opinions. A greater number of respondents agreed with the proposed measures but suggested caveats while other respondents did not agree with the proposed measures or suggested measures could be more ambitious in some areas.

The Department has considered all of the respondents' comments regarding the balance between social, economic and environmental objectives. The majority of respondents believed the FRMP contained the correct balance between the social, economic and environmental objectives. Some believed that priority should be given to climate and environmental objectives, however, the Department concludes that no changes in the balance of the objectives should be made as a result of the responses to this Question. All suggestions are individually addressed, as shown in Annex B of the Public Consultation Report.

Overall the majority of respondents were content with the measures planned for the APSFR with a few amendments, and with additional detail on the linkage between the measures and objectives. The desire for greater uptake of NFM measures was also apparent. The Department has considered all the comments and replied accordingly, as shown in Annex B of the Public Consultation Report.

Several respondents agreed with the Enhanced Drainage Area Plan (DAPs) measure proposed for each APSFR but suggested that the timescale for the Enhanced DAPs should be brought forward or made more APSFR specific. Councils in particular wanted this measure to proceed urgently for APSFR within their own jurisdictions.

Respondents suggested the introduction of a measure on "Flooding Education". This could include awareness and education of people of all ages (including children) in relation to sources of flooding, the hazards from flood water, how certain actions can cause or exacerbate flooding in their area or in other areas e.g. urban development, paving gardens, dumping in watercourses etc.

Other respondents considered the need for better linkage in each area to show how the measures relate to the overall Objectives and what relevant indicators would be for success. Others suggested measures could go further with regard to biodiversity, Climate goals and adopting NFM.

One respondent believed that Prevention measures of Enhanced DAPs and Planning Policy and Local Development Plans (LDP) are insufficient and suggested promoting much more explicit targets to incentivise NFM.

Most respondents were positive in their reply to this question and the general consensus received was that the measures under the headings Prevention, Protection and Preparedness were all equally important.

Mid and East Antrim Borough Council raised concern that there were no specific Protection or Preparedness measures for Larne APSFR, and no Preparedness measures for Carrickfergus APSFR.

Prevention of New Development within Flood Risk Areas was strongly supported by many respondents and the notion that Property Flood Resilience (PFR) should be prioritised along with the existing measures was also suggested.

Respondents agreed that Protection measures could be multiple problem solvers mitigating flood risk while contributing towards other objectives of the FRMP and other wider plans.

The importance and greater emphasis on a Sustainable Urban Drainage System (SuDS) Policy was brought up by several respondents referring to; making SuDS compulsory in new developments and the issues of the maintenance, ownership and public liability of SuDS.

The great majority of respondents who replied using the CRF answered a very positive 'yes' to this question. All respondents were very keen to provide assistance in the delivery of the FRMP and its measures. Several agreed to continue to support the management of flood risk through membership of the Preparedness Groups in their areas. At least two organisations offered their services and expertise to sit on resilience groups or in delivering schemes on the ground. Others suggested that while close

The Department acknowledges respondents' feedback that the measures covered under the titles Prevention, Protection and Preparedness all have an equal priority in the management of Flood Risk. All of the comments are addressed in Annex B of the Public Consultation Report.

Regarding Mid and East Antrim's concerns about measures for Larne and Carrickfergus:-

- in Carrickfergus a community engagement process has commenced with the residents of Rhanbuoy Park supported by RCRG members including the Council.
- in Larne there are currently no communities requiring assistance to develop their preparedness for flooding. Also in Larne there is currently no major fluvial flooding requiring a protection scheme in that APSFR; the main risk relates to surface water flooding which is supported by the measure of an Enhanced DAP for Larne.

The Department acknowledges the valuable contributions that Councils and other organisations have made to the RCRG and affected communities and their assistance in Emergency Coordination and Recovery. The Department also acknowledges and is grateful for the offers of partnering and assistance in managing flooding from respondents, including RSPB and the Institution of Civil Engineers (ICE) in particular.

working relationships already exist, there are areas where they perceive further co-ordination and support could be achieved. Several respondents have worked within the Regional Community Resilience Group (RCRG) since its inception, facilitating and supporting local Community Resilience Groups and would continue to do so.

The Royal Society for the Protection of Birds (RSPB) would be prepared to engage with measures across a range of sites and scales and welcomed the opportunity to engage with measures to address issues directly affecting RSPB managed sites.

Climate NI also offered access to its Climate Emergency Training.

Most Respondents using the CRF answered 'yes' to this question indicating that they believe more could be done to improve co-ordination of River Basin Management Plan (RBMP) and FRMP. Respondents suggested greater co-ordination with neighbouring Member States on shared RBD; new innovative approaches; introducing a new Infrastructure Advisory body; and upscaling nature based solutions.

Most Respondents agree about a need for a holistic, strategic, and collaborative approach for the water environment and also suggest that there needs to be a rapid upscaling in the use of nature based solutions to help address challenges to the water environment. Improving the management of water flow in urban areas will require blue/green infrastructure and measures such as SuDS and that in periods of heavy rain, green spaces in urban areas should be used to hold water on a temporary basis to help prevent flooding of homes and businesses. This is in keeping with the Living With Water Programme (LWWP). NI Water has been advancing, with partners and stakeholders, new and innovative approaches, like the LWWP, to address the growing demands placed on our drainage systems and welcomes the extension of the LWWP to the Derry catchment area.

Respondents suggest that RBMPs and FRMPs should be screened for objectives, measures and planning procedures for possible overlaps and conflicts.

Of the Organisations that replied to the Consultation that were not Environmental Specialists, only nine addressed this question and there were conflicting views.

Two of the Respondents agreed with the conclusions of the Environmental Reports but suggested greater progress could be made to improve the Environment by the use of NFM measures. It was noted by others that the SEA (Strategic Environmental Assessment) is strategic and that all reports concluded that there has been no wider negative impact on the environment and that some positive localised environmental impacts have been observed. Others suggested that the legislative reporting cycle of every six years was too infrequent in relation to reporting progress on the achievement of measures and objectives.

One Respondent on the other hand did not agree with the Environmental Reports and questioned the Department's justifications for not conducting a full second cycle SEA.

The Department encourages close co-operation between the FRMP and the RBMP with delegates from the DAERA RBMP team involved as members of the Floods Directive Technical Stakeholders Group (FDTSG). This should avoid any overlaps, conflicts or duplication of work. The Department also accepts that Natural Flood Risk Management, SuDS and Blue / Green measures have a greater role to play in Flood Risk Management and this has been encapsulated within the LWWP and its Living With Water in Belfast Plan.

In relation to Floods Directive implementation, DfI has a close working relationship with the Office of Public Works in the Republic of Ireland; this indeed precedes the Directive. For the purposes of the Directive second cycle, three joint groups are active at different levels to inform, cooperate and coordinate Flood Risk Management activities in both jurisdictions. DfI is a member of a range of Flood Risk Management groups within the UK covering issues e.g. allowances for Climate Change, Flood Risk Assessment, Coastal Flood Risk, hydrological information etc. This interaction, sharing of information and cooperation is not necessarily evident to stakeholders but it simply forms part of routine business for the Department.

The Department has engaged with the appropriate Environmental consultees in both Northern Ireland and the Republic of Ireland at SEA scoping stage and again during this Consultation process. The Department acknowledges that there are minor adjustments required to the SEA and HRA (Habitats Regulations Assessment) to address the points that have been raised, and revised versions of these documents will be published with the final Plan.

Many environmental aspects of measures will be addressed at a project level as and when measures such as flood alleviation schemes have greater certainty of programming and implementation. This is when detailed environmental scoping and assessment is carried out and when opportunities for environmental enhancement and mitigation are considered / developed for potential implementation when the measures are undertaken.

They suggest that the FRMP requires further scrutiny to make it more ambitious and impactful to deliver the change our rivers clearly need with the plans resulting in significant positive environmental effect.

Another suggested a need to address 'Priority Species' lists and raised the issue that flooding could potentially allow freshwater species to move to/ invade areas where they are not currently present which could impact on native species.

Of the Organisations that replied to the Consultation that were not Environmental Specialists, only nine addressed this question and most agreed that there were further environmental effects of the draft Plan to be considered, although there was no consensus on the significant environmental effects suggested.

An emphasis on NFM measures was suggested and acceleration of NFM schemes encouraged.

One respondent suggested the SEA should be updated to reflect the significant positive environmental effects planned as a result of the second cycle FRMP in relation to environment and cultural heritage objectives.

It was also suggested that the interactions between Flooding and the UK target for 'Net Zero' Emissions needs to be considered. Actions should be taken within the Plan to improve uptake of NFM measures with the view to reducing the Green House Gas (GHG) emissions for Northern Ireland (NI) as a contribution towards the 'Net Zero' target.

Of the Organisations that replied to the Consultation that were not Environmental Specialists, nine addressed this question with two believing there were no further mitigations/opportunities to be considered for the Plan and seven believing that there were.

One of the main suggestions from respondents was for DfI to consider local and wider sustainability aspects of all schemes at the core of decision making and once again suggested that greater progress could be made on the use of NFM techniques.

Others in a similar vein suggested a comprehensive 'toolkit' of measures to prepare for floods should be used to achieve effective landscape management including:-

- looking after soil;
- using uplands to catch and retain water;
- diverting flood water onto fields upstream of settlements; and
- installing "leaky dams" to slow the flow of water towards urban areas.

One respondent raised the issue that there were no detailed estimates of the loss of coastal habitats in NI and the threat to the same from rising sea levels as an impact of Climate Change.

The Department, as previously stated, accepts that minor adjustments to the SEA are required. The Department considers as laudable the desire to reduce the GHG emissions and increase carbon storage as we work toward 'Net Zero' emissions. Within the remit of this Plan it will endeavour to seek opportunities for the development of Nature Based Solutions / NFM within Flood Alleviation Schemes and other measures.

With regard to NFM Measures, the Department will endeavour to address this by analysing the possibility of Nature Based Solutions / NFM being used appropriately within Flood Alleviation Schemes.

Where assistance in preserving any Coastal Habitats can be facilitated by this Plan, this shall be encouraged. While it is recognised that Coastal Erosion Risk Management is only in its infancy in NI in comparison with the rest of the UK, Coastal Management issues are now being progressed jointly by DfI and DAERA, through the NI Coastal Forum.

Finally one respondent requested that the FRMP information be communicated through an information pack.

4.4.1 Amendments to the Environmental Reports as a result of Public Consultation

Issues raised regarding the environmental reports during Public Consultation are summarised in **Table 4-2**.

Table 4-2 Issues raised regarding the environmental reports during Public Consultation

Consultee		Issue raised
DAERA	Natural Environment Division	<ul style="list-style-type: none"> Amendment of references to Natura 2000 sites following the UK's exit from the EU. Minor amendments to the environmental reports.
	Protected Landscape Team	<ul style="list-style-type: none"> Minor amendments to the SEA Monitoring Report.
	Marine and Fisheries Division Team	<ul style="list-style-type: none"> More reference to the Marine Strategy. Amendment of references to Natura 2000 sites following the UK's exit from the EU. Minor amendments to the environmental reports Monitoring of coastal change with climate change and the need for a Shoreline Management Plan
	Marine Plan Team	<ul style="list-style-type: none"> SEA assessment of likely effects on marine aspects including achievement of Good Environmental Status (GES) under the Marine Strategy. Inclusion of SEA monitoring of GES.
	Inland Fisheries	<ul style="list-style-type: none"> Appropriate protection of priority species and habitats, not just protected species and habitats. Minor amendments to the environmental reports.
DfC	Historic Environment Division	<ul style="list-style-type: none"> Further consideration of cultural heritage within the SEA Monitoring Report. Minor amendments to the environmental reports.
DHLGH		<ul style="list-style-type: none"> New status of nature conservation areas previously Natura 2000 within NI is not reflected in the SEA Environmental Report, and the need for cognisance of ROI legislation. Scope of consideration given to trans-boundary effects and cross border impacts in the ROI should be given more consideration.
EPA		<ul style="list-style-type: none"> Useful to consider the relationship with more recent national level plans, programmes, policy and legislation established since the last iteration of the SEA Environmental Report. Suggest that the Plan consider more recent relevant environmental baseline information.
BRC		<ul style="list-style-type: none"> Suggest a comprehensive 'toolkit' of measures to prepare for floods should be used to achieve effective landscape management. Suggest that landuse planning should be made more holistic and integrated. Need for better management of community expectations and public understanding of flood risk and responsibilities. Continuous building in high risk flood zones. Suggest to establish a 'standard' for flood response planning, and that all Multi-Agency Flood Plans should address and cover the same basic principles of flood planning.
ICE		<ul style="list-style-type: none"> Note that little progress appears to be being made on Natural Flood Management (NFM) and blue/green infrastructure, and encourage DfI to accelerate these considerations within the current Plan period. Inclusion of an 'enhancement' section within the HRA Report.
RSPB		<ul style="list-style-type: none"> Consideration of the need for updated HRA and SEA for the 2nd cycle Plan. The SEA should be updated to reflect the significant positive environmental effects planned as a result of the 2nd cycle FRMPs. Consideration of assessment of the future loss of coastal habitats.
Climate NI		<ul style="list-style-type: none"> Minor amendments and additions to the environmental reports. Consideration of 'vulnerability' of people at risk from flooding in the Plan and SEA.

- The interactions between Flooding and the UK target for Net Zero needs to be considered.
 - Surface water mapping and informing economic appraisals, and communication of Plan outputs.
 - Funding, the need to take ongoing research into account and mapping of population vulnerabilities.
-

The following amendments and additions have been made to the SEA Screening, SEA Monitoring and HRA Reports on foot of comments and recommendations received during public consultation:

- The SEA Monitoring, SEA Screening and HRA reports have been amended to clarify the terminology for European designated sites following the UK's exit from the EU. Reference to Natura 2000 or N2K sites has been removed, instead referring to UK National Site Network sites, or European Sites, to include consideration of Ramsar sites.
- The need for assessment of likely effects on marine aspects, including the achievement of GES under the UK Marine Strategy has been expanded upon within the SEA Monitoring Report;
- The SEA Monitoring report has been amended to reference appropriate protection of priority species and habitats, in addition to those that are protected. The updated list of priority species in Northern Ireland has been referenced in the updated baseline in the SEA Monitoring report.
- Cultural heritage aspects, available datasets and relevant guidance, as well as the potential for effects on the setting of heritage assets has been included within the SEA Monitoring Report;
- Further specific reference has been made in the SEA Monitoring Report and HRA Report to the potential for cross border trans-boundary effects of Plan implementation of protected species and habitats within the Republic of Ireland, including reference to the Republic of Ireland's relevant legislation, data sources, and the need for appropriate consultation with the Republic of Ireland's authorities;
- A new Section 3 'Baseline and Relevant Environmental Issues' has been added to the SEA Monitoring Report, providing an update of the environmental baseline information of relevance to the Plan.
- A new Section 4 'Review of relevant Plans, Programmes and Policies' has been added to the SEA Monitoring report, providing an update on the relationship of the Plan with more recent plans and programmes.
- Recommended text amendments and additions have been made to the SEA monitoring programme, as outlined in Table 6.1 of the SEA Monitoring Report.
- Additional minor text amendments and additions have been made to the environmental reports, as recommended by consultees, as detailed in Annex B of the Public Consultation Report.

Several of the responses received to Questions 8 – 10 and summarised in **Table 4-2**, related to Plan considerations and future implementation; these have not led to any changes to the environmental reports, however responses to each comment have been provided by DfI, as shown in Annex B of the Public Consultation Report.

In response to the query from RSPB as to whether the SEA and HRA should be updated for the 2nd cycle Plan, DfI have clarified the decision making process in deciding whether full SEA would be required for the 2nd cycle Plan, including the opinion of statutory consultees, and confirmed that the HRA was updated for the 2nd cycle Plan, with the HRA Report made available as part of the Public Consultation.

4.4.2 Amendments to the Plan as a result of Public Consultation

The following changes were made to the Plan on foot of comments received from consultees, and to reflect changes made to the associated environmental reports:

- Chapter 2, p.20 has been updated to reflect the publication of CCRA3 in June 2021.
- Objective 8 of the Plan, p.33, has been revised, in order to be stronger in relation to Climate Change. The revised Objective is “*To consider and prepare for the impacts of Climate Change for the main sources of flooding*”.
- Text in Chapter 5 Omagh APSFR (p.207 and 208) has been amended to clarify the timetable regarding the LDP. Timetables for LDPs have been reviewed and updated for all APSFR.
- Additional text has been added under the heading of ‘Planning’ for Belfast APSFR (p.60), Londonderry APSFR (p.83), Newry APSFR (p.104), Lurgan APSFR (p.122), Glengormley and Mallusk APSFR (p.138), Larne APSFR (p.156), Bangor APSFR (p.170), Portadown and Craigavon APSFR (p.187), Omagh APSFR (p.204), Newtownabbey APSFR (p.221), Carrickfergus APSFR (p.238), and Ballymena APSFR (p.255) to clarify that it is not the intention of DfI Rivers to oppose taking forward exceptions, as currently outlined in PPS15, into the proposed LDPs, as follows: *‘In the determination of planning applications any proposed development within a flood risk area will either be advised against or will be further considered if it meets one of the ‘Exception’ rules and is accompanied by a suitable Flood Risk/Drainage Assessment’*.
- In Chapter 5, p.206, the reference to the Omagh Community Resilience Group for the Campsie Area has been amended.
- In Chapter 5 the timescales for enhance Drainage Area Plan (DAP) work have been reviewed, and resultant target dates produced for all APSFR.
- In Chapter 5 Carrickfergus APSFR (p.239), reference to the Carrickfergus BMAP has been amended to the *‘Carrickfergus Area Plan and draft BMAP (2004)’*.
- In Chapter 5 Carrickfergus APSFR (p.241), Table 5.11-4 has been amended to reflect an additional ‘Preparedness’ measure.
- In Chapter 5 Ballymena APSFR (p.257), Section 5.12.7.3 has been amended to read as follows *‘The measure to establish community resilience groups in a number of areas of Ballymena has been partially achieved; two local areas were identified, and one has been established. A group in the Toome Road area, including Leighinmohr Avenue and Phoenix Fields, was established in 2015/16. The establishment of a further group in the Ballymoney Road area is currently being considered and will be progressed in 2021/22. Other community engagement under the RCRG programme in the vicinity of Ballymena has been undertaken in the villages of Ahoghill and Broughshane’*.

- In Chapter 5 Ballymena APSFR (p.257), reference to Plans for Ballymena has been replaced with Plans for *'the Borough'*.
- In Chapter 5 Ballymena APSFR (p.259), text relating to the Community Engagement Measure under 'Preparedness' in Table 5.12-4 has been amended to read as follows: *'The RCRG will continue to support the Community Resilience Groups at Toome Road Ballymena, Ahoghill and Broughshane and progress engagement with further local community groups, as appropriate, to increase community resilience to flooding'*.
- In Chapter 5 Belfast APSFR (p.65), 'Section 5.7.3 Preparedness', text regarding community resilience has been amended to the following: *'and although community resilience has not progressed in other areas as detailed in the first cycle FRMP, this is continually reviewed and prioritised by the RCRG. This ensures that those communities most at risk and affected by recent events are supported as appropriate'*.
- In Section 7.2 (p.270), the following text *"The Habitats Directive.....site's conservation objectives"* has been replaced with the following *"The "Habitats Regulations 1995" (The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended)) provide a framework for the legal protection of habitats and species of international importance within Northern Ireland. Regulation 43 of the Habitats Regulations require that "A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which is likely to have a significant effect on a European site in Northern Ireland (either alone or in combination with other plans or projects), and is not directly connected with or necessary to the management of the site, shall make an appropriate assessment of the implications for the site in view of that site's conservation objectives"*.
- On p.270, the five references to *"Natura 2000"* sites have been replaced with *"National Site Network"* sites; on p.271, the one reference to *"Natura 2000"* sites has been replaced with *"National Site Network"* sites.
- Table 7.1, pgs.272-274 has been amended to reflect the text amendments and additions that were made to the SEA monitoring programme, as outlined in Table 6.1 of the SEA Monitoring Report.

5 REASONS FOR CHOOSING THE PLAN IN LIGHT OF OTHER REASONABLE ALTERNATIVES

5.1 Introduction

The SEA process must include an evaluation of the likely environmental consequences of a range of alternative development scenarios. The purpose of this section is to outline the reasons for choosing the Plan, as adopted, in light of other reasonable alternatives considered.

Section 2.6 of the SEA Environmental Report for the 1st cycle Plans outlined the manner in which alternative scenarios were considered. At a strategic level, the alternative of 'no Plan' was considered and, at the Plan level, alternative scenarios within the Plans were assessed. These alternatives, and their assessment are described in this section, as well as their validity for the 2nd cycle Plan.

5.2 Consideration of 'No Plan' Scenario

The SEA Environmental Report for the 1st cycle Plans considered, as a strategic alternative to the Plans, the scenario of 'No Plan or Programme'. It concluded that this was not a viable alternative to the Plans; implementation of the Plans is central to the delivery of the Floods Directive, which requires an assessment of flood risk, currently and under potential climate change conditions, and to take measures to manage this flood risk. On that basis, this alternative was not considered any further within the Plans. The development and subsequent implementation of the updated 2nd cycle Plan continues to be vital for delivering the objectives of the Floods Directive, hence the 'No Plan' scenario remains an unviable option.

5.3 Consideration of Plan alternatives

The SEA Environmental Report for the 1st cycle Plans considered the three measures (i.e. Prevention, Protection and Preparedness), and measure types within these, to form the alternatives for the Plans; these are shown in **Table 5-1** (highlighted in red are any changes to the incorporated measure activities for the 2nd cycle Plan).

An assessment was carried out of the potential effects of the Plans and measure types on the SEA objectives focussing on potential impacts of the possible structural and non-structural management tools and activities set out in the Plans, detailed in Appendix 2 of the SEA Environmental Report. The strategic level of this assessment reflected the generic nature of measure types within the Plans. The assessment also considered the 'Do Nothing' option, i.e. continuation of the existing practices for flood risk management in the absence of an overarching management Plan. The scoring system used in the assessment was used to compare the potential positive or negative impacts on the environment of alternative measure types available in the Plan. As shown in **Table 5-1**, no new measure types have been included in the 2nd cycle Plan; therefore the strategic-level assessment of potential alternative measure types available to the Plan remains the same.

Table 5-1 Measures, Types and Activities of the Plan

Measures	Measures Types	Measures Activities
Flood Prevention	Keep new development outside Flood Risk Areas.	<ul style="list-style-type: none"> • Provide advice to planning authorities to ensure that new zonings are located outside flood risk areas. • Provide advice to planning authorities to ensure that individual applications are located outside flood risk areas. • Include appropriate consideration of Climate Change in information and advice to planning authorities. UKCP18 to be considered in 2nd cycle FRMP.
	Ensure new development within Flood Risk Areas is suitably constructed.	<ul style="list-style-type: none"> • In accordance with Planning Policy Advice aim to ensure that any development which is located “by exception” in flood risk areas is appropriately built with flood resistance/resilience measures. • All proposed development applications are accompanied by a Flood Risk Assessment or Drainage Assessment.
	Surface Water Management	<ul style="list-style-type: none"> • Promote the application of SuDS to all new developments. • Develop Enhanced Drainage Area Plans for all APSFR.
Flood Protection	Maintenance of existing drainage and flood defence networks.	<ul style="list-style-type: none"> • Continue to Inspect and maintain designated watercourse grilles, road gullies as appropriate and as funding allows. • Continue to regularly inspect the condition of all Drainage and Flood Defence Assets. • Continue to implement a prioritised programme of works for the maintenance of all Drainage Assets and Flood Defence Assets. • Continue to implement a prioritised programme of works for the maintenance of public sewers and storm drainage systems.
	New Flood Alleviation Schemes.	<ul style="list-style-type: none"> • Continue to carry out feasibility studies to identify viable solutions. • Continue to implement a prioritised programme of works of flood defence and flood alleviation schemes. • Continue to implement a prioritised programme of works of integrated surface water drainage schemes. • Continue to implement a prioritised programme of works to separate surface water systems from combined sewer systems liaising with other drainage bodies.
	Catchment based management.	<ul style="list-style-type: none"> • Work with others through partnership arrangements to progress measures that deliver multiple benefits for flood risk, climate change adaptation, water quality and biodiversity. • Initiate discussions with DAERA on how future agricultural and land support measures may include flood risk management options • Consider if there may be possible groundwater flood risk in APSFR.
Flood Preparedness	Flood emergency response	<ul style="list-style-type: none"> • Continue to engage with other responsible bodies on identifying local flooding hotspots and co-ordination of response procedures along with Blue Light responders. • Continue to prepare and engage with other responders on multi Agency flood emergency response plans to those areas at known flood risk, e.g. coastal flood response plans. • Continue to engage with local communities in those areas of known flood risk. • Continue to test emergency response plans through Multi Agency ‘Exercising’. • Continue to work with Co responders in line with Flood Emergency Response “Best Practice Guidelines”.
	Flood warning and informing suitable for NI	<ul style="list-style-type: none"> • Formal engagement with the Met Office in a ‘partnering’ approach to better inform the impact assessment of National Severe Weather Warnings for heavy rainfall.

	<ul style="list-style-type: none"> • Ensuring adequate 'Informing' in relation to flood risk through community engagement • Public dissemination of water level information. This includes the use of River level text warnings, where these are likely to be beneficial. • Review and Development.
Community engagement	<ul style="list-style-type: none"> • Continue to work with the other drainage agencies, the emergency services, local government, NIHE, Red Cross, Consumer Council, Met Office, etc., to develop and establish a consistent approach to flood warning and informing activities across Northern Ireland.
Communication of flood risk	<ul style="list-style-type: none"> • Continue to engage with communities to facilitate the informing aspect of 'Flood Warning and Information' proposals. • Continue to update and improve flood risk information on the Flood Maps (NI). • Continue to improve information on flooding on the NI Direct Website. • Continue to work with NI Direct in the development of the Flooding Incident Line (FIL). • Continue to consult with communities and stakeholders to make them aware of their roles and responsibilities in assessing and managing flood risk. • Seek to issue timely media messages to inform the Public of significant flooding events.
Individual property protection	<ul style="list-style-type: none"> • A Pilot scheme for grant aiding Individual Property Protection is currently operating. Eligibility is assessed on the likelihood of future flooding and the frequency of past flooding events.
Flood recovery, welfare and insurance issues	<ul style="list-style-type: none"> • Continue to carry out and contribute to flood investigations to gather information and improve knowledge and action on future flood events. • Continue to work with Councils and local communities at flood risk in providing advice and information to aid recovery after a flood event. • Continue to engage and work with voluntary sector organisations such as the Red Cross in providing Welfare Support. • Continue to work with the insurance industry with respect to flood insurance issues, including "FloodRe" in NI, to help address long term flood insurance affordability issues.

The SEA Environmental Report also outlined in Section 2.6 the process through which DfI assess alternative solutions at project level in assigning preferred options within Significant Flood Risk Areas (SFRA in the 1st cycle Plans, now known as Areas of Potential Significant Flood Risk or APSFR in the 2nd cycle Plan). This process will remain the same for projects arising from implementation of the 2nd cycle Plan. Within these areas, a two-stage process is followed in identifying preferred options associated with flood risk management.

Stage 1

DfI consider whether a flood *protection* scheme is possible. If it is, they produce a flood study (including cost/benefit analysis), and identify short-term *preparedness* preferred options e.g. local maintenance, community engagement. If a flood protection scheme is not possible, consideration is given to both short and long-term *preparedness* preferred options.

Stage 2

Where a flood protection scheme (*protection*) is built, short-term *preparedness* preferred options that have been in place are removed. Where no scheme is viable, long-term *preparedness* preferred options are applied.

The *prevention* measure is policy led, minimising flood risk through protection of the flood plain, ensuring that development does not happen in areas that are likely to flood, or cause flood risk to increase for other developments.

6 MEASURES TO MONITOR SIGNIFICANT ENVIRONMENTAL EFFECTS OF IMPLEMENTING THE PLAN

6.1 Monitoring

The SEA Regulations require that significant environmental effects arising from implementation of the Plan are monitored in order to identify, at an early stage, any unforeseen adverse effects and in order to undertake appropriate remedial action.

The SEA Environmental Report for the 1st cycle Plans concluded that, owing to the strategic nature of the Plans, it was not possible to produce a detailed monitoring strategy based on specific indicators and targets, but instead a monitoring framework was proposed to monitor the effectiveness of the Plans in managing flood risk in a manner that minimises adverse effects on the environment. Environmental topics have been recognised within the SEA Environmental Report, which have potential to be affected by the measure types and activities of the Plans. As no site-specific activities were identified in the Plans, the proposed monitoring measures were generic in nature. This recommended monitoring strategy was outlined in Chapter 9 of the SEA Environmental Report for the 1st cycle Plans. For any schemes arising from the Plans, the EIA process, and associated consultations, were identified as a means of identifying additional monitoring requirements at a project level.

The second cycle Plan will cover the period from 2021-2027. Monitoring of the SEA environmental topics will be required from implementation of schemes during the 2nd cycle Plan in the identified APSFR. A SEA Monitoring Report was completed by DfI in May 2020. This report was a review of the environmental monitoring recommended in the SEA Environmental Report for the 1st cycle Plans. The SEA Monitoring assessment provided an insight into how appropriate the generic measures and indicators that were proposed in the SEA Environmental Report for the 1st cycle Plans are for monitoring purposes. The recommended strategy (measures, indicators and data sources) for monitoring effects from implementation of the 2nd cycle Plans is outlined in **Table 6-1**. For some SEA environmental topics, the proposed measures and data sources remain the same as those that were proposed for the 1st cycle Plans, where the monitoring assessment found them to be suitable; these have been refined, where possible, with the addition of proposed indicator(s). For other SEA environmental topics, alternative measures, associated indicators, and data sources have been proposed that are considered to be more appropriate.

The wider environmental monitoring recommended in **Table 6-1** will be undertaken before the development stage of the next Plan cycle. This should identify at an early stage any unforeseen adverse effects, as well as any positive outcomes that, are due to implementation of the Plan.

Table 6-1 Proposed Environmental Monitoring of the Plan

SEA Topic	Proposed Measures	Proposed Indicator(s)	Proposed Data Source(s)
Biodiversity, Flora and Fauna	Protected sites and species are monitored with regards to their conservation objectives. Any increase in unfavourable/favourable conditions for protected and priority species and their habitats will be monitored in conjunction with the implementation of flood risk management projects as well as any habitat loss/increase.	<ul style="list-style-type: none"> Change in condition of designated national or European designated sites; Significant changes in existing protected and priority species and habitats. 	<ul style="list-style-type: none"> DAERA National Site Network reporting (every 6 years) for European sites relevant to completed/in progress FASs; Article 17 Habitats Directive reporting and Article 12 Birds Directive reporting for the Republic of Ireland, relevant to completed/in progress FASs that have potential for trans-boundary effects. NPWS website and data request portal for provision of relevant data for trans-boundary habitats and species that are likely to be affected by downstream projects. Consultation with DAERA regarding any significant changes in the condition of habitats/species within ASSIs relevant to completed/in progress FASs from site Condition Assessments; DfI data on completed FASs, Monitoring undertaken by DAERA Marine and Fisheries Division under the Marine Strategy.
Cultural Heritage	Historical sites (monuments, listed buildings, industrial heritage, maritime heritage, archaeological sites, etc.) should be appropriately monitored where they are lost, damaged, relocated or discovered as a result of FASs.	<ul style="list-style-type: none"> Number of cultural heritage (including marine) sites or features that have been afforded protection by completed FASs; Number of historical sites (including marine) that have been lost, damaged, relocated, or discovered during FASs. Number and state of heritage assets used as part of the means to address flood risk – i.e. through historic coastal works, or man-made waterways and historic canals. 	<ul style="list-style-type: none"> Project-specific information on the sites or features at risk from flooding that will be protected by completed FASs; Project-specific information from DfI or via consultation with DfC regarding the loss, damage, relocation or discovery of any historical sites during completed/in progress FASs.
Water	Water quality is monitored by DAERA under the requirements of the WFD and Marine Strategy. Any changes in status of water bodies will be monitored in conjunction with the implementation of flood risk management projects.	<ul style="list-style-type: none"> Change in WFD status of water bodies; Change in the status of Quality Descriptors under the MS. 	<ul style="list-style-type: none"> WFD reporting of water body status by DAERA; Monitoring undertaken by DAERA Marine and Fisheries Division under the Marine Strategy.
Geology and Soil	The condition and quality of designated sites of geological importance (ASSIs) is subject to ongoing monitoring. This should be reviewed in conjunction with the implementation of flood risk management projects.	<ul style="list-style-type: none"> Change in condition of ASSI sites designated for geological features. 	<ul style="list-style-type: none"> Consultation with DAERA regarding any significant changes in the condition of ASSIs designated for geological features relevant to completed/in progress FASs.

Population and Human Health	<p>The implementation of Flood Risk Management measures directly protects the population of these areas against flooding, and the number of individuals directly protected can be monitored, as well as the cost benefit attributable to the FASs.</p>	<ul style="list-style-type: none"> • Number of people protected by completed FASs; • Areas of blue/green infrastructure that provide potential for health / living environment benefits have been created. 	<ul style="list-style-type: none"> • Dfl data on completed FASs, providing information on the no. of properties protected and areas of blue/green infrastructure created; • NI Census population statistics on average household size in the scheme areas.
Material Assets	<p>Benefits from implemented flood risk management measures should be monitored, including cost benefits, no. of properties protected and any infrastructure protected by schemes.</p>	<ul style="list-style-type: none"> • Cost benefit attributable to completed FASs; • Number of properties protected by completed FASs; • Infrastructure protected by completed FASs. • Monitor the number of properties protected from future flood events by the Homeowner Flood Protection Grant Scheme, and the cost benefit attributable to this scheme. 	<ul style="list-style-type: none"> • Dfl data on completed FASs.
Climate Factors	<p>The effects of climate change should be effectively managed through the implementation of Flood relief management measures. The capacity of implemented schemes to manage climate change effects can be monitored.</p>	<ul style="list-style-type: none"> • Number of completed FASs that have been designed to be adaptable to climate change projections; • Number of people protected against the effects of climate change by completed FASs. 	<ul style="list-style-type: none"> • Dfl data on completed FASs.
Landscape	<p>Flood management measures should be designed to protect, maintain and enhance both visual amenity and landscape/seascape character of local landscapes. Monitoring can assess the amount of blue/green infrastructure created during the implementation of completed schemes, and any changes in visual amenity and/or landscape/seascape character following implementation of FASs.</p>	<ul style="list-style-type: none"> • Area of blue/green infrastructure (including surface SuDS) created during implementation of completed FASs; • Any changes to visual amenity and/or the landscape/seascape character from implementation of FASs. 	<ul style="list-style-type: none"> • Dfl data on completed FASs. • Dfl data on areas of blue- green infrastructure associated with completed FASs; • Landscape and seascape character assessments for NI; • Local Development Plans.

Appendix A

List of Consultees Issued with Formal Notification for Public Consultation

Legislative Consultees

The Drainage Council
Antrim and Newtownabbey Borough Council
Ards and North Down Borough Council
Armagh City, Banbridge and Craigavon Borough Council
Belfast City Council
Causeway Coast and Glens Borough Council
Derry City and Strabane District Council
Fermanagh and Omagh District Council
Lisburn and Castlereagh City Council
Mid and East Antrim Borough Council
Mid Ulster District Council - Dungannon
Newry, Mourne and Down District Council
Belfast Harbour Commissioners
Coleraine Harbour
Larne Harbour Limited
Londonderry Port & Harbour Commissioners
Warrenpoint Harbour Authority
Department of Agriculture, Environment and Rural Affairs (DAERA)
Department for Communities
DfI Rivers
DfI Roads
NI Water
Waterways Ireland
Foyle, Carlingford and Irish Lights Commission (Lough Agency and Irish Lights Commission)
Office of Public Works, Republic of Ireland

Additional Consultees

Agri-Environmental Policy Team
Air and Environmental Quality Unit
All MLAs District Councils
All Northern Ireland MPs and MEPs who are not MLAs
All Political Parties in NI Assembly
All Political Parties not represented in NI Assembly
All Political Parties Spokespersons
Built Heritage - Historic Environment Division
CeDAR

Chief Constable Police Service of Northern Ireland
Council for Nature Conservation and the Countryside (CNCC)
Countryside Management Development Branch
Criminal Legislation and Procedures Branch Police Service of Northern Ireland
Departmental Library
Floods Directive Steering Group Members
Forest Service
Future Agri-Environmental Policy Team
Geological Survey of Northern Ireland
Inland Fisheries
Legal Deposit Libraries
Lough Agency
Marine and Fisheries Division
National Trust Regional Office
NIEA - Natural Environment Division
NIEA - Resource Efficiency Division (Waste Management)
NIEA - Water Management Unit
NIO Constitutional and International Division
Northern Ireland Environment Link
NSMC – NI Secretariat
Office of the Attorney General (AGNI)
Regional Community Resilience Group
Rivers Trust
RSPB Northern Ireland
Section 75 Groups
The Woodland Trust Northern Ireland
Ulster Angling Federation
Ulster Wildlife Trust
Assembly Library
British Red Cross
Chartered Institution of Highways & Transportation
Climate NI
Community Transport Association (CTAUK)
Consumer Council
Federation of Small Businesses
Fermanagh Community Transport
Friends of the Earth
Health and Safety Executive for NI
Institution of Highways and Transportation - Northern Ireland
Invest Northern Ireland

Irish Transport Heritage Limited
Law Centre (NI)
Living Streets (The Pedestrians Association)
Phoenix Natural Gas
Quarry Products Association
Road Safety Council for NI
Rural Community Network
Rural Support
Sustrans
The Law Society of Northern Ireland
Translink
Wildfowl & Wetlands Trust

Environmental Consultees

Department of Agriculture, Environment and Rural Affairs (DAERA)
Department of Agriculture, Food and the Marine (DAFM)
Department of Communications, Climate Action and Environment (DCCAE)
Department of Culture, Heritage and the Gaeltacht (DCHG)
Department of Housing, Planning and Local Government (DHPLG)
Environmental Protection Agency (EPA)
Northern Ireland Environment Agency (NIEA)

Key Infrastructure Consultees

AES Corporation - Kilroot
AES NI
Belfast Health and Social Care Trust
Belfast International Airport
British Telecom
City of Derry Airport
ESB
ESB - Coolkeeragh
George Best Belfast City Airport
NI Ambulance Service
NI Fire and Rescue Service
NI Prison Service
NI Transport Holding Company
NIE
Northern Health and Social Care Trust
PSNI
South-Eastern Health and Social Care Trust
Southern Health and Social Care Trust

The Education Authority

Western Health and Social Care Trust