



Strategic Environmental Assessment Screening Report

Nanny – Delvin

2018

Strategic Environmental Assessment Screening Report

For

River Basin (08) Nanny – Delvin Flood Risk Management Plan

Areas for Further Assessment included in the Plan:

<i>Domhnach Bat</i>	<i>Donabate</i>
<i>Port Reachrann</i>	<i>Portrane</i>
<i>Cill Dhéagláin</i>	<i>Ashbourne</i>
<i>Baile Brigín</i>	<i>Balbriggan</i>
<i>Baile an Bhiataigh</i>	<i>Bettystown</i>
<i>Baile Mhic Gormáin</i>	<i>Gormanston</i>
<i>Damhliag</i>	<i>Duleek</i>
<i>Na Sceirí</i>	<i>Skerries</i>
<i>Lusca</i>	<i>Lusk</i>
<i>Baile Stafaird / Tuirbhe</i>	<i>Staffordstown / Turvey</i>
<i>An Seanbhaile</i>	<i>Oldtown</i>
<i>Ráth Tó</i>	<i>Ratoath</i>
<i>Sord</i>	<i>Swords</i>
<i>An Ros</i>	<i>Rush</i>

Flood Risk Management Plans prepared by the Office of Public Works 2018

In accordance with

European Communities (Assessment and Management of Flood Risks) Regulations 2010 and 2015

Purpose of this Report

As part of the National Catchment-based Flood Risk Assessment & Management (CFRAM) programme, the Commissioners of Public Works have commissioned expert consultants to prepare Strategic Environmental Assessments, Appropriate Assessment Screening Reports and, where deemed necessary by the Commissioners of Public Works, Natura Impacts Assessments, associated with the national suite of Flood Risk Management Plans.

This is necessary to meet the requirements of both S.I. No. 435 of 2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (as amended by S.I. No. 200/2011), and S.I. No. 477/2011 European Communities (Birds and Natural Habitats) Regulations 2011.

Expert Consultants have prepared these Reports on behalf of the Commissioners of Public Works to inform the Commissioners' determination as to whether the Plans are likely to have significant effects on the environment and whether an Appropriate Assessment of a plan or project is required and, if required, whether or not the plans shall adversely affect the integrity of any European site.

The Report contained in this document is specific to the Flood Risk Management Plan as indicated on the front cover.

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Acknowledgements

The Office of Public Works (OPW) gratefully acknowledges the assistance, input and provision of data by a large number of organisations towards the implementation of the National CFRAM Programme. In particular, the OPW acknowledges the assistance of RPS Consulting Engineers and the valuable input and support of the Local Authorities at project level in each of the study areas.

The OPW also acknowledges the participation of members of the public, representative organisations and other groups throughout each stage of consultation.



Eastern CFRAM Study

UoM08 – Nanny–Delvin

Strategic Environmental Assessment Screening Report

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The draft Flood Risk Management Plans are intended **for the purpose of consultation only**. They should not be used or relied upon for any other purpose or decision-making process. They are likely to be updated, refined or changed before finalisation. The Commissioners of Public Works in Ireland reserve the right to change the content and/or presentation of any of the information provided in the draft Flood Risk Management Plans at their sole discretion.

ACKNOWLEDGEMENTS

The Office of Public Works (OPW) gratefully acknowledges the assistance, input and provision of data by a large number of organisations towards the implementation of the National CFRAM Programme and the preparation of this Draft Flood Risk Management Plan, including:

- RPS Consulting Engineers
- WFD Local Authorities Water and Communities Office LAWCO
- Cavan County Council
- Dún Laoghaire – Rathdown County Council
- Dublin County Council
- Fingal County Council
- Kildare County Council
- Louth County Council
- Meath County Council
- Offaly County Council
- South Dublin County Council
- Westmeath County Council
- Wexford County Council
- Wicklow County Council
- Mid-East Regional Authority
- Dublin and Mid-Eastern Regional Authority
- The Environmental Protection Agency
- Met Éireann
- All members of the National CFRAM Steering and Stakeholder Groups

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APPENDICES

APPENDIX A – Appropriate Assessment Screening

47 Pages

1 INTRODUCTION

This report is the Strategic Environmental Assessment (SEA) Screening Statement for the Nanny – Delvin River Basin (UoM08) Flood Risk Management Plan 2017. The screening uses the process set out in the EPA SEA Guidance - *Development of SEA methodologies for plans and programmes in Ireland* - P. Scott & P. Marsden, ERM, 2001.

This methodology establishes whether the Plan must undergo an SEA, using a series of procedural tasks. Firstly, the overall characteristics of the Plan are considered to see if it falls within the requirements of the SEA Directive (Task 1.1. Pre-Screening Check). Secondly, the potential environmental significance of implementing the proposed Plan is gauged according to a series of significance criteria (Task 1.2 Environmental Significance Screening).

This report presents the purpose of the Plan, the results of the pre-screening check and environmental significance screening, the next steps for the SEA process, and a contact point for stakeholder comments.

2 PURPOSE OF THE NANNY – DELVIN RIVER BASIN PLAN

2.1 THE FLOODS DIRECTIVE

The EU Directive on the assessment and management of flood risks [2007/60/EC], often referred to as the Floods Directive, came into force in late 2007. This is a framework directive that requires Member States to follow a certain process, namely:

- Undertake a Preliminary Flood Risk Assessment (PFRA) by 22 December 2011, to identify areas of existing or foreseeable future potentially significant flood risk (initially referred to as ‘Areas of Potential Significant Risk’, or ‘APSRs’, but now referred to as ‘Areas for Further Assessment’, or ‘AFAs’)
- Prepare flood hazard and risk maps for the AFAs by 22 December 2013; and,
- Prepare flood risk management plans by 22 December 2015, setting objectives for managing the flood risk within the AFAs and setting out a prioritised set of measures for achieving those objectives.

The directive requires that the PFRA, flood maps and flood risk management plans are prepared in cooperation and coordination: with neighbouring states in cross-border river basins, and; with the implementation of the Water Framework Directive (WFD). The Floods Directive also requires that the PFRA and flood maps are published, and that public and stakeholder consultation and engagement is undertaken in the preparation of the flood risk management plans.

2.2 FLOODS DIRECTIVE APPLICATION IN IRELAND

The Floods Directive is being implemented in Ireland through the European Communities (Assessment and Management of Flood Risks) Regulations 2010 [S.I.122/2010, as amended by S.I. 495/2015], which appoints the OPW as the Competent Authority for the Plans. The Statutory Instrument also identifies roles for other organisations; such as the Local Authorities, Waterways Ireland and ESB, to undertake certain duties with respect to flood risk within their existing areas of responsibility.

In Ireland, the approach to implementing the directive has focused on a National Flood Risk Assessment and Management Programme. This was developed to meet the requirements of the Floods Directive, as well as to deliver on core components of the 2004 National Flood Policy. Pilot Catchment-based Flood Risk and Management (CFRAM) studies have been undertaken since 2006 in the Dodder and Tolka Catchments, the Lee Catchment, the Suir Catchment and in the Fingal / East Meath Area.

The area within the Nanny-Delvin River Basin (UoM08) was the main component of the Fingal East Meath FRAM Study ('FEM-FRAMS'), with smaller adjoining areas of the Boyne and Liffey-Dublin Bay

River Basin Districts. Details of the FEM-FRAMS can be found on the OPW website; www.opw.ie/FloodPlans.

Following these pilot studies the CFRAM studies were subsequently commissioned at the scale of the River Basin Districts (RBDs) delineated for the first cycle of the implementation of the Water Framework Directive (WFD). The following eight River Basin Districts have been defined for the island of Ireland:

- North Western International RBD (IRBD);
- Neagh-Bann IRBD;
- North Eastern RBD;
- Western RBD;
- Eastern RBD;
- Shannon IRBD;
- South Eastern RBD;
- South Western RBD.

CFRAM Studies and their resulting Flood Risk Management Plans (FRMPs) are fundamental to the national policy for flood risk management and the strategy for its implementation. The methodology featured in each CFRAM Study includes the collection of survey data and the assembly and analysis of meteorological, hydrological and tidal data, which are used to develop a suite of hydraulic computer models. Flood maps are one of the main outputs of the study and are the way in which the model results are communicated to end users. The studies assess a range of potential options to manage the flood risk and determine which, if any, is preferred for each area and will be recommended for implementation within the Flood Risk Management Plans. The CFRAM Studies focus on areas where the risk is understood to be most significant.

Each study provides for number of key stages:

- Data Collection & Surveying;
- Flood Risk Review;
- Hydrology Analysis;
- Detailed Hydraulic Modelling;
- Flooding Mapping;
- Development of Flood Risk Management (FRM) options;
- Strategic Environmental Assessment & Appropriate Assessment of the FRM options;
- Flood Risk Management Plan.

The objectives of CFRAM Studies are to:

- Identify and map the existing and potential future¹ flood hazard within the Study Area;
- Assess and map the existing and potential future flood risk² within the Study Area;

¹ Potential future flood hazards and risk include those that might foreseeably arise (over the long-term) due to the projected effects of climate change, future development and other long-term developments.

- Identify viable structural and non-structural options and measures for the effective and sustainable management of flood risk in the Areas for Further Assessment and within the Study Area as a whole, and
- Prepare a set of FRMPs for the Study Area, and undertake associated Strategic Environmental and, as necessary, Appropriate Assessment, that set out the policies, strategies, measures and actions that should be pursued by the relevant bodies, including the OPW, Local Authorities and other Stakeholders, to achieve the most cost-effective and sustainable management of existing and potential future flood risk within the Study Area, taking account of environmental plans, objectives and legislative requirements and other statutory plans and requirements.

It is not an objective of these studies to develop detailed designs for individual risk management measures.

2.3 THE EASTERN CFRAM STUDY

The Eastern CFRAM Study commenced in the Eastern District in June 2011. With a land area of approximately 6,300 km², the Eastern District accounts for one tenth of the land area of Ireland. It is home to rich agricultural land, holiday coastline, the city of Dublin and the towns which form the Greater Dublin Area and its commuter belt. Around 1.6 million people, 40% of Ireland's population, live in the eastern district with the majority living in the Greater Dublin Area.

The Local Authorities within the Eastern CFRAM Study area are:

- | | |
|--|--------------------------------|
| • Cavan County Council; | • Meath County Council; |
| • Dublin City Council; | • Offaly County Council; |
| • Dun Laoghaire/Rathdown County Council; | • South Dublin County Council; |
| • Fingal County Council; | • Westmeath County Council; |
| • Kildare County Council; | • Wexford County Council; |
| • Louth County Council; | • Wicklow County Council. |

The Eastern CFRAM Study area includes four Units of Management (UoM) / Hydrometric Areas (HAs). The UoMs constitute major catchments / river basins (typically greater than 1000km²) and their associated coastal areas, or conglomerations of smaller river basins and their associated coastal areas. The UoM boundaries match the HA boundaries within the Eastern CFRAM Study Area. These

² Flood risk is defined as a combination of probability and degree of flooding and the adverse consequences of flooding on human health, people and society, the environment, cultural heritage and economic activity and infrastructure.

are UoM07 (Boyne), UoM08 (Nanny–Delvin), UoM09 (Liffey-Dublin Bay) and UoM10 (Avoca-Vartry). There is a high level of flood risk within the Eastern CFRAM Study area with significant coastal and fluvial flooding events having occurred in the past. The UoMs/HAs and the AFAs in the Eastern RBD are shown in **Figure 2.1**.

2.4 THE FLOOD RISK MANAGEMENT PLAN FOR THE NANNY-DELVIN (UOM08) RIVER BASIN

The Flood Risk Management Plan to be screened in this instance is the Nanny-Delvin River Basin FRMP. In this River Basin there is a high level of flood risk within some locations, with significant coastal and fluvial flooding events having occurred in the past. The River Basin covers an area of approximately 772 km² which includes parts of Counties Meath and Dublin within the Meath and Fingal County Council administrative areas. The location of the River Basin is given in **Figure 2.2**.

The Nanny – Delvin River Basin FRMP represents a stand-alone Plan that supplements the existing Fingal East Meath Flood Risk Management Plan (FEM FRMP) from 2011 with positive Governance & Policy recommendations. The additional measures in the Nanny – Delvin River Basin FRMP, above and beyond the FEM FRMP, are solely Governance & Policy Changes, and these are the only measures to which the Nanny – Delvin River Basin FRMP gives effect.

There was broad agreement between the PFRA and FEM-FRAMS AFAs, with no additional AFA's being identified in the PFRA for the FEM-FRAMS area. The overall CFRAM methodology for the Eastern CFRAM Study remains broadly consistent with the FEM-FRAMS process. Hence, there are no changes to what is being proposed in the original FEM FRMP, which is the Plan that gives effect to the AFA level measures contained within it. This is akin to a County Development Plan being published, but not giving effect to any measures in already-existing Local Area Plans within its jurisdiction. The SEA and AA for the FEM FRMP therefore remain valid.

The Nanny – Delvin River Basin FRMP supplements the existing FEM FRMP rather than replacing it, hence these supplemental proposals are being screened for requirement of SEA.

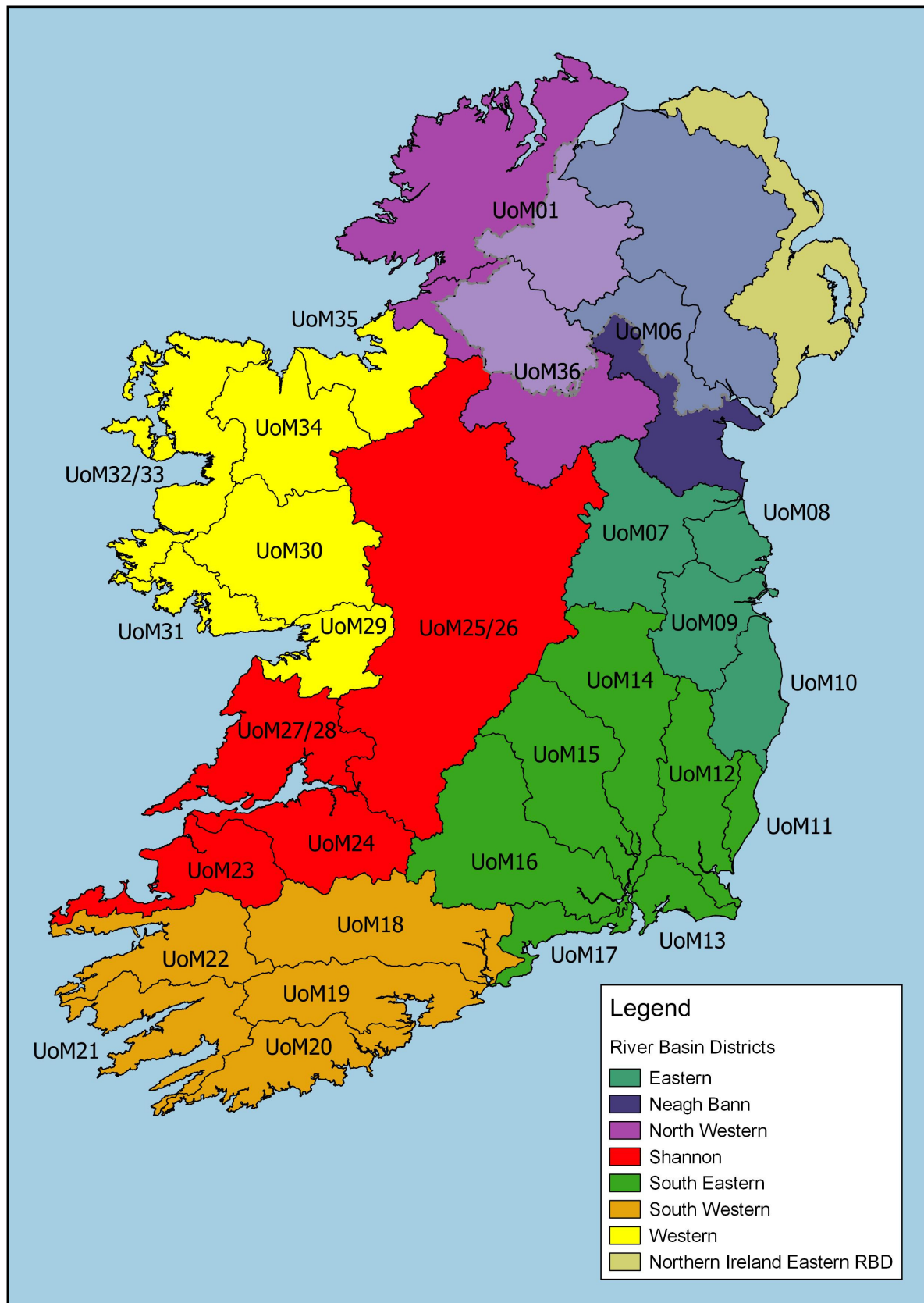


Figure 2.1: River Basin Districts (RBDs) and River Basins (UoMs) in Ireland

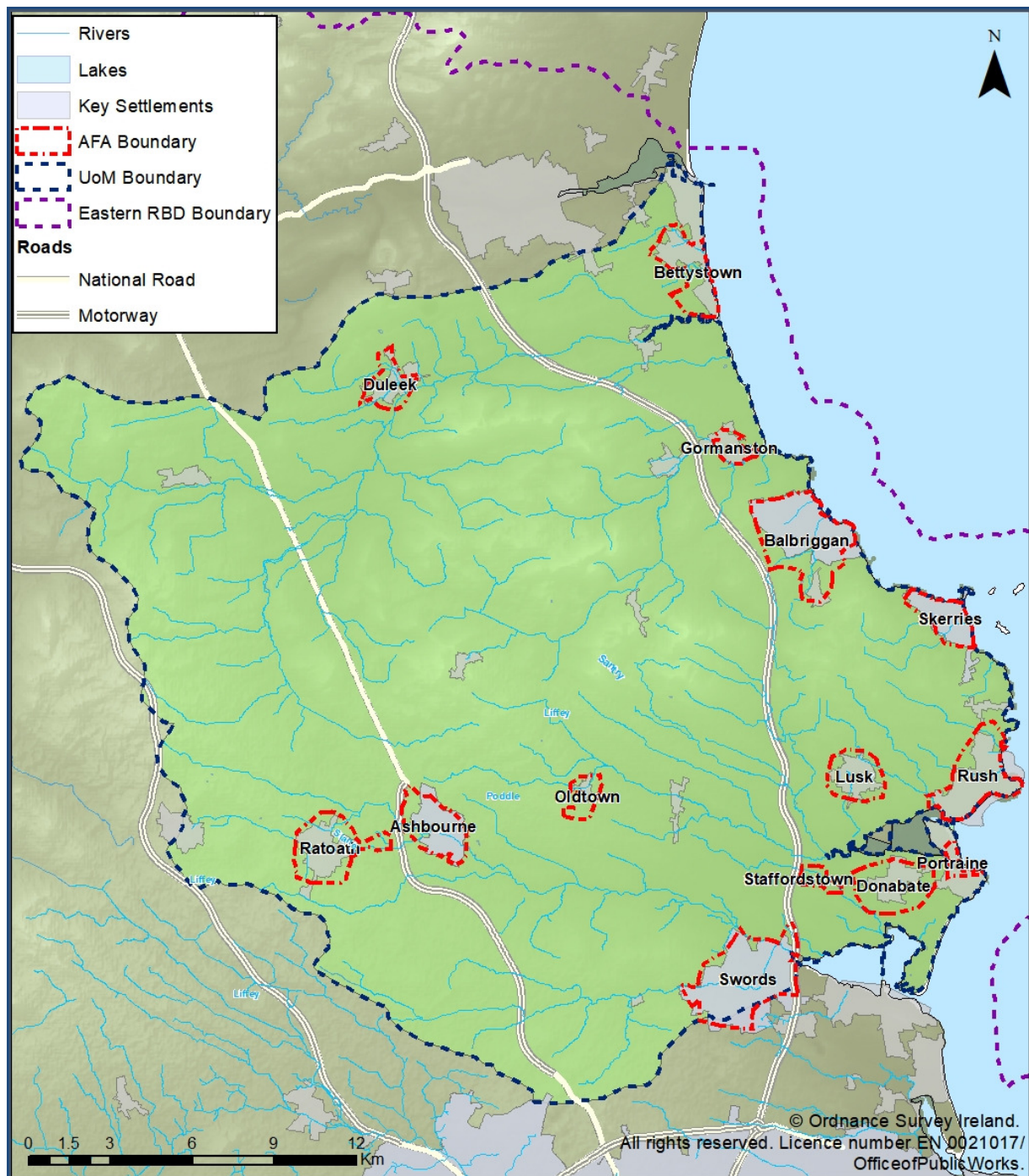


Figure 2.2: Nanny-Delvin River Basin Location Map with AFAs

The OPW carried out a SEA Screening in 2011 for all the CFRAM Studies in Ireland and determined that SEA of the FRMPs would be required due to the following reasons:

- The FRMPs will be carried out for areas typically greater than 1000 km² and collectively they will cover the entire landmass of the Ireland. The outcomes of the FRMPs therefore have the potential to have a significant effect on the environment. Carrying out SEAs would allow for the early consideration of environmental issues and the incorporation of these issues into the formulation of the recommendations for flood risk management within the FRMPs.

- The FRMPs will form a framework for future projects and allocation of resources concerning reduction of flooding risk.
- The FRMPs will influence spatial plans at both regional and local level.
- The FRMPs are likely to require an assessment under Article 6 of the EU Habitats Directive.

The OPW SEA Screening from 2011 for all the CFRAM Studies in Ireland can be found at:

www.eastcfframstudy.ie.

The potential measures that were to be considered for the CFRAM studies are given in **Table 2.1**. This includes small and large-scale structural and non-structural solutions for protection of individual properties to the construction of large flood storage areas.

Table 2.1 CFRAM Studies Proposed Flood Risk Management Measures

Do Nothing	Implement no new flood risk management measures and abandon any existing practices
Existing Regime	Continue with any existing flood risk management practices, such as reactive maintenance
Do Minimum	Implement additional minimal measures to reduce the flood risk in specific problem areas without introducing a comprehensive strategy
Non-Structural Measures	<ul style="list-style-type: none"> • Planning and development control measures (zoning of land for flood risk-appropriate development, prevention of inappropriate incremental development, review of existing Local Authority policies in relation to planning and development and of inter-jurisdictional co-operation within the catchment, etc.) • Building regulations (regulations relating to floor levels, flood-proofing, flood-resilience, sustainable drainage systems, prevention of reconstruction or redevelopment in flood-risk areas, etc.) • Sustainable urban drainage systems • Installation of a flood forecasting and warning system and development of emergency flood response procedures • Targeted public awareness and preparedness campaign • Individual property flood resistance (protection / flood-proofing) and resilience • Land use management, including creation of wetlands, riparian buffer zones, etc
Structural Measures (Potential Future Risk)	Strategic development management for necessary floodplain development (pro-active integration of structural measures into development designs and zoning, regulation on developer-funded communal retention, drainage and / or protection systems, etc.)
Structural Measures (Existing Risk)	<ul style="list-style-type: none"> • Storage (single or multiple site flood water storage, flood retardation, etc.) • Flow diversion (full diversion / bypass channel, flood relief channel, etc.) • Increase conveyance (in-channel works, floodplain earthworks, removal of constraints / constrictions, channel / floodplain clearance, etc.)

	<ul style="list-style-type: none"> • Construct flood defences (walls, embankments, demountable defences, etc.) • Rehabilitate, improve existing defences • Relocation of properties • Localised protection works (e.g., minor raising of existing defences / levels, infilling gaps in defences, etc.)
Channel or Flood Defence Maintenance Works / Programme	
Other works that might be of particular relevance to, or suitability for, a given location	

No catchment level schemes were proposed within the FEM FRMP (2011), however it did contain some policy and governance measures, such as public awareness and implementation of the Planning Guidelines. Government policy has changed since then in some of those key areas, and a more comprehensive suite of non-structural measures are now contained in the Nanny – Delvin River Basin FRMP. There are several individual AFA level measures that have been implemented before development of the Nanny – Delvin River Basin FRMP. The information below outlines these individual AFA measures and their current status:

Ashbourne Flood Relief Scheme Measures – The Ashbourne Flood Relief Scheme was initiated in 2015 following major flooding in November 2014. It is currently at construction stage, and is expected to be completed in 2018. No additional measures specific to Ashbourne are proposed in the Nanny – Delvin River Basin Plan.

Northlands Flood Relief Scheme Measures - The Northlands Flood Relief Scheme was initiated in 2013 following major flooding in 2008 and 2012. It is currently at construction stage, and is expected to be completed in 2017. No additional measures specific to Northlands are proposed in the Nanny – Delvin River Basin Plan.

Duleek Flood Relief Scheme Measures - The Duleek Flood Relief scheme was initiated in 1995 and was constructed from 1997 to 1998. No additional measures specific to Duleek are proposed in the Nanny – Delvin River Basin Plan.

Balbriggan AFA Measures - This area is exposed to fluvial flooding which dictates the types of measures, which are relevant. No methods were found to be feasible from the Balbriggan AFA screening.

Laytown, Bettystown and Coastal areas AFA Measures - A flood relief scheme for Laytown, Bettystown and Coastal areas AFA was developed under the FEM-FRAMES and proposed for progression to implementation in the FEM FRMP. No additional measures specific to Laytown, Bettystown and Coastal areas AFA are proposed in the Nanny – Delvin River Basin Plan.

Skerries AFA Measures - A flood relief scheme for Skerries was developed under the FEM-FRAMES and proposed for progression to implementation in the FEM FRMP. The OPW are progressing the

detailed design of increased channel conveyance measures for Skerries. No additional measures specific to Skerries AFA are proposed in the Nanny – Delvin River Basin Plan.

For the **Rush AFA** and **Ratoath AFA**, no economically viable measure (i.e., a measure with a benefit - cost ratio of greater than 1.0) were found through the analysis undertaken to date, but a technically viable measure was identified with a benefit - cost ratio of between 0.5 and 1.0. A more detailed assessment of the costs of such measures may indicate that the measure could be implemented at a cost below that determined through the analysis undertaken to date.

While it would not be prudent to progress such measures to full project-level assessment towards planning / Public Exhibition based on the information available at present, a more detailed assessment of the costs can be progressed to determine if an economically viable measure may in fact exist that could justify the progression to full project-level assessment.

As mentioned previously the Nanny – Delvin River Basin FRMP represents a stand-alone Plan that supplements the existing FEM FRMP from 2011. The additional measures in the Nanny – Delvin River Basin FRMP, above and beyond the FEM FRMP are Governance & Policy Changes, and these are the only measures to which the Nanny – Delvin River Basin FRMP gives effect. **Table 2.2** demonstrates these measures being proposed in the Nanny – Delvin Plan that supplement, but do not replace, the measures in the FEM FRMP from 2011. These are the measures to be screened for SEA within this report.

Table 2.2 Nanny – Delvin River Basin Plan Measures

Measure	Implementation	Funding
Measures Applicable for All Areas		
Application of the Guidelines on the Planning System and Flood Risk Management (DECLG/OPW, 2009)	Planning Authorities	Planning Authorities
Implementation of Sustainable Urban Drainage Systems (SUDS)	Planning Authorities	Planning Authorities
Voluntary Home Relocation	Inter-Dept. Flood Policy Review Group	Homeowners, OPW (2017 Scheme)
Consideration of Flood Risk in Local Adaptation Planning	Local Authorities	Local Authorities
Assessment of Land Use and Natural Flood Risk Management Measures	EPA, OPW, Others	OPW, Others
Minor Works Scheme*	OPW, Local Authorities	OPW, Local Authorities
Establishment of a National Flood Forecasting and Warning Service	OPW, DHPCLG, Met Éireann and local authorities	OPW, DHPCLG
Ongoing Appraisal of Flood Event	Principal Response Agencies,	Implementation

Emergency Response Plans and Management Activities	Regional Steering Groups, National Steering Group	Bodies
Individual and Community Action to Build Resilience	Public, business owners, farmers and other stakeholders	N/A
Individual Property Protection	Home Owners, Inter-Dept. Flood Policy Review Group	Homeowners
Flood-Related Data Collection	OPW, Local Authorities / EPA, and other hydro-meteorological agencies	Implementation Bodies
Catchment / Sub-Catchment Measures		
No new Sub-Catchment scale measures are proposed under this Plan		
Community-Level (AFA) Measures		
Progress the project-level development and assessment of a Flood Relief Scheme, including environmental assessment as necessary and further public consultation, for refinement and preparation for planning / Exhibition and, if and as appropriate, implementation, for the Communities set out below.		
No new Community-Level (AFA) Measures are proposed under this Plan		

*Note - The Minor Flood Mitigation Works and Coastal Protection Scheme (the 'Minor Works Scheme') is an administrative scheme operated by the OPW under its general powers and functions to support the local authorities through funding of up to €750k (subject to review) to address qualifying local flood problems with local solutions. This is an ongoing scheme that is not provided with any consents from this Plan. Works undertaken via this rolling scheme could be anywhere within the River Basin.

3 TASK 1.1 - PRE-SCREENING CHECK

The first step of the screening process is to undertake a pre-screening check using the decision tree presented in Figure 2 of the EPA publication “*Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland*”. The decision tree is based on a series of administrative questions that allows rapid screening-out of plans and programmes that are clearly not going to have an environmental impact, and screening-in of those that definitely do require an SEA. The decision tree and responses to the administrative questions as they apply to the Nanny – Delvin River Basin FRMP are presented in **Figure 3.1**. Where criteria is potentially applicable this is shaded in green, where the criteria is not applicable this is shaded in grey.

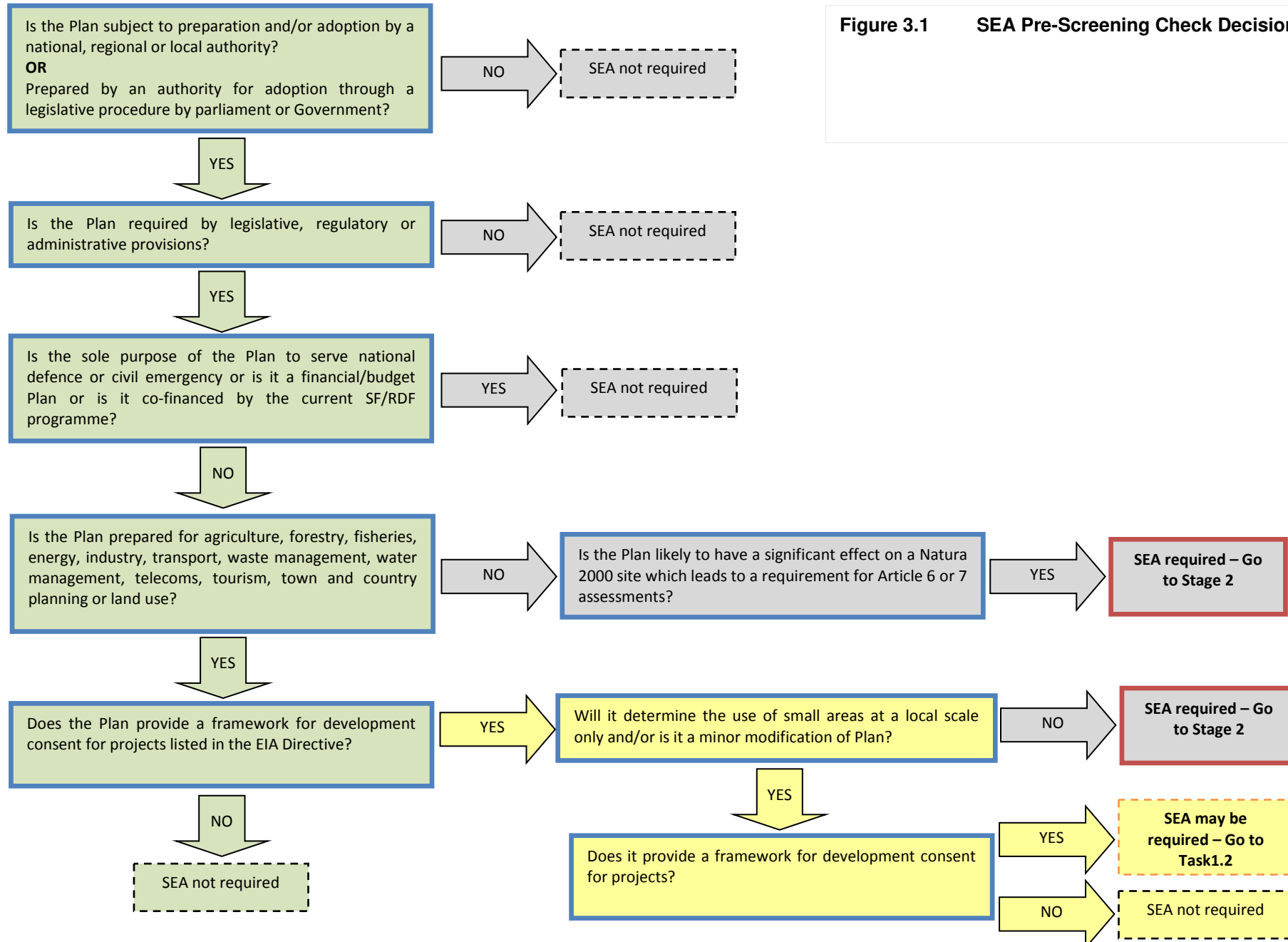
The outcomes of the pre-screening stage for the Nanny – Delvin River Basin FRMP are as follows:

- The Plan is subject to preparation and adoption by a national authority, the Office of Public Works (OPW).
- The Plan is required under the Floods Directive, as implemented in Ireland through the European Communities (Assessment and Management of Flood Risks) Regulations 2010 [S.I.122/2010, as amended by S.I.495/2015].
- The Plan is prepared for water management.
- The measures being proposed in the Nanny – Delvin River Basin FRMP do not have the potential to provide a framework for development consent for projects listed in the EIA Directive. The measures being proposed in the Nanny – Delvin River Basin FRMP are governance and policy recommendations that will not lead to any development. These measures supplement, but do not replace, the measures in the FEM FRMP from 2011.

This final point would lead to the conclusion that **SEA is not required** for the Nanny – Delvin River Basin FRMP.

To ensure that this is the correct decision and that there is no potential for these governance and policy measures to have significant impacts on the environment it may be prudent to further investigate these proposed options to be put forward in this modification to the Plan, in case there may be the potential for direct or indirect impacts, or even in-combination or cumulative impacts with the measures currently being implemented from the FEM FRMP from 2011. This is shown in **Figure 3.1** as the yellow shaded boxes.

Figure 3.1 SEA Pre-Screening Check Decision Tree



4 TASK 1.2 - ENVIRONMENTAL SIGNIFICANCE SCREENING

The pre-screening process indicated that a SEA is not required for the Nanny – Delvin River Basin FRMP. However, to ensure that this is the correct approach the measures in the Plan were further assessed by querying them against the environmental criteria contained in Schedule 1 of the Planning and Development (Strategic Environmental Assessment) Regulations 2004. (S.I. No. 435 of 2004). This is described as Task 1.2 in previously referred to EPA guidance.

4.1 THE CHARACTERISTICS OF THE PLAN HAVING REGARD, IN PARTICULAR, TO

4.1.1 Criteria No. 1

The degree to which the plan or programme, or modification to a plan or programme, sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources.

The measures proposed in the Nanny – Delvin River Basin FRMP do not set the framework for future development projects. These are national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding.

4.1.2 Criteria No. 2

The degree to which the plan or programme, or modification to a plan or programme, influences other plans including those in a hierarchy.

The Nanny – Delvin River Basin FRMP is a Regional level plan as demonstrated within **Table 4.1**. The Plan is influenced by the overarching European and National Plans and legislation, while it will influence the lower tiered Plans at the sub-regional and local level, such as Local Area Plans and County Development Plans.

Table 4.1 Summary of Key Plans, Programmes and Legislation Relevant to the FRMP

Level	Plan / Programme / Legislation
EU Level	<ul style="list-style-type: none"> • EU Floods Directive [2007/60/EC] • A Blueprint to Safeguard Europe's Water Resources [COM(2012)673] • Bathing Water Directive [2006/7/EC] • Birds Directive [2009/147/EC] • Bonn Convention [L210, 19/07/1982 (1983)] • Drinking Water Directive [98/83/EC]

	<ul style="list-style-type: none"> • EIA Directive [85/337/EEC] [2014/52/EU] • Environmental Liability Directive [2004/35/EC] • Environmental Quality Standards Directive [2008/105/EC] • EU Biodiversity Strategy to 2020 [COM(2011)244] • European Landscape Convention [ETS No. 176] • Groundwater Directive [80/68/EEC] and Daughter Directive [2006/118/EC] • Habitats Directive [92/43/EEC] • Marine Strategy Framework Directive [2008/56/EC] • Nitrates Directive [91/676/EEC] • Renewable Energy Directive [2009/28/EC] • SEA Directive [2001/42/EC] • Second European Climate Change Programme [ECCP II] 2005. • Sewage Sludge Directive [86/278/EEC] • Soils Thematic Strategy [COM(2006) 231] • Urban Wastewater Treatment Directive [91/271/EEC] • Water Framework Directive [2000/60/EC] • World Heritage Convention [WHC-2005/WS/02]
National Level	<ul style="list-style-type: none"> • Arterial Drainage Maintenance and High Risk Designation Programme 2016-2021 (OPW, 2015) • Fisheries Acts 1959 to 2007 (S.I. No. 14 of 1959 and No. 17 of 2007) • Food Harvest 2020 (DAFM, 2010) • Food Wise 2025 (DAFM, 2015) • Capital Investment Programme 2015-2021 (Irish Water, 2015) • Grid 25 Implementation Plan 2011-2016 (EIRGIRD, 2010) • Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland (Inter-Departmental Marine Coordination Group 2012) • Irish Geological Heritage (IGH) Programme (GSI 1998-) • Lead in Drinking Water Mitigation Plan (Irish Water, 2016) • National Biodiversity Plan (2nd Revision 2011-2016) (DAHG, 2011) • National Climate Change Adaptation Framework (DEHLG, 2012) • National Climate Change Strategy 2007-2012 (DEHLG, 2007) • National (Climate) Mitigation Plan (DECLG, 2012) • National Development Plan 2007-2013 (DECLG, 2007) • National Forestry Programme 2014-2020 (DAFM, 2015) • National Forest Policy Review (DAFM, 2014) • National Landscape Strategy for Ireland (Draft) 2014 – 2024 (DAHG, 2014) • National Monuments Acts (1930 to 2004) (S.I. No. 2 of 1930 & No. 22 of 2004) • National Renewable Energy Action Plan (DCENR, 2010) • National Secondary Road Needs Study 2011 (NRA, 2011) • National Spatial Strategy 2002-2020 (DELG, 2002) • National Sludge Wastewater Sludge Management Plan (Draft) (Irish Water, 2015) • National Strategic Plan for Sustainable Aquaculture Development (DAFM, 2015) • Offshore Renewable Energy Development Plan (DCENR, 2014) • Planning System and Flood Risk Management (OPW, 2009) • Raised Bog SAC Management Plan (Draft) (DAHG, 2014),

	<ul style="list-style-type: none"> • National Peatland Strategy (Draft) (NPWS, 2014) • Review of Raised Bog Natural Heritage Area Network (NPWS, 2014) • Report of the Flood Policy Review Group (OPW, 2004) • River Basin Management Plan for Ireland (2018-2021) (Draft) (DHPCLG, 2017) • Rural Development Programme 2014-2020 (DAFM, 2015) • Water Services Strategic Plan (Irish Water, 2014)
Regional Level	<ul style="list-style-type: none"> • UoM08 Flood Risk Management Plan (OPW, 2017) • Eastern River Basin District Management Plan 2009-2015 (DEHLG, 2010) • Draft Transport Strategy for the Greater Dublin Area 2016-2035 (NTA, 2015) • Regional Planning Guidelines for the Greater Dublin Area 2010-2022, (Regional Planning Guidelines Office, 2010))
Sub-Regional	<ul style="list-style-type: none"> • Meath County Development Plan 2013-2019 (Meath County Council, 2013) • Fingal Development Plan 2011-2017 (Fingal County Council, 2011) • Fingal Development Plan: 2017-2023 (Draft) (Fingal County Council 2017) • Meath Economic Development Strategy 2014-2022 (Meath County Council, 2014) • Fingal Local Economic and Community Plan 2016-2021 (Fingal County Council, 2015) • County Meath Groundwater Protection Scheme (GSI and Meath County Council, 1996) • Bog of The Ring Groundwater Protection Scheme (GSI and Fingal County Council, 2005) • Fingal Housing Strategy 2017-2023 Appendix 1 (Fingal County Council, 2016) • Landscape Assessment Guidance (Fingal County Council, 1999) • Wind Energy Strategy (Fingal County Council, 2009) • Draft County Meath Heritage Plan 2016-2021 (Meath County Council, 2015) • Fingal Heritage Plan 2011-2017 (Fingal County Council, 2012) • East Meath Local Area Plan 2014-2020 (Meath County Council, 2014) • Ashbourne Local Area Plan 2009-2015 (Meath County Council, 2009) • Balbriggan North Local Area Plan • Balbriggan SE Local Area Plan (Fingal County Council, 2007) • Balbriggan Stephenstown Local Area Plan 2007 (Fingal County Council, 2007) • Ballyboghil Local Area Plan 2017-2022 (Fingal County Council, 2012) • Donabate Local Area Plan 2014-2020 (proposed) (Fingal County Council, 2016) • Dublin Airport Local Area Plan, June 2006 -2015 (Fingal County Council, 2015) • Dunshaughlin Electoral Area Development Plan (Meath County Council, 2009) • Garristown Local Area Plan 2015-2020 ((Fingal County Council, 2010) • Kinsealy Local Area Plan 2014-2020 (proposed) (Fingal County Council, 2013) • Lusk Local Area Plan 2009 (Fingal County Council, 2009) • Oldtown Local Area Plan 2015-2022 (Fingal County Council, 2012) • Portmarnock Local Area Plan 2006 (Fingal County Council, 2006) • Portmarnock South Local Area Plan (Fingal County Council, 2013) • Ratoath Local Area Plan 2009-2015 (Meath County Council, 2009) • Rowlestown Local Area Plan 2013-2019 (Fingal County Council, 2013) • Rush Kenure Local Area Plan 2009-2019 (Fingal County Council, 2009)

	<ul style="list-style-type: none"> • Streamstown Local Area Plan 2009-2019 ((Fingal County Council, 2009) • (Draft) County Meath Biodiversity Action Plan 2015-2021 (Meath County Council, 2015)
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4.1.3 Criteria No. 3

The relevance of the plan or programme, or modification to a plan or programme, for the integration of environmental considerations in particular with a view to promoting sustainable development.

The measures proposed in the Nanny – Delvin River Basin FRMP advocate for future sustainable development by aiming to prevent unsustainable development within flood zones. The measures in the Plan also promote greater resilience to and preparedness for flooding which makes communities more sustainable. However the Plan does not set a framework for any development into which there can be the integration of environmental considerations.

4.1.4 Criteria No. 4

Environmental problems relevant to the plan or programme, or modification to a plan or programme

The CFRAM Flood Risk Management Plans were anticipated to have the potential for environmental problems from the development and maintenance of flood risk management measures that could potentially impact upon biodiversity, flora, fauna, population, human health, soils, water, climate, material assets, cultural heritage, architectural heritage and archaeological heritage and landscape. The measures proposed in the Nanny – Delvin River Basin FRMP are however all non-structural, that looks to guide away from future unsuitable development and looks to promote greater resilience to and preparedness for flooding. These non-structural measures are unlikely to cause any environmental problems.

4.1.5 Criteria No. 5

The relevance of the plan or programme, or modification to a plan or programme, for the implementation of European Union Legislation on the Environment (e.g. Plans linked to Waste-management or Water Protection)

The Nanny – Delvin River Basin FRMP supplements the existing FEM FRMP rather than replacing it, hence these supplemental proposals are being screened for requirement of SEA.

4.2 CHARACTERISTICS OF THE EFFECTS AND OF THE AREA LIKELY TO BE AFFECTED, HAVING REGARD, IN PARTICULAR, TO

4.2.1 Criteria No.1

The probability, duration, frequency and reversibility of the effects

The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures are unlikely to have any negative environmental effects.

4.2.2 Criteria No. 2

The cumulative nature of the effects

The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures are unlikely to have any cumulative negative environmental effects alongside any existing measures proposed within the FEM FRMP of 2011, or any other Plan or Programme.

4.2.3 Criteria No. 3

The transboundary nature of the effects

The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures are unlikely to have any transboundary effects.

4.2.4 Criteria No. 4

The risks to human health or the environment (e.g. due to accidents)

The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures are unlikely to have any risks to human health or the environment.

4.2.5 Criteria No. 5

The magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected)

The Nanny – Delvin River Basin FRMP covers an area of area of approximately 772 km² which includes parts of Counties Meath and Dublin within the Meath and Fingal County Council administrative areas. The Plan however proposes national level, non-structural, governance and policy measures with no specific location or size. These measures are unlikely to have any negative effects on the local or regional population.

4.2.6 Criteria No. 6

The value and vulnerability of the area likely to be affected due to:

- a) special natural characteristics or cultural heritage

The Nanny – Delvin River Basin of high ecological value, with a variety of habitats and species of conservation concern which are protected under a number of European and national designations. Areas which have been designated for the protection of habitats and species include the following:

Special Areas of Conservation (SACs) are designated in accordance with the Habitats Directive (92/43/EEC) for the conservation of certain habitats and species and protected by the European Communities (Birds and Natural Habitats) Regulations 2011. Together with Special Protection Areas (SPAs) these European sites form part of the Natura 2000 Network. There are three SACs in the River Basin, being the Malahide Estuary SAC, the Rogerstown Estuary SAC and the Boyne Coast and Estuary SAC, which are all at the downstream extents of the River Basin. Species listed on Annex II or Annex IV of the Habitats Directive (92/43/EEC), and afforded protection through the European Communities (Birds and Habitats) Regulations 2011, may also be present outside of designated sites within this River Basin.

Special Protection Areas are designated under the EU Birds Directive (79/409/EEC) for the protection of birds of conservation concern and protected by the European Communities (Birds and Natural Habitats) Regulations 2011. Together with SACs these European sites form part of the Natura 2000 Network. There are four SPAs in the River Basin, being the Boyne Estuary SPA, the Broadmeadow / Swords Estuary SPA, the River Nanny and Shore SPA and the Rogerstown Estuary SPA, which again are all at the downstream extents of the River Basin.

Ramsar Sites are designated under the Convention on Wetlands of International Importance for the protection of wetland areas (which are important feeding habitats for birds). All Ramsar Sites are also recognised as SPAs and/or SACs and so are afforded protection by the European Communities (Birds and Natural Habitats) Regulations 2011. There are two Ramsar Sites in the River Basin, being Broadmeadow Estuary and Rogerstown Estuary.

Natural Heritage Areas (NHAs) are designated under the Wildlife Act (1976 - 2000) as they are considered important habitats which support animals or vegetation of importance. There are no NHAs in the River Basin, however there are 12 proposed Natural Heritage Areas (pNHA) in the River Basin, which were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. pNHAs are subject to limited statutory protection, but are recognised for their ecological value by planning and licensing authorities.

Nature Reserves are identified as being important habitats to support wildlife and are protected under Ministerial Order. There is one nature reserve in the River Basin (Rogerstown Estuary).

There are no UNESCO World Heritage Sites within the River Basin; however there are over 30 monuments with preservation orders, over 20 scheduled monuments and also over 700 other monuments and over 700 structures recorded under the National Inventory of Architectural Heritage (NIAH).

The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures are unlikely to affect any of the above special natural characteristics or cultural heritage features.

An Appropriate Assessment Screening was carried out as part of this SEA Screening to test for likely significance of any impacts of the measures proposed in the Plan on designated European sites. The Screening for Appropriate Assessment for the Nanny – Delvin River Basin FRMP, prepared under the Eastern CFRAM Study, was considered in the context of the European sites identified within the project's zone of influence, their Qualifying Interests and Special Conservation Interests and any conservation objectives which have been set. From the findings of the Screening exercise, it was concluded that the proposed Plan

- Is not directly connected with or necessary to the management of any European site;
- Will not give rise to significant effects on the Qualifying Interests of any European site within the project's zone of influence, in view of best scientific knowledge and in view of the conservation objectives of those sites.

The AA Screening can be found in **Appendix A** of this SEA Screening Report.

b) Exceeded environmental quality standards or limit values

The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures are unlikely to cause exceedance of any environmental quality standards or limit values.

c) Intensive land-use

The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures will not propose the intensification of existing land uses.

4.2.7 Criteria No. 7

The effects on areas or landscapes which have a recognised national, European Union or international protection status

The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures will not have any effects on areas or landscapes which have a recognised national, European Union or international protection status.

5 NEXT STEPS

Given that the SEA and AA Screenings have determined that the measures proposed in the Nanny – Delvin River Basin FRMP do not set the framework for future development and do not have the potential for significant environmental effects on the environment or on designated European sites, no further SEA or AA steps are proposed to be undertaken for the Plan. This SEA Screening and accompanying AA Screening will be provided to the statutory consultees for SEA in Ireland for review. These consultees are as detailed below:

- Environmental Protection Agency (EPA);
- Department of Housing, Planning, Community and Local Government (DHPCLG);
- Department of Agriculture, Food and the Marine (DAFM);
- Department of Communications, Climate Action and the Environment (DCCAE); and
- Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (DAHRRGA).

A timescale of 5 weeks is proposed for these consultees to respond with their views on the SEA Screening and AA Screening of the Nanny – Delvin River Basin FRMP.

5.1 MITIGATION MEASURES

For all the River Basin Plans in the Eastern CFRAM Study area the SEA Environmental Reports have proposed mitigation measures to be included within the Plans. These measures were recommended where potential negative impacts from flood risk management options on environmental topic areas have been identified. These mitigation measures aim to prevent, reduce and, as fully as possible, offset any significant adverse effects on the environment due to implementation of the Plan. These mitigation measures were further enhanced following consultation of the draft Plans. It is recommended that, in order to be consistent with other Eastern River Basin FRMPs, these mitigation measures be adopted with the Nanny – Delvin River Basin FRMP, even though it does not contain any structural measures or set a framework for development.

5.1.1 General Mitigation

The principal mitigation recommendation is that the predicted negative effects should be considered further during the next stage of option development, when details of the option (e.g. visual appearance, alignment of flood defences) can be optimised through detailed feasibility studies and design in order to limit identified impacts on sensitive receptors. Where feasible, natural flood management and green engineering methods should be incorporated into the detailed planning to reduce the negative environmental impacts of a scheme.

Further environmental studies based on the detailed design and construction methodology should be undertaken as appropriate. These studies may involve, but are not limited to, aquatic and terrestrial ecology surveys, ornithological and bat surveys, fish surveys, landscape and visual assessments, WFD assessments, geotechnical investigations and heritage surveys. Further Appropriate Assessment, to meet the requirements of the Habitats Directive, of the preferred option detailed design and construction methodology may be required at the project level, where potential impacts have been identified.

Before any works are carried out, detailed method statements and management plans (construction and environmental) should be prepared, including timing of works, information on the specific mitigation measures to be employed for each works area, and mechanisms for ensuring compliance with environmental legislation and statutory consents.

The timing of construction and maintenance works should be planned to avoid any potential for negative cumulative impacts or inter-relationships with other schemes, plans or projects, yet look to optimise any potential positive cumulative impacts or inter-relationships.

Contractors should be required to prepare Construction Environmental Management Plans (CEMPs), which would include a requirement for related plans to be prepared, as appropriate, for project implementation, such as Erosion and Sediment Control, Invasive Species Management, Emergency Response, Traffic and Safety Management, Dust and Noise Minimisation and Stakeholder Communication Plans. It is recommended that a standard manual for FRM Mitigation Measures for the full suite of measures likely to be implemented in the Plan is developed, agreed with statutory and environmental bodies, and then incorporated into an Environmental Management System (EMS) / Environmental Management Plan (EMP) based approach for the roll out of individual or suites of Plan measures. Works should only be carried out once the method statements have been agreed with competent authorities such as the NPWS and Inland Fisheries Ireland (IFI). At the project level it will not be sufficient to defer the production of construction method statements. These should be completed in the detailed design stage and may be subject to further Appropriate Assessment where potential impacts have been identified. Where there may be unavoidable impacts on protected habitats and/or species the necessary derogation licences should be applied for prior to seeking planning permission or approval for a scheme.

Direct instream works such as culvert upgrades or proposed measures along the riverbank have the greatest potential for negative impacts during spawning / breeding and early nursery periods for aquatic protected species. No instream or potentially significantly damaging out of river works should occur during restricted periods for relevant species and consultation should be undertaken with IFI in this regard.

Monitoring of project level mitigation measures should be undertaken during and after works, to ensure effectiveness.

All works and planning of works will be undertaken with regard to the OPW Environmental Management Protocols (EMP) and Standard Operating Procedures (SOP), all relevant legislation, licensing and consent requirements, and recommended best practice guidelines.

An ecological clerk of works should be appointed for environmental management of each scheme, and where freshwater pearl mussels may be impacted an appropriate freshwater pearl mussel expert should also be appointed.

5.1.2 Mitigation by Environmental Impact

Table 5.1 demonstrates environmental impact specific mitigation measures that should be adopted within the Plan to minimise the potential for any negative effects on the wider environment of implementing the preferred options. These mitigation measures should be implemented and further developed at the next detailed design stage and project level study stage.

Table 5.1 Proposed Mitigation Measures

Impact	Proposed Mitigation
Temporary disturbance and destruction of existing habitats and flora, and the displacement of fauna, along the river corridors.	Good planning and timing of works to minimise footprint impacts. Where applicable, prior to any vegetation clearance an appropriately qualified ecologist should be contracted to undertake a 'pre-vegetation clearance' survey for signs of nesting birds and protected and important species e.g. otters, kingfisher etc. Should important species be found during surveys the sequential approach of avoid, reduce or mitigate should be adopted to prevent significant impacts with advice from appropriately qualified professional. Vegetation and tree clearance should be minimised and only occur outside the main bird nesting season from February to August. Where there are over-wintering birds, to avoid disturbance, works should not be undertaken between September to March. Following construction, replanting and landscaping, or natural revegetating, should be undertaken in line with appropriate guidelines that aim to improve local biodiversity and wildlife, therefore will give medium and long term benefits to the biodiversity, flora and fauna of the working areas. Where possible, original sediment/soil should be reinstated to original levels to facilitate natural restoration and recolonisation of habitat. Adhere to OPW EMP and SOP and consider integration of design as part of blue/green infrastructure plans and habitat enhancement where possible
Temporary displacement of otters, birds, fish and other fauna during the construction period	Good planning, good timing of works and sensitive construction methods are essential. Adherence to NRA construction guidelines, e.g. on Crossing of Watercourses, on Treatment of Otters etc., Eastern Regional Fisheries Board Requirements for 'Protection of Fisheries Habitat during Construction and Development Works at River Sites' and IFI 'Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters'. Proposed measures should be designed to minimise impact on otter habitat and shall include otter passes and fishways / ladders where possible. Pre-construction otter

	survey on all watercourses and any derogation licences applied for, where necessary. Adhere to OPW EMP and SOP.
Impact on European sites, habitats and species from construction or operation of FRM scheme.	Good planning and timing of works, and good construction and management practices to keep impacts to a minimum. Site and species specific mitigation provided in NIS for the FRMP including site specific surveys, timing of works etc. Provide local, connected, compensatory habitat if loss of area of Natura site is unavoidable. Adhere to OPW EMP and SOP.
Spread of invasive species during construction.	Pre-construction survey for invasive species along all watercourses and adjoining lands where necessary, e.g. for Himalayan balsam and Japanese knotweed. Cleaning of equipment and machinery along with strict management protocols to combat the spread of invasive species. Preparation of invasive species management plan for construction and maintenance-related activities, if invasive species are recorded during the pre-construction surveys. Any imported materials will need to be free from alien invasive species. Post-construction survey for invasive species. Adhere to OPW EMP and SOP.
Culverting impacts on faunal passage, where applicable.	Ledges and adequate access may be required for some culverts to allow continued passage of fauna. Consideration will be given to setting back walls from the river bank as an alternative to culverts where feasible. Adhere to OPW EMP and SOP.
Impacts on Freshwater Pearl Mussel	Where freshwater pearl mussels may be impacted an appropriate FPM expert should be consulted for surveys and in planning, scheme design and project level mitigation. Any relevant FPM Management Plans and SOPs should be adhered to.
Dredging impacts on biodiversity, flora and fauna.	Minimise requirement for in-stream works through good planning. Good dredging practices should be implemented, along with consultation with environmental bodies e.g. IFI, on methodology and appropriate timing to cause the least amount of damage, habitat loss, and sedimentation. Dredging works should be carried out during low flow conditions and should cease during heavy rainfall and flood conditions, to reduce suspended solids in the river. Spoil and removed vegetation material from the river should be stored back from the river and a vegetation buffer zone is to be retained, in order to reduce the run-off of suspended solids back into the watercourse. In stream works should be phased to leave undamaged refugia to maintain aquatic macroinvertebrates populations within the river channel. No machinery should be allowed to operate within the river flow without full consultation and approval of the methodology of the proposed works by the relevant statutory bodies. Scoping or relevant specialist ecological surveys during the planning stage and prior to any construction works. Adhere to OPW EMP and SOP.
Construction disturbance to the local population.	Disturbances can be kept to a minimum with good working practices, planning and timing. Adoption of Construction Best Practice and measures outlined in the CEMP and implementation of traffic and pedestrian management planning during construction.
Health and Safety risk to the local population during construction works.	Good construction management practices and planning of works. Adoption of Construction Best Practice and measures outlined in the CEMP.
Increased flood risk to or loss of access to agricultural soil resource.	Consultation and agreement with local landowners on detailed designs and residual impacts of flooding. Potential for requirement of compensation for increased inundation.
Removal of soil and rock material via dredging and excavation works during	Re-use material where possible on site for either embankments or landscaping. Consideration for use of material such as geojute or coir mesh on embankments above rivers or streams

construction.	to hold the soil allowing time for vegetation to establish, while avoiding erosion. Where applicable it is recommended that coarse aggregates (cobble and gravel) removed from the river channel should be stockpiled for replacement and rehabilitation in the reformed river bed. Such material will be stored away from the river bank to ensure that runoff from the material does not affect water quality in the river in the form of increased suspended solids.
De-watering during construction may cause temporary draw down of water table close to works.	Ensure that only small areas of excavation works are open at any one time to reduce the potential volumes of groundwater to be removed.
Temporary disturbances of water quality during the construction phase	Good management and planning to keep water quality disturbance to a minimum. Any potential water quality issues from construction should be contained and treated to ensure no damage to natural waterbodies. Dredging and construction will have to be planned appropriately, using Best Available Techniques / Technology (BAT) at all times, to ensure water quality issues are kept to a minimum, with no significant adverse effects. Guidelines such as CIRIA Document C532 - Control of Water Pollution from Construction Sites and CIRIA documents C521 - SUDS -Design manual for Scotland and NI, and C523 - SUDS -Best Practice Manual to be adhered to. Development and consenting of environmental management plan prior to commencement of works. Adhere to OPW EMP and SOP.
Potential for pollution incidents during the construction phase.	Minimise requirement for in-stream works through good planning. Strict management and regulation of construction activities. Provision of good facilities in construction areas to help prevent pollution incidents. Preparation of emergency response plans. Good work practices including; channelling of discharges to settlement ponds, construction of silt traps, construction of cut-off ditches to prevent run-off from entering watercourse, hydrocarbon interceptors installed at sensitive outfalls, appropriate storage of fuel, oils and chemicals, refuelling of plant and vehicles on impermeable surfaces away from drains / watercourses, provision of spill kits, installation of wheel wash and plant washing facilities, implementation of measures to minimise waste and ensure correct handling, storage and disposal of waste and regular monitoring of surface water quality. Adhere to OPW EMP and SOP.
Potential requirement for maintenance dredging as siltation of the channel and excess vegetative growth will naturally occur.	Design should aim to ensure WFD objectives are not compromised and all options will be subject to a WFD Assessment. Any negative impact on the status of a water body will only be permitted under the WFD if the strict conditions set out in WFD Article 4 are met. Where appropriate, watercourses affected by a scheme should be subjected to a River Hydromorphology Assessment Technique survey (RHAT) for pre and post scheme scenarios. Adhering to good work practices including; diversion of discharges to settlement ponds, construction of silt traps, construction of cut-off ditches to prevent run-off from entering excavations, granular materials placed over bare soils. If a channel is maintained on an as required basis, using good planning, timing and BAT, there should be only minimal temporary disturbance to the local water quality. Adhere to OPW EMP and SOP.
Alterations to coastal processes	Detailed surveys and hydrodynamic modelling to inform detailed design of coastal works to ensure no negative impacts on coastal processes.
Disturbances to local	Good site management practices, traffic and construction

infrastructure during the construction phase, e.g. traffic, water and electricity.	management plans and consultation with the competent and statutory authorities prior to any works should enable all impacts to be kept to a minimum over a short timescale. Adoption of Construction Best Practice.
In the short term construction period there is the potential for damage to heritage features.	Where necessary Heritage Impact Assessment in accordance with the Framework and Principles for the Protection of the Archaeological Heritage (DAHGI, 1999) will be prepared in respect of any works to architectural or archaeological features in advance of any works being carried out to feed into detailed design. Consultation and agreement with DAHRRGA in advance of any works taking place in respect of protected archaeological or architectural features. Construction supervision by qualified project archaeologists, combined with sensitive construction methods and restoration would mean this damage could be kept to a minimum. Heritage features damaged could be restored / preserved. Statutory consents and notices may be required prior to works taking place.
Medium and long term impacts on the setting of heritage features	Impacts could be kept to a minimum through sensitive design and planning. Planning and design advice from qualified archaeologists. Statutory consents may be required prior to works.
Potential for undiscovered heritage to be impacted upon by construction and dredging operations.	Interpretation of side-scan sonar and bathymetry information, along with supervision of construction and dredging operations by qualified archaeologists will minimise any impacts or the possibility of destruction of underwater and undiscovered heritage features in areas of heritage potential.
Extent and severity of short term negative impacts on landscape from construction.	Impacts could be kept to a minimum through good site practice and planning (e.g. screened laydown areas and traffic management). Adoption of Construction Best Practice.
Extent and severity of medium to long term negative impacts on landscape from preferred FRM options.	Impacts could be kept to a minimum through sensitive design and planning (e.g. vegetative screening and landscape management planning). Landscape and visual assessment and advice during detailed design. Public consultation on draft designs.
Culverting, dredging and impoundment impacts on fisheries and potential to impede fish passage.	Instream works including any culverting, provision of sluice gates, penstocks and dredging operations to be undertaken during the period July to September inclusive, following consultation and agreement with IFI. All works affecting any watercourse both temporary and permanent will be agreed with the relevant drainage and fishery authorities. Project level aquatic ecology and fisheries surveys and assessment, based on detailed design, to be undertaken prior to consenting. Where possible bottomless culverts should be used so the natural stream bed can be retained. Proposed measures should be designed to minimise impact on fish spawning grounds, migration and fishery habitats. Adhere to OPW EMP and SOP.
Restricted access to river for recreational activities due to FRM scheme.	Sensitive design of the FRM scheme. Potential to improve recreational access, safety of access and improve local recreational and ecological linkages in the detailed design. Public and stakeholder consultation on draft designs.
Disturbances to local amenity, community and social infrastructure during the construction phase, e.g. shops and amenity areas.	Good site management practices, traffic and construction management plans and consultation with the competent and statutory authorities prior to any works should enable all impacts to be kept to a minimum over a short timescale. Adoption of Construction Best Practice.

5.1.3 Mitigation Guidelines

The following guidelines should be consulted in further development of the preferred FRM options in the next detailed planning phase.

- ‘Arterial Drainage Maintenance Service – Environmental Management Protocols and Standard Operating Procedures’ (OPW, 2011).
- ‘Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites’, Eastern Regional Fisheries Board.
- ‘Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters’, IFI 2016.
- Best practice toolkit of freshwater morphology measures developed by the Freshwater Morphology Programmes of Measures and Standards (POMS) study under the Shannon International River Basin District (ShIRBD) project.
- Good practice guidelines on the control of water pollution from construction sites developed by the Construction Industry Research and Information Association (CIRIA).
- Pollution prevention guidelines and Best Practice Guidance in relation to a variety of activities developed by the Environmental Agency (EA), the Scottish Environmental Protection Agency (SEPA) and the Northern Ireland Environment Agency (NIEA).
- Framework and Principles for the Protection of the Archaeological Heritage, Department of Arts, Heritage, Gaeltacht and the Islands, 1999.

5.2 MONITORING

Article 10 of the SEA Directive requires that monitoring be carried out in order to identify, at an early stage, any unforeseen adverse effects due to implementation of a Plan or Programme, and to be able to take remedial action. Monitoring is carried out by reporting on a set of indicators, which enable positive and negative impacts on the environment to be measured. For the other River Basin FRMPs in the Eastern CFRAM Study area the SEA Environmental Reports have proposed monitoring to be included within the Plans. It is recommended that, in order to be consistent with other Eastern River Basin FRMPs, this monitoring be adopted with the Nanny – Delvin River Basin FRMP, even though it does not contain any structural measures or set a framework for development.

5.2.1 Responsibilities for Monitoring

The OPW will monitor progress in the implementation of measures for which the OPW has responsibility on an ongoing basis as part of its normal business management processes.

The OPW will coordinate and monitor progress in the implementation of the Plans through an inter-departmental coordination group.

On a six-yearly cycle, the OPW will undertake a full review of the progress in the implementation of the Plan and the level of flood risk, and will report this progress publicly and to the European Commission as part of obligations of Ireland under the 'Floods' Directive.

In addition to monitoring of implementation of the measures set out in the Plan, monitoring will also be undertaken in relation to:

- Continued collection and analysis of hydro-meteorological data for improved flood flow and sea level frequency analysis and for observation of the potential impacts of climate change.
- Ongoing recording of flood events through established systems, with photographs, peak water levels, duration, etc., for recording and publication on the National Flood Event Data Archive (www.floodmaps.ie).
- Monitoring of compliance with the Guidelines on the Planning System and Flood Risk Management through ongoing review of development plans, local area plans and other forward planning documents.
- Changes that may affect the areas prone to flooding as shown on the flood maps, with the flood maps updated on an ongoing basis as necessary.

5.2.2 Sources of Information for Monitoring

The SEA Directive requires that the significant environmental effects of the implementation of a Plan are monitored in order to identify at an early stage unforeseen adverse effects and in order to undertake appropriate remedial action. The proposed monitoring programme is given in **Table 5.2** and is based on the Targets and Indicators established in the SEA Objectives for the Eastern CFRAM Study Plans. This should be adopted into the final Plan and the monitoring should then be undertaken during development of the 2nd cycle of the Plan.

Detailed monitoring for specific schemes proposed should be re-scoped in consultation with the appropriate authorities at the detailed feasibility and design stages. This agreed detailed monitoring should then be undertaken before, during and after construction, where and when appropriate.

Table 5.2 Environmental Monitoring of Plan

SEA Topic	Objective	Sub-Objective		Indicator	Possible Data and Responsible Authority
Biodiversity, Flora and Fauna	Support the objectives of the Habitats Directive	i)	Avoid detrimental effects to, and where possible enhance, Natura 2000 network, protected species and their key habitats, recognising relevant landscape features and stepping stones	Area, condition and trend of European sites and species in the Nanny – Delvin River Basin (European sites to review are those identified by AA Screening.)	NPWS – Conservation Action Plans NPWS reporting on Irelands Habitats and Species – Article 17 Reports. NPWS reporting on the status of Irelands Birds – Article 12 Reports.
	Avoid damage to, and where possible enhance, the flora and fauna of the catchment	ii)	Avoid damage to or loss of, and where possible enhance, nature conservation sites and protected species or other know species of conservation concern	Area, condition and trend of national, regional or local conservation sites in the Avoca-Nanny – Delvin River Basin (National sites to review are those identified in SEA Environmental Report.)	Local Authority – Local Area Plans and County Development Plans. NPWS - Status of Protected Sites and Species in Ireland Reporting
Population and Human Health	Minimise risk to human health and life	i)	Minimise risk to human health and life of residents	Residential property flooding in the Nanny – Delvin River Basin	OPW, Local Authority and Emergency Services Reporting.
		ii)	Minimise risk to high vulnerability properties	High vulnerability sites impacted by flooding in the Nanny – Delvin River Basin	OPW, Local Authority and Emergency Services Reporting.
Geology, Soils and Landuse	Minimise risk to agriculture	i)	Minimise risk to agriculture	Area of soil resource lost due to flooding and flood risk management in the Nanny – Delvin River Basin.	EPA - CORINE landcover mapping. Local Area Plans and County Development Plans – myplan.ie
Water	Support the objectives of the WFD	i)	Provide no impediment to the achievement of water body objectives and, if possible, contribute to the achievement of water body objectives	Status and status trend of waterbodies, where FRM activities are within and upstream of a waterbody.	EPA / ERBD – WFD status reporting and RBMPs.
Climate	Ensure flood risk management options are adaptable to future flood risk	i)	Ensure flood risk management options are adaptable to future flood risk	Requirement for adaptation of FRM management activities for climate change in the Nanny – Delvin River Basin.	OPW and Local Authority reporting.

Material Assets	Minimise risk to transport & utility infrastructure	i)	Minimise risk to transport infrastructure	Number and type of transport routes that have flooded in the Nanny – Delvin River Basin.	OPW, Local Authority and NRA reporting.
		ii)	Minimise risk to utility infrastructure	Number and type of utilities that have flooded in the Nanny – Delvin River Basin.	OPW, Local Authority, ESB, Eirgrid, Eircom, BGE, Irish Water and EPA reporting.
Cultural Heritage	Avoid damage to or loss of features, institutions and collections of cultural heritage importance and their setting	i)	Avoid damage to or loss of features, institutions and collections of architectural value and their setting.	Number of designated architectural heritage features, institutions and collections that have flooded in the Nanny – Delvin River Basin.	OPW, Local Authority and DAHRRGA reporting. Archaeological Survey of Ireland Sites and Monuments Records
		ii)	Avoid damage to or loss of features, institutions and collections of archaeological value and their setting.	Number of designated archaeological heritage features, institutions and collections that have flooded in the Nanny – Delvin River Basin.	OPW, Local Authority and DAHRRGA reporting. Archaeological Survey of Ireland Sites and Monuments Records
Landscape and Visual	Protect, and where possible enhance, landscape character and visual amenity within the river corridor	i)	Protect, and where possible enhance, visual amenity, landscape protection zones and views into / from designated scenic areas within the river corridor.	Length of waterway corridor qualifying as a landscape protection zone within urban areas of Nanny – Delvin River Basin. Change of quality in existing scenic areas and routes in the Nanny – Delvin River Basin. Loss of public landscape amenities in the Nanny – Delvin River Basin.	Local Authority – Landscape Character Assessments, County Development Plans and Local Area Plans. EPA - CORINE Landcover.
Fisheries, Aquaculture & Angling	Protect, and where possible enhance, fisheries resource within the catchment	i)	Maintain existing, and where possible create new, fisheries habitat including the maintenance or improvement of conditions that allow upstream migration for fish species.	Improvement or decline in fish stocks and habitat quality in the Nanny – Delvin River Basin. Barriers to fish movement within the Nanny – Delvin River Basin.	IFI and WFD fish surveys and reports. Local fisheries reporting.
Amenity, Community & Socio-Economics	Minimise risk to community	i)	Minimise risk to social infrastructure and amenity	Social infrastructure and amenity assets impacted by flooding in the Nanny – Delvin River Basin.	OPW and Local Authority reporting.
		ii)	Minimise risk to local employment	Non-residential properties impacted by flooding in the Nanny – Delvin River Basin.	OPW and Local Authority reporting.

6 CONCLUSIONS

Following the screening process, where the context of the measures proposed in the Nanny – Delvin River Basin FRMP has been assessed against the screening check and the environmental significance criteria as set out in Schedule 1 of the Regulations it is clear that a full Strategic Environmental Assessment **is not required** for the following reasons:

- The outcome of the Stage One screening check indicates that SEA **is not required**.
- The Nanny – Delvin River Basin FRMP proposes national level, non-structural, governance and policy measures with no specific location or size. These measures generally aim to prevent development within flood zones, and to increase public awareness and resilience to flooding. These measures:
 - Do not set the framework for future development projects.
 - Are non-structural and are unlikely to cause any environmental problems or have any negative environmental effects, including potential cumulative or in-combination negative environmental effects.
 - Supplement the proposals of the FEM FRMP of 2011, but do not replace the original measures.
 - Are unlikely to have any transboundary effects.
 - Are unlikely to have any risks to human health or the environment.
 - Are unlikely to have any negative effects on the local or regional population.
 - Are unlikely to affect any of the special natural characteristics or cultural heritage features in the River Basin.
 - Are unlikely to cause exceedance of any environmental quality standards or limit values.
 - Will not propose the intensification of existing land uses.
 - Will not have any effects on areas or landscapes, which have a recognised national, European Union or international protection status.

As the responsible authority for the Nanny – Delvin River Basin FRMP, the OPW determines that the Plan **does not require SEA**.

7 CONTACT

The contact for any information regarding the SEA of the Nanny – Delvin River Basin FRMP is as follows:

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APPENDIX A

APPROPRIATE ASSESSMENT SCREENING

Eastern CFRAM Study

UoM08 Flood Risk Management Plan

Screening for Appropriate Assessment

Document Control Sheet

Client:	The Office of Public Works
Project Title:	Eastern CFRAM Study
Document Title:	Eastern CFRAM Flood Risk Management Plan – Screening of UoM08 Flood Risk Management Plan for Appropriate Assessment
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The draft Flood Risk Management Plans are intended **for the purpose of consultation only**. They should not be used or relied upon for any other purpose or decision-making process. They are likely to be updated, refined or changed before finalisation. The Commissioners of Public Works in Ireland reserve the right to change the content and/or presentation of any of the information provided in the draft Flood Risk Management Plans at their sole discretion.

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- South Dublin County Council
- Westmeath County Council
- Wexford County Council
- Wicklow county Council
- Mid-East Regional Authority
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- The Environmental Protection Agency
- Met Éireann
- All members of the National CFRAM Steering and Stakeholder Groups

Maps in the FRMP include Ordnance Survey of Ireland (OSI) data reproduced under licence.

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LIST OF ABBREVIATIONS

AA	Appropriate Assessment
AFA	Area for Further Assessment
CBA	Cost Benefit Analysis
CFRAM	Catchment Flood Risk Assessment and Management
CJEU	Court of Justice of the European Union
DAFM	Department of Agriculture, Food and the Marine
DAHG	Department of Arts, Heritage and the Gaeltacht
DCENR	Department of Communications, Energy and Natural Resources
DD	Drainage District
DECLG	Department of Environment, Community and Local Government
DEHLG	Department of Environment, Heritage and Local Government
DHPCLG	Department of Housing, Planning, Community and Local Government
EC	European Commission
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ERBD	Eastern River Basin District
FCC	Fingal County Council
FEMFRAMS	Fingal East Meath Flood Risk Assessment and Management Study
FEMFRMP	Fingal East Meath Flood Risk Management Plan
FPM	Freshwater Pearl Mussel
FRA	Flood Risk Assessment
FRM	Flood Risk Management
FRMP	Flood Risk Management Plan
GIS	Geographical Information System
GSI	Geological Survey Ireland
HA	Hydrometric Area
HPW	High Priority Watercourse
IFI	Inland Fisheries Ireland
IPP	Individual Property Protection
IRBD	International River Basin District
IROPI	Imperative Reasons of Overriding Public Interest
LA	Local Authority
LAP	Local Area Plan
MCA	Multi-Criteria Analysis
MIDA	Marine Irish Digital Atlas
MPA	Marine Protected Area
MPW	Medium Priority Watercourse
NHA	Natural Heritage Area
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
OD	Ordnance Datum
OPW	Office of Public Works
OSI	Ordnance Survey Ireland
OSPAR	(Oslo Paris) Convention for the Protection of the Marine Environment of the North-East Atlantic

P/P	Plan or Programme
PFRA	Preliminary Flood Risk Assessment
RBD	River Basin District
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SERBD	South Eastern River Basin District
SI	Statutory Instrument
SOP	Standard Operating Procedure
SoP	Standard of Protection
SPA	Special Protection Area
SSA	Spatial Scale of Assessment
SuDS	Sustainable Drainage Systems
SWRBD	South Western River Basin District
UNESCO	United Nations Educational, Scientific and Cultural Organization
UoM	Unit of Management
WFD	Water Framework Directive
WHO	World Health Organisation
WRBD	Western River Basin District

1 INTRODUCTION AND BACKGROUND

The EU Directive on the assessment and management of flood risks [2007/60/EC], often referred to as the 'Floods Directive' came into force in late 2007. This is a framework directive that requires Member States to follow a certain process, namely:

- Undertake a Preliminary Flood Risk Assessment (PFRA) by 22 December 2011, to identify areas of existing or foreseeable future potentially significant flood risk (initially referred to as 'Areas of Potential Significant Risk', or 'APSRs', but now referred to as 'Areas for Further Assessment', or 'AFAs')
- Prepare flood hazard and risk maps for the AFAs by 22 December 2013; and,
- Prepare flood risk management plans by 22 December 2015, setting objectives for managing the flood risk within the AFAs and setting out a prioritised set of measures for achieving those objectives.

The directive requires that the PFRA, flood maps and flood risk management plans are prepared in cooperation and coordination with neighbouring states in cross-border river basins, and with the implementation of the Water Framework Directive (WFD). The Floods Directive also requires that the PFRA and flood maps are published, and that public and stakeholder consultation and engagement is undertaken in the preparation of the Flood Risk Management Plans (FRMPs).

The FRMPs arising from the Eastern CFRAM Study are strategic plans and are therefore subject to the provisions of Article 6(3) of the EU Habitats Directive via the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) ('the 2011 Regulations'). The 2011 Regulations transpose the provisions of the Habitats Directive 92/43/EEC into Irish law and consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in judgements of the Court of Justice of the European Union (CJEU).

As with Strategic Environmental Assessment (SEA), it is accepted best-practice for the Appropriate Assessment of strategic planning documents, in the context of the 2011 Regulations, to be run as an iterative process alongside the Plan development, with the emerging proposals or options continually assessed for their possible effects on European sites and modified or abandoned (as necessary) to ensure that the subsequently adopted Plan is not likely to result in significant adverse effects on any European sites, either alone or 'in combination' with other plans.

1.1 LEGISLATIVE CONTEXT

The 'Habitats Directive' (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) provides legal protection for habitats and species of European importance. The main aim of the Habitats Directive is *"to contribute towards ensuring biodiversity through the conservation of natural habitats of wild fauna and flora in the European territory of the Member States to which the treaty applies"*. Actions taken in order to fulfil the Directive must be designed to: *"maintain or restore, at a favourable conservation status, natural habitats and species of wild fauna and flora of Community interest"*.

A key outcome of the Habitats Directive is the establishment of Natura 2000, an ecological infrastructure developed throughout Europe for the protection of sites that are of particular importance for rare, endangered or vulnerable habitats and species. In Ireland, Special Areas of Conservation (SACs), together with Special Protection Areas (SPAs) designated under the 'Birds Directive' (Council Directive 2009/147/EC - codified version of Directive 79/409/EEC on the Conservation of Wild Birds, as amended), are included in the Natura 2000 network¹, and are hereafter referred to as 'European sites'.

A central protection mechanism of the Habitats Directive is the requirement of competent authorities to undertake Appropriate Assessment² (AA) to consider the possible nature conservation implications of any Plan or Project on European sites before any decision is made to allow the plan or project to proceed.

The 2011 Regulations provide the following definition of a plan: *"subject to the exclusion, except where the contrary intention appears, of any plan that is a land use plan within the meaning of the Planning Acts 2000 to 2011, includes-*

- (a) *any plan, programme or scheme, statutory or non-statutory, that establishes public policy in relation to land use and infrastructural development in one or more specified locations or regions, including any development of land or on land, the extraction or exploitation of mineral resources or of renewable energy resources and the carrying out of land use activities, that is to be considered for adoption authorisation or approval or for the grant of a licence, consent, permission, permit, derogation or other authorisation by a public authority, or*
- (b) *a proposal to amend or extend a plan or scheme referred to in subparagraph (a)"*

Not only is every new plan or project captured by the requirements of the 2011 Regulations, but each plan or project, when being considered for approval at any stage, must take into consideration the possible effects it may have in combination with other plans and projects.

Article 6(3) of the Habitats Directive states: *"Any plan or project not directly connected with or necessary to the management of the [European] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and if appropriate, after having obtained the opinion of the general public."*

¹ Natura 2000 sites are protected by Article 6(3) of the Habitats Directive. Protection is given to SACs from the point at which the European Commission and the Government agree the site as a 'Site of Community Importance' (SCI). Article 6(3) of the Habitats Directive and Article 4(4) of the Birds Directive also apply (respectively) to any other site or area that the Commission believes should be considered as an SAC or SPA, until their status is determined. Under the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) the term 'European site' applies to any designated SAC or SPA; any SCI; any candidate SCI (cSCI); any candidate SAC (cSAC); and any candidate or proposed SPA (pSPA).

² 'Appropriate Assessment' has been historically used as an umbrella term to describe the process of assessment in its entirety from screening to IROPI (Imperative Reasons of Overriding Public Interest). The assessment process is now more commonly divided into distinct stages, one of which (Stage 2) is the 'appropriate assessment' stage. The overall process is often referred to as an 'Article 6 Assessment' or 'Habitats Directive Assessment' for convenience, although these terms are not included within the legislation.

Article 6(4) is the procedure for allowing derogation from this strict protection, in certain restricted circumstances:

Article 6(4) of the Habitats Directive states: *"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted."*

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any impacts on European sites by identifying possible impacts early in the plan-making process and writing the plan in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the plan is still likely to result in impacts on European sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

Appropriate assessment should be based on best scientific knowledge and competent authorities should ensure that scientific data (ecological and hydrological expertise) is utilised. This report concludes in a screening statement to inform the AA process which will be finalised by the competent authority.

2 APPROACH

The European Commission (EC) has produced non-mandatory methodological guidance (EC, 2000, 2002, 2007) in relation to the process of AA which suggests a four-stage process, although not all steps may necessarily be required. A summary of the stages is given below.

Stage One: Screening or ‘Test of Likely Significance’ - the process which identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant;

Stage Two: Appropriate Assessment - the consideration of the impact on the integrity of the European site of the project or plan, either alone or in combination with other projects or plans, with respect to the site’s structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage Three: Assessment of Alternative Solutions - Where adverse effects remain after the inclusion of mitigation, this Stage examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of European Sites;

Stage Four: Assessment Where Adverse Impacts Remain - an assessment of compensatory measures where, in the light of an assessment of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

2.1 GUIDANCE

Appropriate Assessment Guidelines for Planning Authorities have been published by the Department of the Environment, Heritage and Local Government (DEHLG, 2010a). In addition to the advice available from the Department, the European Commission has published a number of documents which provide a significant body of guidance on the requirements of Appropriate Assessment, most notably including, *‘Assessment of Plans and Projects Significantly Affecting Natura 2000 sites - Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC’* (EC, 2001), which sets out the principles of how to approach decision making during the process.

These principal national and European guidelines have been followed in the preparation of this AA Screening. The following list identifies these and other pertinent guidance documents:

- Communication from the Commission on the Precautionary Principle., Office for Official Publications of the European Communities, Luxembourg (EC, 2000a);
- Managing Natura 2000 Sites: the provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg (EC, 2000b);
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Brussels (EC, 2001);

- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission; (EC, 2007);
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin (DEHLG, 2010a) and;
- Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities (DEHLG, 2010b).

EC (2000a) notes that the implementation of an approach based on the precautionary principle should start with a scientific evaluation, as complete as possible, and where possible, identifying at each stage the degree of scientific uncertainty, and also that decisions taken based on the precautionary principle should be maintained so long as scientific information is incomplete or inconclusive. EC (2001) notes also that predicting the response of a receptor to a disturbance effect can be difficult and, in the absence of firm scientific information, requires a precautionary approach.

In relation to mitigation measures the EC (2001) Guidance states that *“project and plan proponents are often encouraged to design mitigation measures into their proposals at the outset. However, it is important to recognise that the screening assessment should be carried out in the absence of any consideration of mitigation measures that form part of a project or plan and are designed to avoid or reduce the impact of a project or plan on a Natura 2000 site”*. This direction in the European Commission’s guidance document is unambiguous.

2.2 APPROACH USED IN THIS EXERCISE

The threshold for a likely significant effect is treated in the screening exercise as being above a *de minimis* level. A *de minimis* effect is a level of risk that is too small to be concerned with when considering ecological requirements of an Annex I habitat or a population of Annex II species present on a European site necessary to ensure their favourable conservation condition. If low-level effects on habitats or individuals of species are judged to be in this order of magnitude and that judgment has been made in the absence of reasonable scientific doubt, then those effects are not considered to be likely significant effects.

Following the principle outlined in EC (2001), the screening exercise has not taken into consideration mitigation measures proposed as part of the Plan.

The most up-to-date Conservation Objectives available have been applied to the analysis documented in this report and are clearly identified by their date of publication (or otherwise) on a site-by-site basis.

3 DESCRIPTION OF THE PLAN

3.1 THE CFRAM PROGRAMME

The CFRAM Programme has been implemented for seven large Study areas called River Basin Districts (RBDs) that cover the whole country. Each RBD is then divided into a number of River Basins (Units of Management, or 'UoMs'), where one Plan has been prepared for each River Basin. The UoMs/HAs and the AFAs in the Eastern RBD are shown in Figure 3.1.

The Eastern RBD and CFRAM Study area includes four Units of Management (UoM) / Hydrometric Areas³ (HAs). These are UoM07 (Boyne), UoM08 (Nanny-Delvin), UoM09 (Liffey-Dublin Bay) and UoM10 (Avoca-Vartry). The UoMs constitute major catchments / river basins (typically greater than 1000km²) and their associated coastal areas, or conglomerations of smaller river basins and their associated coastal areas. Within the Eastern CFRAM Study area, each UoM boundary generally matches the boundary of a corresponding Hydrometric Area (HA).

The CFRAM Programme is focused on a number of areas which are referred to as Areas for Further Assessment⁴, or 'AFAs' where the risk has been determined through the 2011 Preliminary Flood Risk Assessment (PFRA) to be potentially significant, and on the sources of flooding within these areas that were determined to be the cause of significant risk.

The aim of the Plan for UoM08 is therefore to set out a sustainable, long-term strategy to manage the flood risk within the Nanny-Delvin River Basin, and the sources of flooding giving rise to that risk. It is not an objective of these studies to develop detailed designs for individual risk management measures.

³ HAs are areas comprising a single large river catchment, or a group of smaller ones, that have been delineated across Ireland and Northern Ireland for the purposes of hydrological activities.

⁴ AFAs are settlement areas which were defined as a result of the first phase of implementation of the Floods Directive, the Preliminary Flood Risk Assessment (PFRA), completed in 2011. The PFRA identified areas of existing or foreseeable future potentially significant flood risk (originally referred to as 'Areas of Potential Significant Risk', or 'APSRs') and these areas are what are now referred to in the FRMPs as 'Areas for Further Assessment', or 'AFAs'.



Figure 3.1: The Eastern CFRAM Study Area and its Associated Units of Management

3.2 SPATIAL SCOPE OF THE PLAN

The Plan is focussed on Unit of Management 08, the Nanny-Delvin River Basin (shown in red in Figure 3.1). This river basin covers an area of approximately 772 km² which includes parts of Counties Meath and Dublin within the Meath and Fingal County Council administrative areas.

The Nanny – Delvin River Basin FRMP represents a stand-alone Plan that supplements the existing Fingal East Meath Flood Risk Management Plan (FEM FRMP) from 2011 with positive Governance & Policy recommendations. The additional measures in the Nanny – Delvin River Basin FRMP, above and beyond the FEM FRMP, are solely Governance & Policy Changes, and these are the only measures to which the Nanny – Delvin River Basin FRMP gives effect.

There was broad agreement between the PFRA and the Fingal East Meath Flood Risk Assessment and Management Study ('FEM FRAMS'), with no additional AFAs being identified in the PFRA for Nanny – Delvin River Basin. The overall CFRAM methodology used for the Eastern CFRAM remains broadly consistent with the FEM-FRAMS process. The CFRAM Study has not resulted in any amendments to what has been proposed in the FEM FRMP, which is the Plan that gives effect to the AFA level measures contained within the UoM.

The Nanny – Delvin River Basin FRMP therefore supplements the existing FEM FRMP rather than replacing it and sets out the range of policies and measures, which are in place or under development that can contribute to the reduction and management of flood risk throughout the River Basin. These include spatial planning, emergency response planning and maintenance of drainage schemes and are described in more detail below in section 3.3.

3.3 ELEMENTS OF THE NANNY – DELVIN RIVER BASIN FRMP WITH POTENTIAL TO CAUSE ADVERSE IMPACTS ON EUROPEAN SITES

Table 3.2 summarises the FRM methods that, following option appraisal, have been included for potential implementation within the FRMP. A full description of the measures is provided in Chapter 7 of the Plan.

In the National CFRAM programme, measures to manage flood risk may be applied at a range of spatial scales, namely the whole River Basin, at a catchment- or sub-catchment level, or at an AFA or local level. In the case of the Nanny-Delvin River Basin, the Plan only includes measures identified under the CFRAM Programme that are applicable to the whole River Basin. The 'Do Nothing' Method was screened out of the Plan during option appraisal, as it is likely to increase the flood risk to an area, through abandonment of all FRM activities, and would therefore not be feasible on technical grounds.

Table 3.1: Flood Risk Management Methods proposed in the FRMP

Measure Name	Description	Implemented By
Prevention: Sustainable Planning and Development Management Application of the Guidelines on the Planning System and Flood Risk Management (DHPCLG/OPW, 2009)	The Planning Authorities will ensure proper application of the Guidelines on the Planning System and Flood Risk Management (DHPCLG/OPW, 2009) in all planning and development management processes and decisions, including where appropriate a review of existing land use zoning and the potential for blue/green infrastructure, in order to support sustainable development, taking account of the flood maps produced through the CFRAM Programme and parallel projects. This Plan element is considered environmentally neutral as it is a policy option to prevent inappropriate development. It is unlikely to result in significant negative impacts at a strategic level.	Planning Authorities
Prevention: Sustainable Urban Drainage Systems Implementation of Sustainable Urban Drainage Systems (SUDS)	In accordance with the Guidelines on the Planning System and Flood Risk Management (DHPCLG/OPW, 2009), planning authorities should seek to reduce the extent of hard surfacing and paving and require, subject to the outcomes of environmental assessment, the use of sustainable drainage techniques. This Plan element is considered environmentally neutral as it is a policy option to improve the sustainability of future development. It is unlikely to result in significant negative impacts at a strategic level.	Planning Authorities
Prevention: Voluntary Home Relocation Voluntary Home Relocation Scheme	Qualifying home owners affected by the flood event in Winter 2015/16 may avail of a Voluntary Homeowner Relocation Scheme that has been put in place by Government. The Inter-Departmental Flood Policy Coordination Group is considering the future policy options for voluntary home relocation for consideration by Government. This Plan element is considered environmentally neutral as it is a potential assessment of policy options. It is unlikely to result in significant negative impacts at a strategic level.	Home-Owners (with humanitarian assistance to those qualifying under the Voluntary Homeowners Relocation Scheme, 2017)
Prevention: Local Adaptation Planning Consideration of Flood Risk in local adaptation planning	Local authorities should take into account the potential impacts of climate change on flooding and flood risk in their planning for local adaptation, in particular in the areas of spatial planning and the planning and design of infrastructure. This Plan element is considered environmentally neutral as it is a policy option to prepare Adaptation Plans at local scale. At this early stage in its development, the strategic-level policy is unlikely to result in significant negative impacts.	Local Authorities
Prevention: Land Use Management and Natural Flood Risk Management Measures Assessment of Land Use and Natural Flood Risk Management Measures	The OPW will work with the EPA, local authorities and other agencies during the project-level assessments of physical works and more broadly at a catchment-level to identify, where possible, measures that will have benefits for both WFD and flood risk management objectives, such as natural water retention measures, and also for biodiversity and potentially other objectives, including the use of pilot studies and applications, where possible. The Plan element has the potential for both positive and negative environmental impacts; however the next stage of implementation of land use management and natural flood management following from the FRMP will be further assessment and feasibility studies. Therefore, at this early stage in its development, the strategic-level policy is unlikely to result in significant negative impacts.	Local Authority WFD Offices, OPW, EPA, Others

Measure Name	Description	Implemented By
Protection: Minor Works Scheme	<p>The Minor Flood Mitigation Works and Coastal Protection Scheme (the 'Minor Works Scheme') is an administrative scheme introduced in 2009 and operated by the OPW under its general powers and functions to provide funding to local authorities to enable the local authorities, to address qualifying local flood problems with local solutions. The OPW will continue the Minor Works Scheme subject to the availability of funding and will keep its operation under review to assess its continued effectiveness and relevance.</p> <p>This Plan element has the potential for both positive and negative environmental impacts; however the next stage of implementation of minor works will be outside the Plan and the CFRAM studies. Where available, information on projects being currently progressed on the minor works scheme will be taken into consideration for cumulative or in combination impacts. Where relevant, future schemes undertaken via the Minor Works Scheme during the lifetime of the Plan should be assessed for cumulative or in-combination impacts with the Plan.</p>	OPW, Local Authorities
Protection: Maintenance of Arterial Drainage Schemes and Existing Flood Relief Schemes	<p>There are two Arterial Drainage Schemes within the Nanny-Delvin River Basin namely the Broadmeadow & Ward and the Matt. An existing Flood Relief Scheme is also active at Duleek. While new Arterial Drainage Schemes are no longer being undertaken, the OPW has a statutory duty to maintain the completed schemes in proper repair and in an effective condition. The annual maintenance programme is published by the OPW on the OPW website, and typically involves some clearance of vegetation and removal of silt build-up on a five-yearly cycle. The Plan does not amend these existing responsibilities to provide additional flood relief and does not set out any additional measures in this regard however these will be taken into account for cumulative or in-combination effects with the Plan.</p>	OPW, Local Authorities
Protection: Maintenance of Drainage Districts	<p>There are seven Drainage Districts within the Nanny-Delvin River Basin, namely the Ward, Curragha, Garristown & Devlin, Bartramstown, Nanny, Nanny Upper and Mornington Drainage Districts. The local authorities have a statutory duty to maintain the Drainage Districts, and the Plan does not amend these responsibilities to provide additional flood relief. The Plan does not set out any additional measures in relation to the maintenance of Drainage Districts however these will be taken into account for cumulative or in-combination effects with the Plan.</p>	Local Authorities
Maintenance: Maintenance of Channels Not Part of a Scheme	<p>Outside of the Arterial Drainage and Drainage District Schemes, landowners who have watercourses on their lands have a responsibility for their maintenance. Work to develop guidance to clarify the rights and responsibilities of landowners in relation to the maintenance of water courses on or near their lands is being developed through the Inter-Departmental Flood Policy Review Group.</p> <p>This Plan element is considered environmentally neutral as it is a policy option to develop guidance and does not in itself involve physical works. It is unlikely to result in significant negative impacts at a strategic level.</p>	Landowners

Measure Name	Description	Implemented By
Preparedness: Flood Forecasting Establishment of a National Flood Forecasting and Warning Service	<p>The establishment of a new operational unit in Met Éireann to provide, in the medium term, a national flood forecasting service and the establishment of an independent Oversight Unit in the OPW.</p> <p>The service will deal with flood forecasting from fluvial (river) and coastal sources and when established it will involve the issuing of flood forecasts and general alerts at both national and catchment scales.</p> <p>The Plan recommends progression of a Flood Forecasting and Warning System, comprising a forecasting model system and the use of gauging stations to project-level.</p> <p>Any implementation of this strategy where physical measures are required would be subject to the positive outcome of a project-level assessment.</p>	OPW, DHPCLG, Met Éireann and Local Authorities
Preparedness: Review of Emergency Response Plans for Severe Weather Ongoing Appraisal of Flood Event Emergency Response Plans and Management Activities	<p>Ongoing, regular appraisal of emergency management activities to improve preparedness and inter-agency coordination and to shape future Major Emergency Management (MEM) developments as part of the major emergency development programmes, taking into account in particular the information developed through the CFRAM Programme and the plan.</p> <p>This plan element is considered environmentally neutral as it is a policy option to review Emergency Response Plans. It is unlikely to result in significant negative impacts at a strategic level.</p>	Principal Response Agencies, Regional Steering Groups, National Steering Group
Preparedness: Individual and Community Resilience Individual and Community Action to Build Resilience	<p>While the State, through the OPW, local authorities and other public bodies can take certain actions (subject to environmental assessment, where relevant) to reduce and manage the risk of flooding, individual home-owners, businesses and farmers also have a responsibility to manage the flood risk to themselves and their property and other assets to reduce damages and the risk to personal health in the event of a flood.</p> <p>Research by the DHPCLG is informing a review of the national emergency framework and the supports that can be provided to communities to help them respond to all emergencies, including flooding emergencies. This will build on past initiatives and existing support.</p> <p>The option is considered environmentally neutral as it is a policy option to promote resilience to flooding. It is unlikely to result in significant negative impacts at a strategic level.</p>	Public, business owners, farmers and other stakeholders
Preparedness: Individual Property Protection	<p>Individual Property Protection can be effective in reducing the damage to the contents, furniture and fittings in a house or business, but are not applicable in all situations.</p> <p>The Inter-Departmental Flood Policy Review Group is considering the policy options around installation of Individual Property Protection measures (at properties where they are identified as a suitable method) for consideration by Government.</p> <p>This strategic-level policy is unlikely to result in significant negative impacts. Any implementation of this strategy involving physical measures which require planning consent would be subject to the positive outcome of a project-level assessment.</p>	Home owners, Inter-Departmental Flood Policy Review Group
Preparedness: Flood-Related Data Collection	<p>The OPW, Local Authorities / EPA and other organisations collecting and, where appropriate, publishing hydro-meteorological data and post-event event flood data should continue to do so to improve future flood risk management.</p> <p>Any implementation of this strategy where physical measures such as new gauging stations are required would be subject to the positive outcome of a project-level assessment.</p>	OPW, Local Authorities / EPA and other hydro-meteorological agencies

The measures that have been put forward in the Plan are largely non-structural and cannot manage flood risk as a stand-alone method. They are likely to be established as the Plan is implemented, to complement other methods and measures (for example the Options put forward in the FEM FRMP) that could manage flood risk.

The following elements of the Plan have the potential to lead to physical measures within or adjacent to European Sites, or areas with pathways for effects:

- Preparedness: Flood Forecasting – may require the installation of additional gauging stations
- Preparedness: Individual Property Protection
- Preparedness: Flood-Related Data Collection – may require the installation of additional gauging stations

Individual property protection is considered to be unlikely to have any impact to designated sites in the vicinity of the properties at risk, as this method of flood risk management would generally be undertaken within the curtilage of existing properties and, as such, is considered environmentally acceptable.

The installation of new gauging stations has the potential to give rise to impacts in the following ways:

- Noise, visual disturbance and ground vibrations have the potential to disturb birds.
- Disturbance of the ground or river bed, or storage of excavated materials allowing suspended sediment to be released into adjacent watercourses, giving rise to a hydraulic pathway of potential effect upon hydrologically connected European sites, their water quality and favourable conservation status of habitats or deterioration of those habitats which the selection feature bird species depend upon.
- Potential for spillages to arise, allowing polluting substances to potentially enter adjacent watercourses, giving rise to a hydraulic pathway of potential effect upon European sites, their water quality and favourable conservation status of habitats or deterioration of those habitats which the selection feature bird species depend upon.

3.4 IMPLEMENTATION OF THE PLAN

The approval / adoption of the Plan has not and does not confer approval or permission for the installation or construction of any physical measures.

For the other River Basin Plans in the Eastern CFRAM Study area, the SEA Environmental Reports have proposed mitigation measures to be included within the Plans. These measures were recommended where potential negative impacts from flood risk management options on environmental topic areas have been identified. These mitigation measures aim to prevent, reduce and, as fully as possible, offset any significant adverse effects on the environment due to implementation of the Plan and were further enhanced following consultation of the draft Plans. It is recommended that, in order to be consistent with other Eastern River Basin FRMPs, these mitigation measures be adopted with the Nanny – Delvin River Basin FRMP, even though it does not contain any structural measures or set a framework for development. It should be noted, however, that as

discussed in section 2.1 the screening assessment will be carried out in the absence of any consideration of mitigation measures.

The implementation of any measures involving physical works will require an additional tier of licensing and / or consenting accompanied by a project-level assessment. In addition to planning or confirmation, licences may be required by the implementing body to progress certain physical works, such as those that may cause damage or disturbance to protected species or their habitats, and the granting of such licences during or following the project-level assessment would be required before such works could proceed.

The processes for progression of measures involving physical works within the Plan area are described in section 8 of the Plan. EIA and/or AA Screening, and, where so concluded from the screening, Environmental Impact Assessment and / or Appropriate Assessment, must be undertaken in accordance with the relevant legislation where relevant as part of the progression of measures that involve physical works. The body responsible for implementation of such measures, typically either the OPW or the relevant local authority is required to ensure that these requirements will be complied with.

It is a commitment of the OPW to ensure that best practice measures in construction are to be implemented by them and their appointed contractors to ensure that there are no harmful emissions to land, water or air. Standard measures include the implementation of Guidance for Pollution Prevention⁵ (GPPs) by the Contractor as part of their construction methodology to ensure best practice on-site in preventing pollution and suspended sediment release to surface watercourses and groundwater. Where relevant the contractor would also incorporate measures from the CIRIA Technical Guidance C532 'Control of water Pollution from Construction Sites: Guidance for consultants and Contractors' (CIRIA, 2001).

These measures would be built into any project as proposed and would not be applied as an outcome of any ecological evaluation and analysis to reduce the possibility of likely significant effects upon European sites. The measures are simple and straightforward, and their effectiveness is plainly established – they are not novel techniques. Any reasonably informed and competent contractor could implement such measures.

3.5 RELATIONSHIP WITH OTHER RELEVANT PLANS AND PROGRAMMES

The Eastern CFRAM Study is set in a flood risk management planning context, where plans, projects and activities and their associated SEA and AA requirements are all linked.

3.5.1 The FEM-FRAM Study

The Nanny-Delvin River Basin and the adjoining areas within the Boyne and Liffey -Dublin Bay River Basin Districts has also been studied under part of the Fingal East Meath Pilot CFRAM Project (the 'FEM-FRAM Study'). The Flood Risk Management Plan arising out of the FEM-FRAMS (Halcrow Barry, 2012) sets out the preferred flood risk management Options for AFAs in the Nanny-Delvin River Basin and incorporates a number of physical measures. A Statement for Appropriate Assessment for

⁵ Standard GPPs for the construction industry (which supersede the previous Pollution Prevention Guidance (PPGs)) have been developed by the UK Environmental Agency (EA), the Scottish Environmental Protection Agency (SEPA) and the Northern Ireland Environment Agency (NIEA) <http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series>

the FEM FRAMS FRMP was prepared in 2011 (Halcrow Barry, 2011). The Options, many of which are already in development, are summarised in Table 3.2. The FEM FRMP will be reviewed for potential in-combination or cumulative effects with the CFRAM FRMP.

Table 3.2: Summary of Flood Risk Management Options proposed in FEM- FRMP

Flood Relief Schemes and Works Progressed or Proposed through Other Projects or Plans			
Community (AFA)	Scheme or Works	Description	Status
Ashbourne	Ashbourne Flood Relief Scheme	Construction of an overflow weir to divert flow to the Broadmeadow river and the improvement of channel and culvert capacity along channel C1/7 of the Broadmeadow and Ward Scheme. Expected to provide protection against a 100-Year flood (1% Annual Exceedance Probability) for 69 properties.	Planning / Design Stage
Northlands	Northlands Flood Relief Scheme	Construction of flood defence walls and a non-return flap valve. Expected to provide protection against a 100-Year flood (1% Annual Exceedance Probability) for 27 properties.	Planning / Design Stage
Duleek	Duleek Flood Relief Scheme	Flood defence walls and embankments along the Nanny River and Paramadden stream and a storm water pumping station. Provides protection against a 100-Year fluvial flood (1% Annual Exceedance Probability) for 88 properties	Complete
Rowlestown	Rowlestown Minor Flood Relief Works	Spillway construction, embankment stability works and culvert improvements. Will provide protection to the Q50 Standard of Protection for three properties.	Complete
Skerries AFA	Skerries Flood Relief Scheme	Construction of hard defences (embankments & flood walls), culvert removal and the upgrade of three access bridges. Expected to provide protection to 61 properties against an estimated 100-Year fluvial flood (1% Annual Exceedance Probability) and a 200-Year coastal flood (0.5% Annual Exceedance Probability).	Planning / Design Stage (Fingal -East Meath Flood Risk Management Plan, 2014)
Laytown, Bettystown & Coastal Areas AFA	Laytown, Bettystown & Coastal Areas Flood Relief Scheme	Construction of hard defences (embankments & flood walls). Is expected to provide protection for 11 properties against an estimated 100-Year fluvial flood (1% Annual Exceedance Probability) and a 200-Year coastal flood (0.5% Annual Exceedance Probability) event. In addition to the works identified under the FEM FRAMS a culvert was replaced on the Brookside Stream in Bettystown.	Proposed (Fingal -East Meath Flood Risk Management Plan, 2014)
Undertake a Detailed Assessment of the Costs of the Potential Measure for the Communities set out below.			
Rush AFA	OPW and/or Fingal CoCo - To be confirmed	Improvement of channel conveyance together with construction of hard defences (embankments & flood walls). Expected to provide protection against an estimated 100-Year fluvial flood (1% Annual Exceedance Probability) for 27 properties.	OPW
Ratoath AFA	OPW and/or Meath CoCo - To be confirmed	Improvement of channel conveyance. Expected to provide protection against an estimated 100-Year fluvial flood (1% Annual Exceedance Probability) for 9 properties.	OPW

3.5.2 Arterial Drainage

Within the Nanny-Delvin River Basin the OPW has implemented and maintains the Broadmeadow and Ward Arterial Drainage Scheme and the Matt Arterial Drainage Scheme, completed by the OPW

during the 1960s, under the 1945 Arterial Drainage Act. The OPW continues to have statutory responsibility for inspection and maintenance of the Scheme, which includes much of the main channels and a large number of designated tributaries. The primary focus of arterial drainage schemes is not for flood relief but for the improvement of agricultural land. Whilst not intended as a flood alleviation scheme, the arterial drainage works have undoubtedly reduced the fluvial flood risk in certain parts of the Nanny-Delvin River Basin.

The OPW has undertaken separate environmental and appropriate assessments of the maintenance of their arterial drainage schemes. It is therefore assumed that maintenance programmes already in place recognise the requirements of the 2011 Regulations and that ongoing or future planned maintenance of existing flood defence measures is carried out in accordance with relevant legislation and incorporates any necessary mitigation measures.

Where relevant, arterial drainage maintenance in the UoM will be taken into consideration for cumulative or in combination impacts with measures proposed in the Plan.

3.5.3 Drainage Districts

Drainage Districts represent areas where the Local Authorities have responsibilities to maintain watercourse channels and therefore contribute to maintaining the existing regime. In relation to the seven Drainage Districts located within Nanny-Delvin River Basin, none are located directly on the key watercourses where fluvial and coastal flood risk is being considered within Ireland's first cycle assessment under the Floods Directive.

The local authorities shall maintain the Drainage Districts in their jurisdictional area in accordance with legislation. Any maintenance works to be carried out would be subject to the relevant environmental assessment requirements, including Screening for Appropriate Assessment and surveys for protected species.

Where relevant, the maintenance of drainage districts in the UoM will be taken into consideration for cumulative or in combination impacts with measures proposed in the Plan.

3.5.4 Maintenance of Channels Not Part of a Scheme

Outside of the Arterial Drainage and Drainage District Schemes, landowners who have watercourses on their lands have a responsibility for their maintenance. Work to develop guidance to clarify the rights and responsibilities of landowners in relation to the maintenance of water courses on or near their lands is being developed through the Inter-Departmental Flood Policy Review Group.

Where relevant, the maintenance of channels not part of a scheme will be taken into consideration for cumulative or in combination impacts with measures proposed in the Plan. Table 3.4 identifies the main significant environmental plans, programmes and legislation, adopted at International, European Community or Member State level, which would be expected to influence, or be influenced by, the Eastern CFRAM Study's FRMPs. While it is recognised that there are many plans, programmes and legislation that will relate to the FRMPs, it is considered appropriate to deal only with those significant texts, to keep the assessment at a strategic level.

Table 3.3: List of Other Plans and Projects with potential for in-Combination Effects

Level	Plan / Programme / Legislation
EU Level	<ul style="list-style-type: none"> ▪ EU Floods Directive [2007/60/EC] ▪ A Blueprint to Safeguard Europe's Water Resources [COM(2012)673] ▪ Bathing Water Directive [2006/7/EC] ▪ Birds Directive [2009/147/EC] ▪ Bonn Convention [L210, 19/07/1982 (1983)] ▪ Drinking Water Directive [98/83/EC] ▪ EIA Directive [85/337/EEC] [2014/52/EU] ▪ Environmental Liability Directive [2004/35/EC] ▪ Environmental Quality Standards Directive [2008/105/EC] ▪ EU Biodiversity Strategy to 2020 [COM(2011)244] ▪ European Landscape Convention [ETS No. 176] ▪ Groundwater Directive [80/68/EEC] and Daughter Directive [2006/118/EC] ▪ Habitats Directive [92/43/EEC] ▪ Marine Strategy Framework Directive [2008/56/EC] ▪ Nitrates Directive [91/676/EEC] ▪ Renewable Energy Directive [2009/28/EC] ▪ SEA Directive [2001/42/EC] ▪ Second European Climate Change Programme [ECCP II] 2005. ▪ Sewage Sludge Directive [86/278/EEC] ▪ Soils Thematic Strategy [COM(2006) 231] ▪ Urban Wastewater Treatment Directive [91/271/EEC] ▪ Water Framework Directive [2000/60/EC] ▪ World Heritage Convention [WHC-2005/WS/02]
National Level	<ul style="list-style-type: none"> ▪ Arterial Drainage Maintenance and High Risk Designation Programme 2016-2021 (OPW, 2016) ▪ Capital Investment Programme 2015-2021 (Irish Water, 2014) ▪ Climate Change Sectoral Adaptation Plan for Flood Risk Management, 2015 (OPW, 2015) ▪ Fisheries Acts 1959 to 2007 (S.I. No. 14 of 1959 and No. 17 of 2007) ▪ Food Harvest 2020 (DAFM, 2010) ▪ Food Wise 2025 (DAFM, 2015) ▪ Grid 25 Implementation Plan 2011-2016 (EIRGIRD, 2010) ▪ Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland (Inter-Departmental Marine Coordination Group 2012) ▪ Irish Geological Heritage (IGH) Programme (GSI 1998-) ▪ Lead in Drinking Water Mitigation Plan (Irish Water, 2016) ▪ National Biodiversity Plan (2nd Revision 2011-2016) (DAHG, 2011) ▪ National Climate Change Adaptation Framework (DEHLG, 2012) ▪ National Climate Change Strategy 2007-2012 (DEHLG, 2007) ▪ National (Climate) Mitigation Plan (DECLG, 2012) ▪ National Development Plan 2007-2013 (DECLG, 2007) ▪ National Forestry Programme 2014-2020 (DAFM, 2015) ▪ National Forest Policy Review (DAFM, 2014) ▪ National Landscape Strategy for Ireland (Draft) 2014 – 2024 (DAHG, 2014) ▪ National Monuments Acts (1930 to 2004) (S.I. No. 2 of 1930 & No. 22 of 2004) ▪ National Renewable Energy Action Plan (DCENR, 2010) ▪ National Secondary Road Needs Study 2011 (NRA, 2011) ▪ National Spatial Strategy 2002-2020 (DELG, 2002) ▪ National Sludge Wastewater Sludge Management Plan (Draft) (Irish Water, 2015) ▪ National Strategic Plan for Sustainable Aquaculture Development (DAFM, 2015) ▪ Offshore Renewable Energy Development Plan (DCENR, 2014) ▪ Planning System and Flood Risk Management (OPW, 2009) ▪ Raised Bog SAC Management Plan (Draft) (DAHG, 2014), ▪ National Peatland Strategy (Draft) (NPWS, 2014) ▪ Review of Raised Bog Natural Heritage Area Network (NPWS, 2014)

Level	Plan / Programme / Legislation
	<ul style="list-style-type: none"> Report of the Flood Policy Review Group (OPW, 2004) River Basin Management Plan for Ireland (2018-2021) (Draft) (DHPCLG, 2017) Rural Development Programme 2014-2020 (DAFM, 2015) Water Services Strategic Plan (Irish Water, 2014)
Regional Level	<ul style="list-style-type: none"> UoM08 Flood Risk Management Plan (OPW, 2016) Eastern River Basin District Management Plan 2009-2015 (DEHLG, 2010) Draft Transport Strategy for the Greater Dublin Area 2016-2035 (NTA, 2015) Regional Planning Guidelines for the Greater Dublin Area 2010-2022, (Regional Planning Guidelines Office, 2010)
Sub-Regional	<ul style="list-style-type: none"> County Meath Development Plan: 2013 – 2019 (Meath County Council, 2013) East Meath Local Area Plan 2014-2020 (Meath County Council, 2014) Draft Fingal Development Plan: 2017-2023 (Fingal County Council, 2016) Fingal Development Plan: 2011 – 2017 (Fingal County Council, 2011) Fingal Local Economic and Community Plan 2016-2021 (Fingal County Council, 2015) Fingal Housing Strategy 2017-2023 Appendix 1 (Fingal County Council, 2016) Ashbourne Local Area Plan 2009-2015 (Meath County Council, 2009) Balbriggan SE Local Area Plan (Fingal County Council, 2007) Balbriggan Stephenstown Local Area Plan 2007 (Fingal County Council, 2007) Ballyboghil Local Area Plan 2017-2022 (Fingal County Council, 2012) Donabate Local Area Plan 2014-2020 (proposed) (Fingal County Council, 2016) Dublin Airport Local Area Plan, June 2006 -2015 (Fingal County Council, 2015) Dunshaughlin Electoral Area Development Plan (Meath County Council, 2009) Garristown Local Area Plan 2015-2020 ((Fingal County Council, 2010) Kinsealy Local Area Plan 2014-2020 (proposed) (Fingal County Council, 2013) Lusk Local Area Plan 2009 (Fingal County Council, 2009) Oldtown Local Area Plan 2015-2022 (Fingal County Council, 2012) Portmarnock Local Area Plan 2006 (Fingal County Council, 2006) Portmarnock South Local Area Plan (Fingal County Council, 2013) Ratoath Local Area Plan 2009-2015 (Meath County Council, 2009) Rowlestown Local Area Plan 2013-2019 (Fingal County Council, 2013) Rush Kenure Local Area Plan 2009-2019 (Fingal County Council, 2009) Streamstown Local Area Plan 2009-2019 ((Fingal County Council, 2009) (Draft) County Meath Biodiversity Action Plan 2015-2021 (Meath County Council, 2015)

4 SCREENING FOR APPROPRIATE ASSESSMENT

4.1 MANAGEMENT OF THE EUROPEAN SITE

The first aspect of screening is to establish whether or not the proposed project is directly connected with or necessary to the management of any site as a European site. The UoM08 Flood Risk Management Plan is not directly connected with or necessary to the management of any European site. The Plan is therefore subject to Screening for Appropriate Assessment to assess, in view of best scientific knowledge and in view of the conservation objectives of those European sites considered, whether or not it is likely to have a significant effect on any European site either individually or in combination with other plans or projects.

4.2 ESTABLISHING AN IMPACT PATHWAY

The likely significance of effects on any European site from the proposed Plan was assessed using the source-pathway-receptor model. The 'source' is defined as the individual element of the proposed works that has the potential to impact on a European site, its qualifying features and its conservation objectives. The 'pathway' is defined as the means or route by which a source can affect the ecological receptor. The 'receptor' is defined as the Special Conservation Interests (of SPAs) or Qualifying Interests (of SACs) for which conservation objectives have been set for the European sites being screened. Each element can exist independently, however an effect is created when there is a linkage between the source, pathway and receptor.

As recommended in the *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (DEHLG, 2010), all European sites within the spatial scope of the Plan and within 15 kilometres of the spatial scope of the Plan were included in the initial capture for AA screening (see Figure 4.1 overleaf). The DEHLG Guidance also recommends that European sites beyond this distance should also be considered where there are hydrological linkages or other pathways that extend beyond 15 km.

In the case of this Plan, its spatial extent is defined by its corresponding Hydrometric Area, HA08. The boundary of the Hydrometric Area represents a defined watershed, outside of which watercourses will drain into a different river basin and to a different part of the coastline. It is thus considered that the boundary of the UoM incorporates a tangible boundary for hydraulic and hydrological impacts. As the Plan does not incorporate any physical measures along the coast, it is thus not considered necessary in this case to extend the screening area to sites within the adjoining coastal cells that are further than 15km away.

The OPW recognises that there are other potential impact pathways other than hydraulic/hydrological pathways for ecological receptors, such as groundwater, land and air and that mobile species, in particular birds, may range for distances beyond 15km. However, in the context of this Plan it is considered to be highly unlikely that pathways are present to sites located more than 15km outside the Plan area.

The initial selection exercise has resulted in a total of 26 European sites being identified for screening.

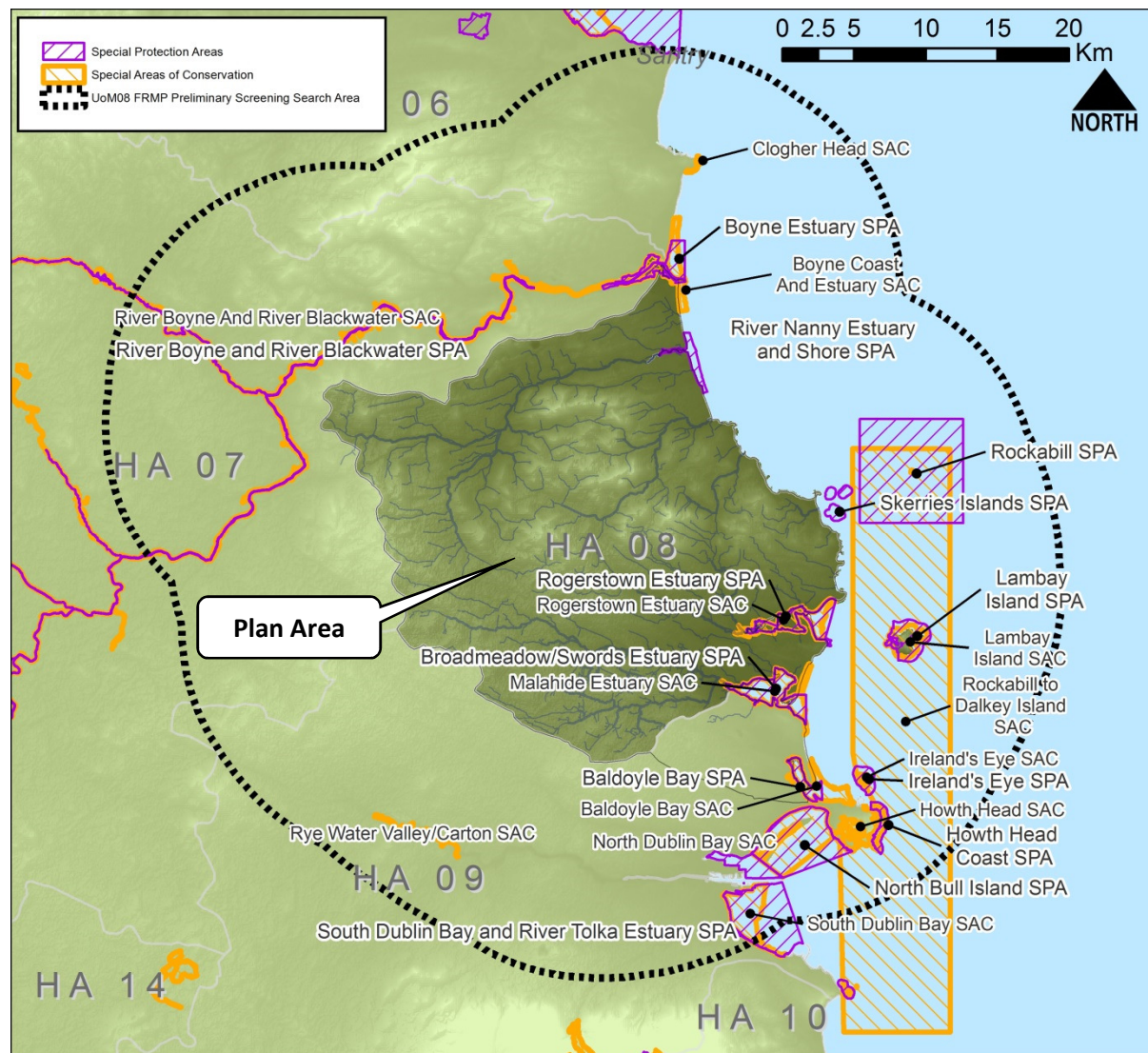


Figure 4.1: European Sites included in AA Screening Search Exercise

Each European site was individually reviewed to identify whether there were potential impact pathways evident from any of the Plan elements. The assessment reviewed the potential for:

Direct Impacts, examples of which include (but are not limited to):

- A construction footprint within the boundary of a European site, or
- A construction footprint outside a European site but which may obstruct the passage of a qualifying feature in accessing a European site.
- Visual or noise disturbance

Indirect Impacts, examples of which include (but are not limited to):

- Short-term water quality impacts associated with construction works, for example, suspended sediment and sedimentation impacts;
- Changes to existing hydrological and morphological regimes

Table 4.1: European Sites found within Screening Search Area for Nanny-Delvin Basin (UoM08) FRMP

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
000199	Baldoyle Bay SAC	3.9km	<p>Mudflats and sandflats not covered by seawater at low tide [1140], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330], Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Conservation Objectives published 19 November 2012 Version 1.0</p>	<p>This site is located 3.9km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with the Plan elements. However, several of the listed species of conservation interest may at times use habitats situated in ecologically connected areas that are within the Zone of Influence of the Plan, such as Rogerstown Estuary and Broadmeadow / Malahide Estuary.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for these qualifying interests.</p> <p>No likely significant effect.</p>	Yes
004016	Baldoyle Bay SPA	3.7km	<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Wetland and Waterbirds [A999]</p> <p>Conservation Objectives published 27 February 2013 Version 1</p>	<p>This site is located 3.7km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with the Plan elements. However, several of the listed species of conservation interest may at times use habitats situated in ecologically connected areas that are within the Zone of Influence of the Plan, such as Rogerstown Estuary and Broadmeadow / Malahide Estuary.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant</p>	Yes

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
				deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for these species of conservation interest. No likely significant effect.	
001957	Boyne Coast And Estuary SAC	Within Plan Area	Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330], Embryonic shifting dunes [2110], Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	This site immediately borders two sub-basins within the Plan area. However no watercourses from the Plan area drain directly or indirectly into this site. There is no hydrological pathway for potential impacts from any of the Plan elements. The European site is generally below the high water mark and it is therefore unlikely that any physical works for the installation of gauging stations would take place sufficiently close to the site to cause disturbance to birds. If noise or visual disturbance from construction were to occur, it would be temporary in nature. It is unlikely that such a temporary event would impede achieving the conservation objectives set for this site. No likely significant effect.	Yes
004080	Boyne Estuary SPA	Within Plan Area	Shelduck (<i>Tadorna tadorna</i>) [A048], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Lapwing (<i>Vanellus vanellus</i>) [A142], Knot (<i>Calidris canutus</i>) [A143], Sanderling (<i>Calidris alba</i>) [A144], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Redshank (<i>Tringa totanus</i>) [A162], Turnstone (<i>Arenaria interpres</i>) [A169], Little Tern (<i>Sterna albifrons</i>) [A195], Wetland and Waterbirds [A999] Conservation Objectives published 26 Feb 2013	This site immediately borders two sub-basins within the Plan area. No watercourses from the Plan area drain directly into this site, however there may be indirect influences via species of conservation interest which may at times use habitats situated in ecologically connected areas that have indirect hydrological connectivity with the Plan area, such as the Broadmeadow/Swords Estuary (Malahide Estuary) and Rogerstown Estuary. The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant	Yes

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
			Version 1	deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for these species of conservation interest. No likely significant effect.	
004025	Broadmeadow/Swords Estuary (Malahide Estuary) SPA	Within Plan Area	Great Crested Grebe (<i>Podiceps cristatus</i>) [A005], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Pintail (<i>Anas acuta</i>) [A054], Goldeneye (<i>Bucephala clangula</i>) [A067], Red-breasted Merganser (<i>Mergus serrator</i>) [A069], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Dunlin (<i>Calidris alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Redshank (<i>Tringa totanus</i>) [A162], Wetland and Waterbirds [A999] Conservation Objectives published 16 Aug 2013 Version 1	Many watercourses within the Plan area drain into this estuary and therefore there is the potential for indirect (downstream) impacts on species of conservation interest from elements of the plan. The European site is generally below the high water mark and it is therefore unlikely that any physical works for the installation of gauging stations would take place sufficiently close to the site to cause disturbance to birds. If noise or visual disturbance from construction were to occur, it would be temporary in nature. It is unlikely that such a temporary event would impede achieving the conservation objectives set for this site. The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at the European site in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of the site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this site. No likely significant effect.	Yes
001459	Clogher Head SAC	6.6km	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230], European dry heaths [4030]	As the qualifying interests are habitats located in a separate hydrometric area to the Plan, there are no direct or indirect pathways for potential impacts from any of the Plan elements to reach the qualifying interests of this site.	No

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				No likely significant effect.	
004113	Howth Head Coast SPA	8.8km	Kittiwake (<i>Rissa tridactyla</i>) [A188]	<p>This site is located 8.8km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with the Plan elements. The species of conservation interest for this site would tend to feed and socialise offshore and are thus unlikely to be influenced by any of the Plan elements.</p> <p>There are no potential direct or indirect pathways for impacts from any of the Plan elements to reach the species of conservation interest of this site.</p> <p>No likely significant effect.</p>	No
000202	Howth Head SAC	8.7km	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230], European dry heaths [4030]	<p>As the qualifying interests are habitats located in a separate hydrometric area to the Plan, there are no direct or indirect pathways for potential impacts from any of the Plan elements to reach the qualifying interests of this site.</p> <p>No likely significant effect.</p>	No
002193	Ireland's Eye SAC	6.6km	Perennial vegetation of stony banks [1220], Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	<p>As the qualifying interests are habitats located on an offshore island, there are no direct or indirect pathways for potential impacts from any of the Plan elements to reach the qualifying interests of this site.</p> <p>No likely significant effect.</p>	No
004117	Ireland's Eye SPA	6.3km	<p>Cormorant (<i>Phalacrocorax carbo</i>) [A017], Herring Gull (<i>Larus argentatus</i>) [A184], Kittiwake (<i>Rissa tridactyla</i>) [A188], Guillemot (<i>Uria aalge</i>) [A199], Razorbill (<i>Alca torda</i>) [A200]</p> <p>Conservation Objectives [Generic]</p>	<p>Although this site is located offshore and is outside the Plan area, several of the species of conservation interest may at times use habitats situated in ecologically connected areas that are within the Plan boundary, such as the Boyne Estuary SPA.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant</p>	Yes

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
				deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for these species of conservation interest. No likely significant effect.	
000204	Lambay Island SAC	3.9km	Reefs [1170], Vegetated sea cliffs of the Atlantic and Baltic coasts [1230], <i>Halichoerus grypus</i> (Grey Seal) [1364], <i>Phoca vitulina</i> (Harbour Seal) [1365]	The Annex I habitat at this site is located on an offshore island and there are no direct or indirect pathways for potential impacts from any of the Plan elements to reach this qualifying interest. The Annex II species which are also qualifying interests are marine species and there are no potential direct or indirect pathways for elements of the Plan to influence these qualifying interests. No likely significant effect.	No
004069	Lambay Island SPA	3.7km	Fulmar (<i>Fulmarus glacialis</i>) [A009], Cormorant (<i>Phalacrocorax carbo</i>) [A017], Shag (<i>Phalacrocorax aristotelis</i>) [A018], Greylag Goose (<i>Anser anser</i>) [A043], Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183], Herring Gull (<i>Larus argentatus</i>) [A184], Kittiwake (<i>Rissa tridactyla</i>) [A188], Guillemot (<i>Uria aalge</i>) [A199], Razorbill (<i>Alca torda</i>) [A200], Puffin (<i>Fratercula arctica</i>) [A204] Conservation Objectives [Generic]	Although this site is located offshore and is outside the Plan area, several of the listed species of conservation interest may at times use habitats situated in ecologically connected areas that are within the Plan boundary, such as the Rogerstown Estuary and the River Nanny Estuary. The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for these species of conservation interest. No likely significant effect.	Yes

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
000205	Malahide Estuary SAC	Within Plan Area	<p>Mudflats and sandflats not covered by seawater at low tide [1140], Salicornia and other annuals colonising mud and sand [1310], Spartina swards (<i>Spartinion maritimae</i>) [1320], Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330], Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410], Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</p> <p>Conservation Objectives published 27 May 2013 Version 1</p>	<p>Many watercourses within the Plan area drain into this estuary and therefore there is the potential for indirect (downstream) impacts on qualifying interests from elements of the plan.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at the European site in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of the site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this site.</p> <p>No likely significant effect.</p>	Yes
004006	North Bull Island SPA	7.3km	<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Teal (<i>Anas crecca</i>) [A052], Pintail (<i>Anas acuta</i>) [A054], Shoveler (<i>Anas clypeata</i>) [A056], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Sanderling (<i>Calidris alba</i>) [A144], Dunlin (<i>Calidris alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Curlew (<i>Numenius arquata</i>) [A160], Redshank (<i>Tringa totanus</i>) [A162], Turnstone (<i>Arenaria interpres</i>) [A169], Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179], Wetland and Waterbirds [A999]</p> <p>Conservation Objectives published 09 Mar 2015 Version 1</p>	<p>This site is located 7.3km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with the Plan elements. However, several of the listed species of conservation interest may at times use habitats situated in ecologically connected areas that are within the Zone of Influence of the Plan, such as Rogerstown Estuary and Broadmeadow / Malahide Estuary.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for these species of conservation interest.</p> <p>No likely significant effect.</p>	Yes

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
000206	North Dublin Bay SAC	7.3km	Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330], Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410], Embryonic shifting dunes [2110], Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130], Humid dune slacks [2190], <i>Petalophyllum ralfsii</i> (Petalwort) [1395]	<p>This site is located 7.3km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with any elements of the Plan. There are no direct or indirect pathways for potential impacts from any of the Plan elements to reach the qualifying interests of this site.</p> <p>No likely significant effect.</p>	No
002299	River Boyne And River Blackwater SAC	1.2km	<p>Alkaline fens [7230], Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0], <i>Lampetra fluviatilis</i> (River Lamprey) [1099], <i>Salmo salar</i> (Salmon) [1106], <i>Lutra lutra</i> (Otter) [1355]</p> <p>Conservation Objectives [Generic]</p>	<p>This site is located 1.2km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with any elements of the Plan. However, the Annex I species otter may range across the boundary of the hydrometric area and thus may potentially be influenced by elements of the Plan.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this qualifying interest.</p> <p>No likely significant effect.</p>	Yes
004232	River Boyne and River Blackwater SPA	1.4km	<p>Kingfisher (<i>Alcedo atthis</i>) [A229]</p> <p>Conservation Objectives [Generic]</p>	<p>This site is located 1.4km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with any elements of the Plan. However the species of conservation</p>	Yes

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				<p>interest, Kingfisher, may range between hydrometric areas and thus may be influenced by elements of the plan.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this species of conservation interest.</p> <p>No likely significant effect.</p>	
004158	River Nanny Estuary and Shore SPA	Within Plan Area	<p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Knot (<i>Calidris canutus</i>) [A143], Sanderling (<i>Calidris alba</i>) [A144], Herring Gull (<i>Larus argentatus</i>) [A184], Wetland and Waterbirds [A999]</p> <p>Conservation Objectives published 21 September 2012 Version 1.0</p>	<p>A large portion of the hydrometric area drains into the River Nanny Estuary and therefore there is the potential for indirect (downstream) impacts on species of conservation interest from elements of the Plan.</p> <p>The European site is generally below the high water mark and it is therefore unlikely that any physical works for the installation of gauging stations would take place sufficiently close to the site to cause disturbance to birds. If noise or visual disturbance from construction were to occur, it would be temporary in nature. It is unlikely that such a temporary event would impede achieving the conservation objectives set for this site.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at the European site in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of the site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the</p>	Yes

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
				conservation objectives set for this site. No likely significant effect.	
004014	Rockabill SPA	1.7km	Purple Sandpiper (<i>Calidris maritima</i>) [A148], Roseate Tern (<i>Sterna dougallii</i>) [A192], Common Tern (<i>Sterna hirundo</i>) [A193], Arctic Tern (<i>Sterna paradisaea</i>) [A194] Conservation Objectives published 08 May 2013 Version 1	This site is located 1.7km outside the Plan area and is on an offshore island. It therefore has no hydrological connectivity with the Plan elements. However, several of the listed species of conservation interest may at times use habitats situated in ecologically connected areas that are within the Zone of Influence of the Plan. The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this species of conservation interest. No likely significant effect.	Yes
003000	Rockabill to Dalkey Island SAC	0.6km	Reefs [1170], <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	The qualifying interest 'reefs' is a marine habitat located in the offshore zone and there are no direct or indirect pathways for potential impacts from any of the Plan elements to reach this qualifying interest. The Annex II species harbour porpoise is also a marine species and there are also no potential direct or indirect pathways for elements of the Plan to influence this qualifying interest. No likely significant effect.	No
000208	Rogerstown Estuary SAC	Within Plan Area	Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330],	A large portion of the hydrometric area drains into the River Nanny Estuary and therefore there is the potential for indirect (downstream) impacts on qualifying interests from elements of the Plan.	Yes

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
			<p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410], Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</p> <p>Conservation Objectives published 14 Aug 2013 Version 1</p>	<p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at the European site in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of the site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this site.</p> <p>No likely significant effect.</p>	
004015	Rogerstown Estuary SPA	Within Plan Area	<p>Greylag Goose (<i>Anser anser</i>) [A043], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Shoveler (<i>Anas clypeata</i>) [A056], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Dunlin (<i>Calidris alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Redshank (<i>Tringa totanus</i>) [A162], Wetland and Waterbirds [A999]</p> <p>Conservation Objectives published 20 May 2013 Version 1</p>	<p>A large portion of the hydrometric area drains into the River Nanny Estuary and therefore there is the potential for indirect (downstream) impacts on species of conservation interest from elements of the Plan.</p> <p>The European site is generally below the high water mark and it is therefore unlikely that any physical works for the installation of gauging stations would take place sufficiently close to the site to cause disturbance to birds. If noise or visual disturbance from construction were to occur, it would be temporary in nature. It is unlikely that such a temporary event would impede achieving the conservation objectives set for this site.</p> <p>The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at the European site in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of the site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this site.</p> <p>No likely significant effect.</p>	Yes

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001398	Rye Water Valley/Carlton SAC	9.5km	Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220], <i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) [1014], <i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail) [1016]	This site is located 9.5km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with any elements of the Plan. There is no potential impact pathway from the elements of the Plan to the qualifying interests of the site. No likely significant effect.	No
004122	Skerries Islands SPA	0.3km	Cormorant (<i>Phalacrocorax carbo</i>) [A017], Shag (<i>Phalacrocorax aristotelis</i>) [A018], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Purple Sandpiper (<i>Calidris maritima</i>) [A148], Turnstone (<i>Arenaria interpres</i>) [A169], Herring Gull (<i>Larus argentatus</i>) [A184] Conservation Objectives [Generic]	This site is located 0.3km outside the Plan area and is located offshore. It therefore has no hydrological connectivity with the Plan elements. However, several of the listed species of conservation interest may at times use habitats situated in ecologically connected areas that are within the Zone of Influence of the Plan, such as the River Nanny Estuary and Shore, Rogerstown Estuary and Broadmeadow/Swords Estuary (Malahide Estuary). The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this species of conservation interest. No likely significant effect.	Yes
004024	South Dublin Bay and River Tolka Estuary SPA	11.1km	Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Sanderling (<i>Calidris alba</i>) [A144], Dunlin (<i>Calidris alpina</i>) [A149], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Redshank (<i>Tringa totanus</i>) [A162], Black-headed Gull	This site is located 11.1km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with the Plan elements. However, several of the listed species of conservation interest may at times use habitats situated in ecologically connected areas that are within the Zone of Influence of the Plan, such as the River Nanny Estuary and Shore, Rogerstown Estuary and Broadmeadow/Swords Estuary (Malahide Estuary). The adoption of standard best practice in construction activity as outlined in 3.4 will result in there being no likely escape of	Yes

Site Code	Site Name	Distance	Qualifying Interests or Special Conservation Interests	Pathway / Potential for Significant Effects	Potential for in-combination Effects
			<p>(<i>Chroicocephalus ridibundus</i>) [A179], Roseate Tern (<i>Sterna dougallii</i>) [A192], Common Tern (<i>Sterna hirundo</i>) [A193], Arctic Tern (<i>Sterna paradisaea</i>) [A194], Wetland and Waterbirds [A999]</p> <p>Conservation Objectives published 09 Mar 2015 Version 1</p>	<p>suspended sediments or polluting substances to the surface water network to arrive at any neighbouring European sites or other supporting sites in such concentrations as to cause significant deterioration of water quality or sedimentation in the European site. Even in the unlikely event that deterioration of the water quality of a linked site did occur, even if only temporarily, it is unlikely that such a temporary event would impede achieving the conservation objectives set for this species of conservation interest.</p> <p>No likely significant effect.</p>	
000210	South Dublin Bay SAC	11.1km	<p>Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Salicornia and other annuals colonising mud and sand [1310], Embryonic shifting dunes [2110]</p>	<p>This site is located 11.1km outside the Plan area and is in a separate hydrometric area. It therefore has no hydrological connectivity with any elements of the Plan. There is no potential impact pathway from the elements of the Plan to the qualifying interests of the site.</p> <p>No likely significant effect.</p>	No

4.3 IN-COMBINATION WITH OTHER PLANS AND PROJECTS

This assessment aims to identify any possible significant in-combination or cumulative effects of the proposed Plan with other Plans and projects on the identified European sites. A series of individually modest impacts may, in combination, produce a significant impact.

The screening process identified other plans and projects that could act in combination with the Plan to theoretically pose likely significant effects on the European sites identified in Table 4.1 as having potential for in-combination effects. The cumulative/in-combination impact assessment has not included European-level plans/policies as in all relevant cases these have been integrated into lower tier plans/legislation.

An assessment of the potential in-combination effects of other plans and projects is presented in Table 4.2. Plans listed in Table 4.1 which on review were found to be unlikely to result in any potential in-combination or cumulative effects with the Plan have not been included in this table.

Table 4.2: Potential cumulative and in-combination effects with other Plans, Programmes and Projects.

Plan/Project	Key Policies/Objectives/Issues	Assessment of In-Combination Effects
National Plans and Programmes		
Arterial Drainage Maintenance and High Risk Designation Programme 2016-2021	Within the Nanny-Delvin River Basin the OPW has implemented and maintains the Broadmeadow and Ward Arterial Drainage Scheme and the Matt Arterial Drainage Scheme, completed by the OPW during the 1960s, under the 1945 Arterial Drainage Act. The OPW continues to have statutory responsibility for inspection and maintenance of the Scheme, which includes much of the main channels and a large number of designated tributaries.	<p>Potential in combination effects may occur where there is a requirement to carry out Arterial Drainage Maintenance.</p> <p>Arterial Drainage maintenance may result in habitat loss, alteration of hydrology, deterioration in water quality, disturbance.</p> <p>The OPW have undertaken separate environmental and appropriate assessments of the maintenance of their arterial drainage schemes. Provided that maintenance activities are carried out in accordance with these plans, significant cumulative or in-combination effects on European sites are unlikely.</p>
Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2015-2021	This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term.	<p>Potential in-combination effects may arise where there is a requirement to provide for new water and waste water infrastructure and capacity.</p> <p>Provision of water infrastructure and increases in capacity may result in habitat loss, alteration of hydrology, deterioration in water quality and disturbance.</p> <p>Provided that infrastructure activities are carried out in accordance with these plans, significant cumulative or in-combination effects on European sites are unlikely.</p>

Plan/Project	Key Policies/Objectives/Issues	Assessment of In-Combination Effects
National Spatial Strategy, 2002 - 2020	A 20-year coherent national planning framework for Ireland that aims to achieve a better balance of social, economic and physical development across Ireland, supported by more effective and integrated planning.	Potential in-combination effects may occur where there is requirement to provide for new infrastructure or where new development occurs. Provision of infrastructure/development may result in habitat loss, alteration of hydrology, deterioration in water quality and disturbance. The NSS is implemented at Sub-Regional level by County and Local Development Plans; these typically have included policies to limit significant impacts on European sites.
River Basin Management Plan for Ireland (2018-2021) (Draft)	River Basin Management Planning provides a catchment based framework to protect Ireland's water bodies and develop collaborative approaches to water management in order to safeguard waters and meet the environmental objectives of the WFD.	This management plan provides a framework for cleaner and less polluted ground and surface water. The FRMP has been prepared with achieving the objectives of the RBMP in mind and consequently should not result in any adverse in-combination impacts.
Food Wise 2025 Food Harvest 2020	Food Harvest aims to innovate and expand the Irish food industry in response to increased global demand for quality foods. It sets out a vision for the potential growth in agricultural output. Food Wise is a non-statutory proposal that sits at a high level in terms of the range of policies, plans and programmes that may influence the agriculture sector in Ireland.	Potential in-combination impacts may arise due to increased pressures on the water environment associated with an intensification of agriculture. Significant cumulative or in-combination effects on European sites at project level are unlikely.
National Strategic Plan for Sustainable Aquaculture	Aims to secure sustainable development and growth of aquaculture through coordinated spatial planning, to enhance the competitiveness of the aquaculture sector and to promote a level playing field for EU operators by exploiting their competitive advantages.	Potential in-combination impacts may arise due to increased sedimentation, biogeochemical changes, chemical inputs, infrastructure impact, noise and visual disturbance, predator control associated with an intensification of aquaculture. Significant cumulative or in-combination effects on European sites with Plan elements at project level are unlikely.
Regional Plans and Programmes		
Eastern River Basin District Management Plan 2009-2015	River Basin Management Planning provides a catchment based framework to protect Ireland's water bodies and develop collaborative approaches to water management in order to safeguard waters and meet the environmental objectives of the WFD.	This management plan provides a framework for cleaner and less polluted ground and surface water. The FRMP has been prepared with achieving the objectives of the RBMP in mind and consequently should not result in any adverse in-combination impacts.

Plan/Project	Key Policies/Objectives/Issues	Assessment of In-Combination Effects
Draft Transport Strategy for the Greater Dublin Area 2016-2035	The Transport Strategy provides a framework for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (GDA) for the next two decades. It also provides a transport planning policy around which other agencies involved in land use planning, environmental protection, and delivery of other infrastructure such as housing, water and power, can align their investment priorities.	The NIR for the GDA draft transport strategy has identified that construction of new transport infrastructure may result in adverse impacts on European sites including loss / reduction of habitat area; Disturbance to Key Species (e.g. increased public access to protected sites, or during the construction phase of infrastructure projects); Habitat or species fragmentation; Reduction in species density and changes in key indicators of conservation value. Provided that infrastructure activities are carried out in accordance with the mitigation set out in the NIR prepared for the Strategy, significant cumulative or in-combination effects on European sites are unlikely.
Regional Planning Guidelines for the Greater Dublin Area 2010-2022	Policy document which aims to direct the future growth of the Greater Dublin Area over the medium to long term and works to implement the strategic planning framework set out in the National Spatial Strategy (NSS).	Potential in-combination impacts may arise where there is a requirement to provide for new development and water services infrastructure. The Regional Planning Guidelines are implemented at Sub-Regional level by County and Local Development Plans; these typically have included policies to limit significant impacts on European sites. Significant cumulative or in-combination effects on European sites are unlikely.
Sub-Regional Plans and Programmes		
Maintenance of Drainage Districts	Local Authorities have responsibilities to maintain watercourse channels. In relation to the seven Drainage Districts located within Nanny-Delvin River Basin, (Ward DD, Curraghera DD, Garristown & Devlin DD, Bartramstown DD, Nanny DD, Nanny Upper DD and Mornington DD) none are located directly on the key watercourses where fluvial and coastal flood risk is being considered within Ireland's first cycle assessment under the Floods Directive.	The local authorities shall maintain the Drainage Districts in their jurisdictional area in accordance with legislation. Any maintenance works to be carried out would be subject to the relevant environmental assessment requirements, including Screening for Appropriate Assessment and surveys for protected species. Provided that maintenance activities are carried out in accordance with these requirements, significant cumulative or in-combination effects on European sites are unlikely.
Maintenance of Channels not part of a Scheme	Outside of the Arterial Drainage and Drainage District Schemes, landowners who have watercourses on their lands have a responsibility for their maintenance.	Local landowners and farmers carry out agricultural and drainage maintenance activities within the Plan area. These activities have been ongoing for many decades and are likely to be periodic and local in nature, however they may result in habitat loss, alteration of hydrology, deterioration in water quality and disturbance. Provided the FRM works are planned and managed correctly, the in-

Plan/Project	Key Policies/Objectives/Issues	Assessment of In-Combination Effects
		combination effects of FRM measures and agricultural/drainage operations is not likely to be significant.
County Meath Development Plan: 2013 – 2019 Draft Fingal Development Plan: 2017-2023 Fingal Development Plan: 2011 – 2017	These plans present the overall strategies for the proper planning and sustainable development of the administrative area of the relevant Local Authorities.	These plans acting alone or in combination can have a cumulative impact on European sites located within the Plan area. Provision of infrastructure or where new development occurs may result in habitat loss, alteration of hydrology, deterioration in water quality and disturbance during construction / operation. Appropriate assessment has been carried out on each plan and policies have been developed within each plan that will help to maintain specific conditions underpinning site integrity for each qualifying feature type. Significant cumulative or in-combination effects on European sites are unlikely.
Ashbourne Local Area Plan 2009-2015 Balbriggan SE Local Area Plan Balbriggan Stephenstown Local Area Plan 2007 Ballyboghil Local Area Plan 2017-2022 Donabate Local Area Plan 2014-2020 (proposed) Dublin Airport Local Area Plan, June 2006 -2015 Dunshaughlin Electoral Area Development Plan East Meath Local Area Plan 2014-2020 Garristown Local Area Plan 2015-2020 Kinsealy Local Area Plan 2014-2020 (proposed) Lusk Local Area Plan 2009 Oldtown Local Area Plan 2015-2022 Portmarnock Local Area Plan 2006 Portmarnock South Local Area Plan Ratoath Local Area Plan 2009-2015 Rowlestown Local Area Plan 2013-2019 Rush Kenure Local Area Plan 2009-2019 Streamstown Local Area Plan 2009-2019	These plans present strategies for development in individual towns and villages in the Plan area, some of which are AFAs.	These plans acting alone or in combination can have a cumulative impact on European sites located within the Plan area. Provision of infrastructure or where new development occurs may result in habitat loss, alteration of hydrology, deterioration in water quality and disturbance during construction / operation. Appropriate assessment has not been carried out on all of these plans, however at project level any project requiring development consent would be subject to relevant legislation relating to AA and EIA screening. Significant cumulative or in-combination effects on European sites are unlikely.
Greater Dublin Strategic Drainage Strategy	This strategy was introduced to combat the pressures on the storm and foul water drainage infrastructure since the increased development within the Greater Dublin Region since the 1990s.	This strategy provides for sustainable drainage works throughout the GDA, potential for in-combination impacts may potentially occur where the construction of new drainage is required.

Plan/Project	Key Policies/Objectives/Issues	Assessment of In-Combination Effects
		Significant cumulative or in-combination effects on European sites with Plan elements at project level are unlikely.
<p>Ashbourne Flood Relief Scheme Northlands Flood Relief Scheme Duleek Flood Relief Scheme Rowlestown Minor Flood Relief Works Skerries Flood Relief Scheme Laytown, Bettystown & Coastal Areas Flood Relief Scheme Potential Measures for Flood Relief at Rush AFA and Ratoath AFA</p>	<p>Flood Relief Schemes and Works Progressed or Proposed through the Fingal East Meath Flood Risk Management Plan (FEM-FRMP).</p>	<p>These Flood Relief Schemes acting alone or in combination could have a cumulative impact with Plan elements on European sites located within the Plan area.</p> <p>Appropriate assessment has been carried out on the FRM FRMP. The AA has identified potential impacts including habitat loss / coastal squeeze, alteration of hydrology and patterns of freshwater input, changes in food supply and disturbance.</p> <p>The AA and FRM FRMP have included a number of measures at Plan level to avoid adverse effects and project level assessment has been/will be carried out for the schemes already constructed or in development.</p> <p>Provided that construction and maintenance activities are carried out in accordance with these measures, significant cumulative or in-combination effects on European sites are unlikely.</p>

5 CONCLUSION OF THE SCREENING ASSESSMENT

5.1 CONCLUSION OF SCREENING FOR APPROPRIATE ASSESSMENT

This Screening for Appropriate Assessment was completed in accordance with the approach set out at Section 2 of this report. The Nanny – Delvin River Basin Flood Risk Management Plan prepared under the Eastern CFRAM Study has been considered in the context of the European sites identified within the Plan's zone of influence, their Qualifying Interests and Special Conservation Interests and any conservation objectives which have been set.

From the findings of the Screening exercise, it is concluded that the proposed Plan

- Is not directly connected with or necessary to the management of any European site;
- Will not give rise to significant effects on the Qualifying Interests of any European site within the project's zone of influence, in view of best scientific knowledge and in view of the conservation objectives of those sites.

REFERENCES

DEHLG (2010a) *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.*

DEHLG (2010b) *Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities*

EC (2000a) *Communication from the Commission on the Precautionary Principle*, Office for Official Publications of the European Communities, Luxembourg

EC (2000b) *Managing Natura 2000 sites: the provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC.*

EC (2001) *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.*

EC (2011) *Guidelines on the Implementation of the Birds and Habitats Directives in Estuaries and Coastal Zones.*

EC (2007) *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC.*

EC (2013) *Guidelines on Climate Change and Natura 2000 Dealing with the impact of climate change on the management of the Natura 2000 Network of areas of high biodiversity value.*

EPA (2012) *Integrated Biodiversity Impact Assessment best practice guidance; Streamlining AA, SEA and EIA Processes, Best Practice Guidance.*

Halcrow Barry (2011) *Fingal-East Meath Flood Risk Assessment and Management Study (FEM-FRAMS) Appropriate Assessment – Stage 2: Statement for Appropriate Assessment*

Halcrow Barry (2012) *Fingal-East Meath Flood Risk Assessment and Management Study (FEM-FRAMS) – Flood Risk Management Plan*

NPWS (2014) *The Status of EU Protected Habitats and Species in Ireland 2013 – Overview Report.*

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GLOSSARY OF TERMS

Annual Exceedance Probability Or AEP	The probability, typically expressed as a percentage, of a flood event of a given magnitude being equalled or exceeded in any given year. For example, a 1% AEP flood event has a 1%, or 1 in a 100, chance of occurring or being exceeded in any given year.
Appropriate Assessment	An assessment of the effects of a plan or project on Natura 2000 sites (European Sites). European Sites comprise Special Protection Areas under the Birds Directive and Special Areas of Conservation under the Habitats Directive.
Area for Further Assessment or AFA	Areas where, based on the Preliminary Flood Risk Assessment, the risks associated with flooding are considered to be potentially significant. For these areas further, more detailed assessment is required to determine the degree of flood risk, and develop measures to manage and reduce the flood risk. The AFAs are the focus of the CFRAM Studies.
Arterial Drainage Scheme	Works undertaken under the Arterial Drainage Act (1945) to improve the drainage of land. Such works were undertaken, and are maintained on an ongoing basis, by the OPW.
Biodiversity	Word commonly used for biological diversity and defined as assemblage of living organisms from all habitats including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part.
Birds Directive	European Union Council Directive 2009/147/EC - codified version of Directive 79/409/EEC on the Conservation of Wild Birds, as amended
Catchment	The area of land draining to a particular point on a river or drainage system, such as an Area for Further Assessment (AFA) or the outfall of a river to the sea.
Catchment Flood Risk Assessment and Management Study Or CFRAM Study Consequences	A study to assess and map the flood hazard and risk, both existing and potential future, from fluvial and coastal waters, and to define objectives for the management of the identified risks and prepare a Plan setting out a prioritised set of measures aimed at meeting the defined objectives. The impacts of flooding, which may be direct (e.g., physical injury or damage to a property or monument), a disruption (e.g., loss of electricity supply or blockage of a road) or indirect (e.g., stress for affected people or loss of business for affected commerce)
Drainage	Works to remove or facilitate the removal of surface or sub-surface water, e.g., from roads and urban areas through urban storm-water drainage systems, or from land through drainage channels or watercourses that have been deepened or increased in capacity.
Drainage District	Works across a specified area undertaken under the Drainage Acts to facilitate land drainage.
Estuary	A semi-enclosed coastal body of water with one or more rivers or streams flowing into it, and with an open connection to the sea.
Flood	The temporary covering by water of land that is not normally covered by water.
‘Floods’ Directive	The European Union ‘Floods’ Directive [2007/60/EC] is the Directive that came into force in November 2007 requiring Member States to undertake a PFRA to identify Areas for Further Assessment (AFAs), and then to prepare flood maps and Plans for these areas.
Flood Extent	The extent of land that has been, or might be, flooded. Flood extent is often represented on a flood map.
Flood Risk	Refers to the potential adverse consequences resulting from a flood hazard. The level of flood risk is the product of the frequency or likelihood of flood events and their consequences (such as loss, damage, harm, distress and disruption).
Flood Risk Management Method	Structural and non-structural interventions that modify flooding and flood risk either through changing the frequency of flooding, or by changing the extent and consequences of flooding, or by reducing the vulnerability of those exposed to flood risks.
Flood Risk Management Option	Can be either a single flood risk management method in isolation or a combination of more than one method to manage flood risk.
Flood Risk Management Plan (Plan)	A Plan setting out a prioritised set of measures within a long-term sustainable strategy aimed at achieving defined flood risk management objectives. The Plan is developed at a River Basin (Unit of Management) scale, but is focused on managing risk within the AFAs.
Floodplain	The area of land adjacent to a river or coastal reach that is prone to periodic flooding from that river or the sea.

Fluvial	Riverine, often used in the context of fluvial flooding, i.e., flooding from rivers, streams, etc.
Groundwater	All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil. This zone is commonly referred to as an aquifer which is a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow a significant flow of groundwater or the abstraction of significant quantities of groundwater.
Habitats Directive	The Habitats Directive [92/43/EEC] on the Conservation of Natural Habitats and of Wild Flora and Fauna aims at securing biodiversity through the provision of protection for animal and plant species and habitat types deemed to be of European conservation importance.
Hazard	Something that can cause harm or detrimental consequences. In this context, the hazard referred to is flooding.
Hydraulics	The science of the behaviour of fluids, often used in this context in relation to estimating the conveyance of flood water in river channels or structures (such as culverts) or overland to determine flood levels or extents.
Hydrology	The science of the natural water cycle, often used in this context in relation to estimating the rate and volume of rainfall flowing off the land and of flood flows in rivers.
Hydrometric Area	Hydrological divisions of land, generally large catchments or a conglomeration of small catchments, and associated coastal areas. There are 40 Hydrometric Areas in the island of Ireland.
Hydromorphology	The physical characteristics of the shape, boundaries and content of a water body. For rivers, this includes river depth and width variation, structure and substrate of the river bed and structure of the riparian zone. For lakes it includes lake depth variation, quantity, structure & substrate of the lake bed and structure of the lake shore.
Individual Risk Receptor Or IRR	A single receptor (see below) that has been determined to represent a potentially significant flood risk (as opposed to a community or other area at potentially significant flood risk AFA).
Inundation	Another word for flooding or a flood (see 'Flood')
Measure	A measure (when used in the context of a flood risk management measure) is a set of works, structural and / or non-structural, aimed at reducing or managing flood risk.
Mitigation Measures	Measures to avoid/prevent, minimise/reduce, or as fully as possible, offset/compensate for any significant adverse effects on the environment, as a result of implementing a plan or project.
Morphology / Morphological	See 'hydromorphology' above.
National CFRAM Programme	The programme developed by the OPW to implement key aspects of the EU 'Floods' Directive in Ireland, which includes the CFRAM Studies, and builds on the findings of the PFRA.
Natura 2000	European network of protected sites ('European sites') which represent areas of the highest value for natural habitats and species of plants and animals which are rare, endangered or vulnerable in the European Community. The Natura 2000 network includes two types of area: Special Areas of Conservation (SAC) where they support rare, endangered or vulnerable natural habitats and species of plants or animals (other than birds) and Special Protection Areas (SPA) where areas support significant numbers of wild birds and their habitats. SACs are designated under the Habitats Directive and SPAs are classified under the Birds Directive. Certain sites may be designated as both SAC and SPA.
Natural Heritage Area	An area of national nature conservation importance, designated under the Wildlife Act 1976 (as amended), for the protection of features of high biological or earth heritage value or for its diversity of natural attributes.
Non Structural Options	Include flood forecasting and development control to reduce the vulnerability of those currently exposed to flood risks and limit the potential for future flood risks.
Pluvial	Refers to rainfall, often used in the context of pluvial flooding, i.e., flooding caused directly from heavy rainfall events (rather than over-flowing rivers).
Preliminary Flood Risk Assessment Or PFRA	An initial, high-level screening of flood risk at the national level to determine where the risks associated with flooding are potentially significant, to identify the AFAs. The PFRA is the first step required under the EU 'Floods' Directive.
Ramsar Site	Wetland site of international importance designated under the Ramsar Convention on Wetlands of International Importance 1971, primarily because of its importance for waterfowl. All Ramsar sites hold the European designation of SAC or SPA (or both).

Receptor	Something that might suffer harm or damage as a result of a flood, such as a house, office, monument, hospital, agricultural land or environmentally designated sites.
Return Period	A term that was used to describe the probability of a flood event, expressed as the interval in the number of years that, on average over a long period of time, a certain magnitude of flood would be expected to occur. This term has been replaced by 'Annual Exceedance Probability, as Return Period can be misleading.
Riparian	River bank. Often used to describe the area on or near a river bank that supports certain vegetation suited to that environment (Riparian Zone).
Risk	The combination of the probability of flooding, and the consequences of a flood.
River Basin	An area of land (catchment) draining to a particular estuary or reach of coastline.
River Basin District Or RBD	A hydrological division of land defined for the purposes of the Water Framework Directive. There are eight RBDs in the island of Ireland; each comprising a group of River Basins.
Riverine	Related to a river.
Runoff	The flow of water over or through the land to a waterbody (e.g., stream, river or lake) resulting from rainfall events. This may be overland, or through the soil where water infiltrates into the ground.
Screening [or Test of Likely Significance]	The process which identifies the likely impacts upon a European site [Natura 2000 site] of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.
SEA Directive	European Directive 2001/42/EC on the Assessment of the Effects of certain Plans and Programmes on the Environment – 'Strategic Environmental Assessment'.
Sedimentation	The accumulation of particles (of soil, sand, clay, peat, etc.) in the river channel.
Significant Risk	Flood risk that is of particular concern nationally. The PFRA Main Report (see www.cfram.ie) sets out how significant risk is determined for the PFRA, and hence how Areas for Further Assessment have been identified.
Spatial Scale(s) of Assessment	Defines the spatial scale at which flood risk management options are assessed. Assessment Units are defined on four spatial scales ranging in size from largest to smallest as follows: catchment scale, Assessment Unit (AU) scale, Areas for Further Assessment (APSR) and Individual Risk Receptors (IRR).
Special Area of Conservation	A Special Area of Conservation (SAC) is an internationally important site, protected for its habitats and non-bird species. It is designated, as required, under the EC Habitats Directive. A candidate SAC (cSAC) is a candidate site, but is afforded the same status as if it were confirmed.
Special Protection Area	A Special Protection Area (SPA) is a site of international importance for breeding, feeding and roosting habitat for bird species. It is designated, as required, under the EC Birds Directive.
Standard of Protection Or SoP	The magnitude of flood, often defined by the annual probability of that flood occurring being exceeded (the Annual Exceedance Probability, or 'AEP'), that a measure / works is designed to protect the area at risk against.
Strategic Environmental Assessment Or SEA Structural Options	A SEA is an environmental assessment of plans (such as the Plans) and programmes to ensure a high level consideration of environmental issues in the plan preparation and adoption, and is a requirement provided for under the SEA directive [2001/42/EC] Involve the application of physical flood defence measures, such as flood walls and embankments, which modify flooding and flood risk either through changing the frequency of flooding, or by changing the extent and consequences of flooding.
Surface Water	Water on the surface of the land. Often used to refer to ponding of rainfall unable to drain away or infiltrate into the soil.
Surge	The phenomenon of high sea levels due to meteorological conditions, such as low pressure or high winds, as opposed to the normal tidal cycles
Sustainability	The capacity to endure. Often used in an environmental context or in relation to climate change, but with reference to actions people and society may take.
Tidal	Related to the tides of the sea / oceans, often used in the context of tidal flooding, i.e., flooding caused from high sea or estuarine levels.

Topography	The shape of the land, e.g., where land rises or is flat.
Transitional Water	The estuarine or inter-tidal reach of a river, where the water is influenced by both freshwater river flow and saltwater from the sea.
Unit of Management Or UoM	A hydrological division of land defined for the purposes of the Floods Directive. One Plan will be prepared for each Unit of Management, which is referred to within the Plan as a River Basin.
Vulnerability	The potential degree of damage to a receptor (see above), and the degree of consequences that would arise from such damage.
Water Framework Directive Or WFD	The Water Framework Directive [2000/60/EC] aims to protect surface, transitional, coastal and ground waters to protect and enhance the aquatic environment and ecosystems and promote sustainable use of water resources
Waterbody	A term used in the Water Framework Directive (see below) to describe discrete section of rivers, lakes, estuaries, the sea, groundwater and other bodies of water.
Watercourse	Any flowing body of water including rivers, streams, drains, ditches etc.
Zone of Influence	The area over which ecological features may be subject to significant effects as a result of the proposed Plan and associated activities. This may extend beyond the Plan area, for example where there are ecological or hydrological links beyond the Plan boundary. The zone of influence may vary for different ecological features depending on their sensitivity to an environmental change.



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