

Strategic Environmental Assessment Statement

Slaney & Wexford Harbour

Strategic Environmental Assessment Statement

For

River Basin (12) Slaney & Wexford Harbour Flood Risk Management Plan

Areas for Further Assessment included in the Plan:

| | |
|--------------------------|--------------------|
| <i>Bealach Conglais</i> | <i>Baltinglass</i> |
| <i>Bun Clóidí</i> | <i>Bunclody</i> |
| <i>Inis Córthaidh</i> | <i>Enniscorthy</i> |
| <i>An Slab Thuaidh</i> | <i>North Slob</i> |
| <i>An Slab Theas</i> | <i>South Slob</i> |
| <i>Baile Loch Garman</i> | <i>Wexford</i> |
| <i>An Tulach</i> | <i>Tullow</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.

Copyright

Copyright - Office of Public Works. All rights reserved. No part of this report may be copied or reproduced by any means without prior written permission from the Office of Public Works.

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

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.



South Eastern CFRAM Study UoM 11, 12 and 13

Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins Strategic Environmental Assessment Statement

DOCUMENT CONTROL SHEET

| | | | | | | |
|----------------------------|---|-----|------|----------------|-----------------|----------------------|
| Client | OPW | | | | | |
| Project Title | South Eastern CFRAM Study | | | | | |
| Document Title | IBE0601Rp0055_UoM11, 12 & 13_SEA_Statement_Report | | | | | |
| Document No. | IBE0601Rp0055 | | | | | |
| OPW Document No. | O11_12_13_SEA_PART01 | | | | | |
| This Document Comprises | DCS | TOC | Text | List of Tables | List of Figures | No. of Appendices |
| | 1 | 1 | 37 | 1 | 1 | 2 |

| Rev. | Status | Author(s) | Reviewed By | Approved By | Office of Origin | Issue Date |
|------|--------|-----------|-------------|-------------|------------------|------------|
| D01 | Draft | Various | R. Bingham | G. Glasgow | Belfast | 22/08/2017 |
| F01 | Final | Various | R. Bingham | G. Glasgow | Belfast | 22/08/2017 |
| | | | | | | |
| | | | | | | |

Copyright

Copyright - Office of Public Works. All rights reserved. No part of this report may be copied or reproduced by any means without prior written permission from the Office of Public Works.

LEGAL DISCLAIMER

Is le haghaidh comhairliúcháin amháin atá na dréacht-Phleananna um Bainistiú Priacal Tuile ceaptha. Ní ceart iad a úsáid ná brath orthu chun críche ar bith eile ná mar chuid de phróiseas cinnteoireachta. Féadfar iad a uasdhátú, a bheachtú nó a athrú sula gcríochnófar iad. Is ceartas forchoimeádtha é ag Coimisinéirí na nOibreacha Poiblí in Éirinn athrú a dhéanamh ar an ábhar agus/nó cur i láthair d'aon chuid den bhfaisnéis atá curtha ar fáil ar na dréacht-Phleananna um Bainistiú Priacal Tuile ar a ndiscreíd féin amháin.

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
- Southern Regional Assembly
- Carlow County Council
- Cork County Council
- Kildare County Council
- Kilkenny County Council
- Laois County Council
- Limerick City and County Council
- Offaly County Council
- Tipperary County Council
- Waterford City and County Council
- Wexford County Council
- Wicklow County Council
- Mid-East Regional Authority
- The Environmental Protection Agency
- Met Éireann
- All members of the National CFRAM Steering and Stakeholder Groups

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

TABLE OF CONTENTS

| | | |
|----------|---|-----------|
| 1 | INTRODUCTION..... | 1 |
| 1.1 | PURPOSE OF THIS REPORT..... | 1 |
| 2 | SUMMARY OF SEA PROCESS..... | 2 |
| 2.1 | SEA SCREENING | 3 |
| 2.2 | SEA SCOPING..... | 3 |
| 2.3 | ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL REPORT..... | 4 |
| 2.4 | CONSULTATIONS | 4 |
| 2.5 | APPROPRIATE ASSESSMENT AND NATURA IMPACT STATEMENT | 7 |
| 2.6 | SEA STATEMENT..... | 8 |
| 2.7 | ADOPTION OF THE PLAN..... | 8 |
| 3 | INFLUENCE OF SEA ON THE PLAN | 9 |
| 3.1 | PRELIMINARY SCREENING OF FRM METHODS..... | 10 |
| 3.2 | MULTI-CRITERIA ANALYSIS OF FRM OPTIONS..... | 12 |
| 3.3 | ENVIRONMENTAL ASSESSMENT OF PREFERRED OPTIONS..... | 13 |
| 3.4 | PLAN AND SEA OBJECTIVES | 14 |
| 3.4.1 | Development of Strategic Environmental Objectives | 14 |
| 3.5 | RECOMMENDED MITIGATION MEASURES..... | 17 |
| 3.5.1 | General Mitigation | 17 |
| 3.5.2 | Mitigation by Environmental Impact | 18 |
| 3.5.3 | Mitigation Guidelines | 22 |
| 3.6 | HOW CONSULTATION FEEDBACK HAS INFLUENCED THE FINAL PLAN..... | 23 |
| 4 | PREFERRED SCENARIO AND REASON FOR CHOOSING THE FINAL PLAN..... | 24 |
| 4.1 | ALTERNATIVES CONSIDERED..... | 24 |
| 4.2 | FINAL PLAN FLOOD RELIEF MEASURES..... | 25 |
| 4.2.1 | Measures Applicable for All Areas | 25 |
| 4.2.2 | Sub- Catchment Measures..... | 26 |
| 4.2.3 | Baltinglass AFA Preferred Measure | 26 |
| 4.2.4 | Wexford AFA Preferred Measures | 26 |
| 4.2.5 | Enniscorthy AFA Preferred Measures..... | 26 |
| 4.2.6 | Tullow AFA Preferred Measures | 26 |
| 5 | MEASURES TO MONITOR SIGNIFICANT ENVIRONMENTAL EFFECT OF IMPLEMENTING THE PLAN..... | 27 |
| 5.1 | RESPONSIBILITIES FOR MONITORING..... | 27 |
| 5.2 | SOURCES OF INFORMATION FOR MONITORING | 27 |
| 6 | SCREENING AND CHANGES TO FINAL PLAN..... | 32 |
| 7 | CONCLUSIONS AND NEXT STEPS..... | 33 |
| 8 | GLOSSARY OF TERMS..... | 34 |

LIST OF FIGURES

| | | |
|------------|--|---|
| Figure 2.1 | Overview of the SEA Process | 2 |
| Figure 2.2 | Overview of the South Eastern CFRAM Consultation Stages and Structures | 6 |
| Figure 3.1 | Interactions of the Plans and Environmental Assessments | 9 |

LIST OF TABLES

| | | |
|-----------|---|----|
| Table 2.1 | Summary Description of Main Stages in the SEA Process | 3 |
| Table 3.1 | Flood Risk Management Methods | 11 |
| Table 3.2 | Plan Objectives used in MCA and their SEA Compatibility | 15 |
| Table 3.3 | Proposed Mitigation Measures | 18 |
| Table 5.1 | Environmental Monitoring of Plan | 29 |

APPENDICES

APPENDIX A – Stakeholder and Public Engagement and Consultation 6 Pages

APPENDIX B – Draft Plan Consultation – UoM11,12,13 Environmental Submissions 61 Pages

ABBREVIATIONS

| | |
|---------|---|
| AA | Appropriate Assessment |
| AFA | Area for Further Assessment |
| CAFE | Clean Air for Europe [Directive] |
| 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 |
| DAHRRGA | Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs |
| 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 |
| DfI | Department for Infrastructure |
| EC | European Commission |
| EIA | Environmental Impact Assessment |
| EPA | Environmental Protection Agency |
| ERBD | Eastern River Basin District |
| FEMFRAM | Fingal East Meath Flood Risk Assessment and Management Study |
| FPM | Freshwater Pearl Mussel |
| FRA | Flood Risk Assessment |
| FRM | Flood Risk Management |
| FRMP | Flood Risk Management Plan |
| GIS | Geographical Information Systems |
| 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 |
| NBIRBD | Neagh Bann International River Basin District |
| NHA | Natural Heritage Area |

| | |
|--------|---|
| NIEA | Northern Ireland Environment Agency |
| NIS | Natura Impact Statement |
| NPWS | National Parks and Wildlife Service |
| NWIRBD | North Western International River Basin District |
| NWNB | North Western – Neagh Bann |
| 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 |
| PFRA | Preliminary Flood Risk Assessment |
| P/P | Plan or Programme |
| 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

1.1 PURPOSE OF THIS REPORT

This Strategic Environmental Assessment (SEA) Statement has been prepared as part of the SEA for the Flood Risk Management Plan (FRMP) for Units of Management 11, 12 and 13 (UoMs 11, 12 and 13) under the South Eastern Catchment-based Flood Risk Assessment and Management (CFRAM) Study. This document provides information on the decision-making process and documents how environmental considerations, the views of consultees and the recommendations of the Environmental Report and the assessment carried out under Article 6 of the Habitats Directive have been taken into account by, and influenced, the Plan.

The South Eastern CFRAM study area includes six 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 South Eastern CFRAM Study Area. These are UoM11 (Owenavorrhagh & Blackwater River Basin), UoM12 (Slaney River Basin), UoM13 (Ballyteigue - Bannow River Basin), UoM14 (Barrow River Basin), UoM15 (Nore River Basin), UoM16 (Suir River Basin), and UoM17 (Waterford South Coast River Basin). There is a high level of flood risk within the South Eastern CFRAM Study area with significant coastal and fluvial flooding events having occurred in the past. The Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins are predominantly rural catchments in an Irish context, with the largest urban areas being Wexford and Enniscorthy in UoM12; and Gorey and Courtown in the case of UoM11.

In total there are 29 Flood Risk Management Plans (FRMPs) being published; each setting out the feasible range of flood risk management measures for their respective Units of Management (UoM). The preparation of these Plans is a central part of the implementation of Government policy on flood risk management (OPW, 2004), and meets Ireland's obligations under the 2007 EU 'Floods' Directive (EU, 2007¹).

This SEA Statement has been prepared in accordance with the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 [S.I. 435/2004] and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 [S.I. 436/2004], and their recent amendments of European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 [S.I. 200/2011] and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 [S.I. 201/2011]. The Final Flood Risk Management Plans for Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins, the SEA Environmental Report, and the Natura Impact Statement (NIS) are available for download on the South Eastern CFRAM website: <http://southeast.cfram.com/>

¹ Directive on the assessment and management of flood risks, 2007/60/EC

2 SUMMARY OF SEA PROCESS

The SEA Directive requires that certain Plans and Programmes, prepared by statutory bodies, which are likely to have a significant impact on the environment, be subject to the SEA process. The SEA process is broadly comprised of the stages shown in **Figure 2.1**, which are given a summary description in **Table 2.1**.

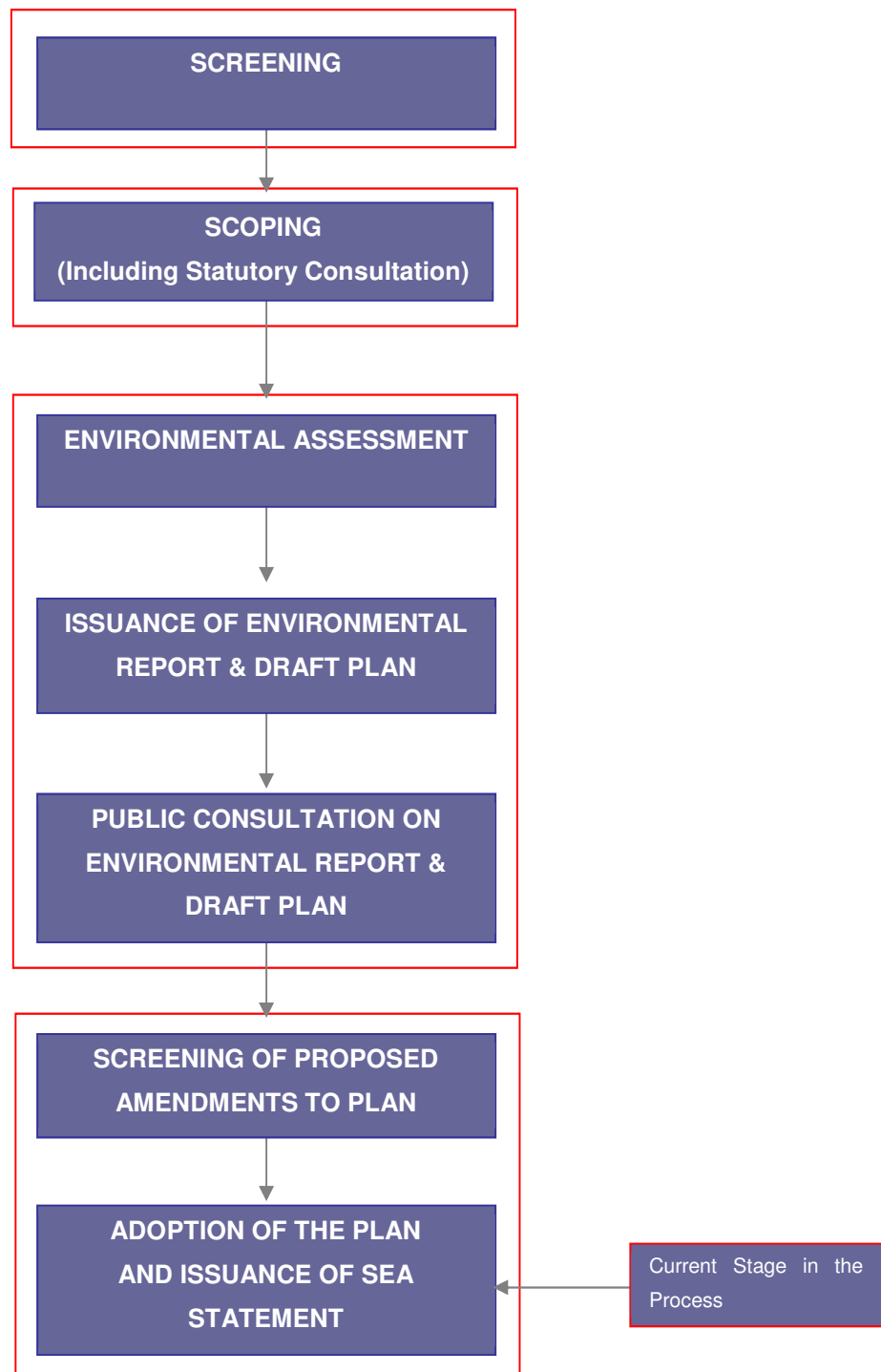


Figure 2.1 Overview of the SEA Process

Table 2.1 Summary Description of Main Stages in the SEA Process

| Stages | Description | Status |
|--------------------------|--|-------------------|
| Screening | Determines whether SEA is required for a Plan / Programme, in consultation with the designated statutory consultees. | Completed in 2011 |
| Scoping | Determines the scope and level of detail of the assessment for the SEA, in consultation with the designated statutory consultees. | Completed in 2015 |
| Environmental Assessment | Formal and transparent assessment of the likely significant impacts on the environment arising from the Plan / Programme, including all reasonable alternatives. The output from this was an Environmental Report, which went on public display along with the draft Plan. | Completed in 2016 |
| SEA Statement | Summarises the process undertaken and identifies how environmental considerations and consultations have been integrated into the final Plan / Programme. | Current Stage |

2.1 SEA SCREENING

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 Republic of 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:

<http://southeast.cfram.com/>

2.2 SEA SCOPING

The SEA Scoping for the CFRAM Study took place in mid to late 2015. A SEA Scoping Report, a SEA Scoping Summary Report, an Environmental Constraints Report and a table of High Level Impacts of FRM Methods were produced as part of the scoping phase of the SEA for the South Eastern CFRAM Study. The purpose of the Scoping Report and associated documents was to provide sufficient information on the South Eastern CFRAM Study to enable the consultees to form an opinion on the appropriateness of the scope, format, level of detail, methodology for assessment and the consultation

period proposed for the Environmental Report. All scoping documents for the South Eastern CFRAM Study can be found at: <http://southeast.cfram.com/>

Under Article 6 of the SEA Directive, the competent authority preparing the Plan or Programme (in this case the OPW) is required to consult with specific environmental authorities (statutory consultees) on the scope and level of detail of the information to be included in the Environmental Report. Under S.I. 435 of 2004 and S.I. 200 of 2011 these five statutory consultees are established within the national legislation as being:

- 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).

2.3 ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL REPORT

A SEA Environmental Report was completed that detailed the environmental assessments undertaken on the draft Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. The preparation of an Environmental Report on the likely significant effects on the environment of the Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins included consideration of:

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

2.4 CONSULTATIONS

Environmental factors have been taken into account at every stage of the development of the Plans and supporting environmental assessments. This was achieved through a range of consultation activities including, but not limited to; Stakeholder Group Workshops, Elected Member briefings, Public Consultation Days and web-based consultation and communication.

The South Eastern CFRAM Stakeholder Group was established under section 4, sub-section (9) of S.I. 122 of 2010. The Group included representatives of a number of Environmental Authorities, Regional and Local Authorities, and statutory and non-statutory local organisations within the South Eastern River Basin District; all of whom have an interest in, or are affected by, the Flood Hazard or Risk Maps or the Flood Risk Management Plans. Meetings between these organisations took place at key intervals throughout the Study to provide views and feedback on project-specific issues such as flood risk

management and related environmental concerns within the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins.

Public Consultation Days (PCDs) and Elected Member briefings also provided for the consideration of environmental issues as part of the Plan development process. These events enabled local groups and members of the public to meet with and discuss the development of the Plan and its supporting environmental reports through each of the various stages of the Study. They took place at key stages; during the initial scoping phase (late 2012), the mapping phase (early 2015), the options phase (late 2015/early 2016) and the draft Plan phase (late 2016).

The environment was considered during the initial scoping phase of the Study, insofar as consultation activities were employed to inform stakeholders and members of the public of their opportunities to feed into, and influence, the planning and SEA/AA processes. They were also used to elicit views and information from interested parties in relation to SEA scoping activities and relevant issues relating to flood risk and environmental assets which might be affected by the outcomes of the Study.

During the mapping phase of the Study, the views of stakeholders and the public were sought in relation to issues of local value, local weightings and community perceptions of solutions. Views and information were also sought in relation to the accuracy of the draft flood maps and with regard to issues of environmental concern relevant to the on-going environmental assessment.

The views of stakeholders and the public were elicited during the options phase of the Study with respect to significant negative social, technical, economic or environmental issues relating to the proposed flood risk management options. They were also sought with regards to local weightings for MCA objectives and final MCA scores. Consultation activities were further used to remind stakeholders with respect to their opportunities to feed into and influence the planning and SEA/AA processes.

Consultation activities during the draft Plan phase of the Study were used to elicit the views of stakeholder and members of the public in relation to the Plan, the SEA Environmental Report and the Natura Impact Statement for the Plan. The opportunity was also taken to increase public and stakeholder understanding in relation to the preferred options proposed to mitigate the risk of flooding and to further advise them with respect to the consultation process; and in particular to the consultation period, the means by which to make formal submissions and the process and likely timescale for finalizing the Plans.

An overview of the CFRAM consultation stages and structures is provided diagrammatically in **Figure 2.2**. Further information on the public and stakeholder engagement is provided in **Appendix A**.

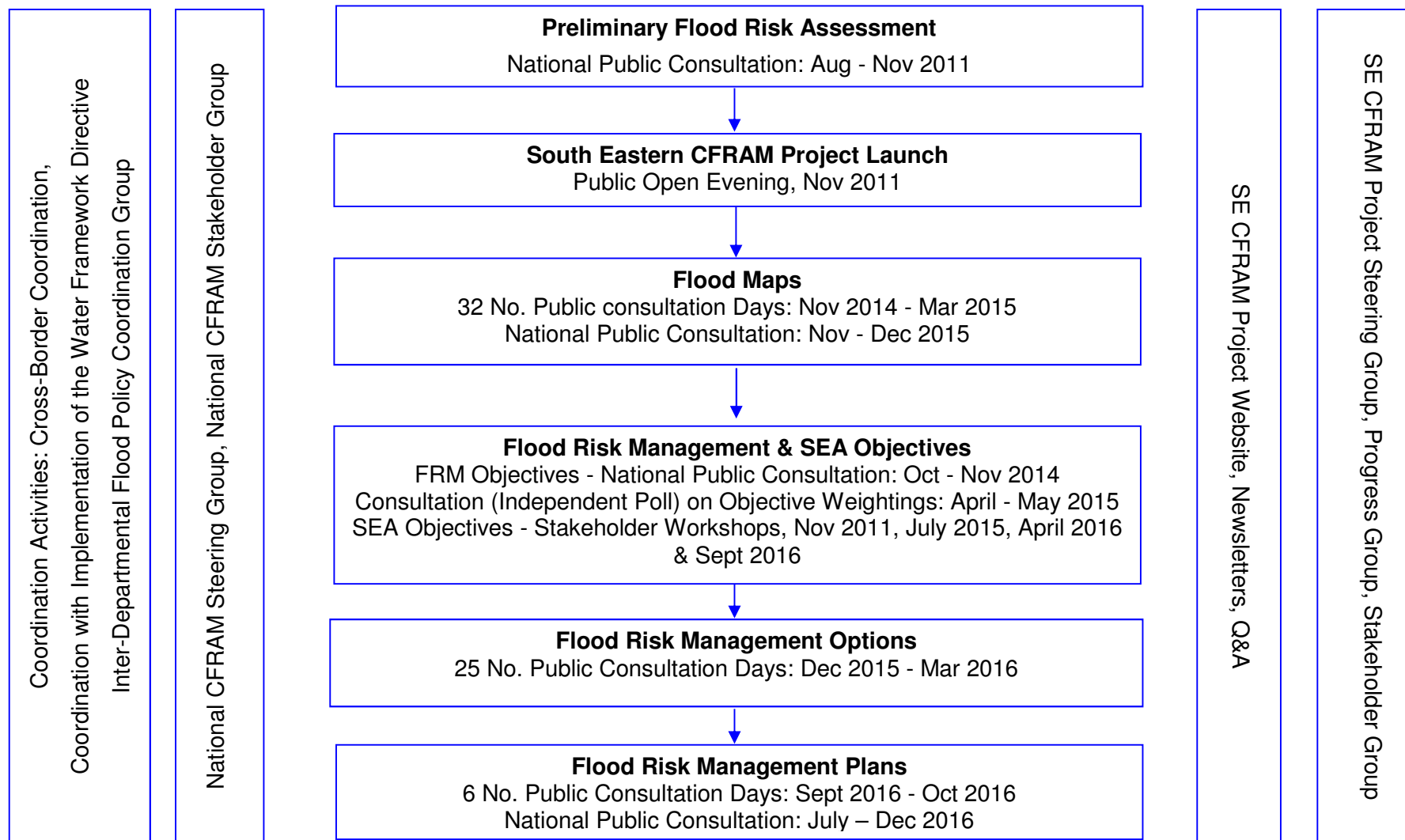


Figure 2.2 Overview of the South Eastern CFRAM Consultation Stages and Structures

2.5 APPROPRIATE ASSESSMENT AND NATURA IMPACT STATEMENT

In addition to the SEA, there was a requirement under the EU Habitats Directive (92/43/EEC) to assess whether the Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins have the potential to impact negatively on a Natura 2000 site, which includes Special Protection Areas (SPAs) for birds and Special Areas of Conservation (SACs) for habitats and species. Article 6 is one of the most important articles of the Habitats Directive in determining the relationship between conservation and site use. Article 6(3) requires that,

“Any plan or project not directly connected with or necessary to the conservation of a 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.”

An Appropriate Assessment (AA) Screening was undertaken for the South Eastern CFRAM Study in late 2015 / early 2016, which demonstrated the potential European sites that may be negatively impacted upon by FRM activities in the Study area. A Plan level Stage 2 AA was undertaken in parallel with the SEA process and a Natura Impact Statement (NIS) was prepared. The findings of the AA were used to guide the development of the alternatives to be considered in the Plans. The findings of the NIS were integrated into the SEA Environmental Report and subsequently summarized in Section 7 of the Plans. The AA for the Plans investigated the potential direct and indirect impacts of the proposed works on the integrity and interest features of European sites, alone and in-combination with other plans and projects, taking into account the sites' structure, function and conservation objectives. Where potentially significant adverse impacts were identified a range of mitigation and avoidance measures were suggested to help eliminate them by design or reduce them to acceptable levels. The AA has identified that the FRM measures proposed at Wexford AFA may have long term residual impacts on Slaney River Valley SAC and Wexford Harbour and Slobs SPA, in respect of intermittent residual sedimentation impacts on wetland habitats during flood events or during maintenance works on the Carricklawn River. The detailed design of FRM measures at Wexford AFA should recognise this potential and incorporate measures to avoid scouring. The construction of the FRM measures and any ongoing maintenance should employ effective preventative measures to contain suspended solids and other pollutants. With these preventative measures in place, it has been concluded that the residual impacts will be insignificant.

As a result of this AA it has been concluded that, provided the avoidance and mitigation measures suggested are adopted at the project stage, the proposed FRM measures in the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basin Plans will not have significant adverse impacts on any European sites.

2.6 SEA STATEMENT

The main purpose of the SEA Statement is to provide information on the decision-making process for the Plans in order to illustrate how decisions were taken, making the process more transparent. In doing so, the SEA Statement documents show the recommendations of both the Environmental Report and the NIS, as well as the views of the statutory consultees and other submissions received during consultation, have influenced the preparation of the Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. The SEA Statement also provides information on the arrangements put in place for monitoring and mitigation. The SEA Statement is available to the public, along with the Environmental Report, the NIS and the adopted Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins.

The SEA Statement includes the following information:

- Summary of how environmental considerations have been integrated into the Plans;
- Summary of how submissions received during consultation have been taken into account in the Plans;
- Reasons for choosing the recommended options, in light of other reasonable alternatives considered; and
- Measures that are to be undertaken to monitor and mitigate the significant environmental effects of implementing the Plans.

2.7 ADOPTION OF THE PLAN

The Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins were finalised in July 2017. These Plans, along with the SEA Environmental report, SEA Statement and NIS are to be supplied to the Minister for Public Expenditure and Reform. The Minister can adopt the Plans, reject the Plans or adopt with recommended amendments. National prioritisation of all the CFRAM flood risk management schemes across Ireland will take place once all Plans are adopted. These adopted Plans and the prioritisation of schemes will then be taken to the Local Authorities across Ireland for comment and implementation.

3 INFLUENCE OF SEA ON THE PLAN

Draft Plans were produced for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins within the South Eastern CFRAM Study Area. The SEA Environmental Report was produced to assess the environmental impacts of the FRM options (alternatives) of the Plans and to provide the environmental guidance to help create more sustainable Plans. In parallel to this a NIS was prepared to inform the decision making process, in terms of the potential for the FRM options to impact the integrity of any European sites, in view of that sites conservation objectives. Both environmental assessments were central to the development of the draft Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. The following section demonstrates the interactions between the various levels of environmental assessment and the stages at which these assessments will have influenced the Plans. A summary graphic of these interactions, and where environmental assessments were incorporated into the Plan process, is shown in **Figure 3.1**.

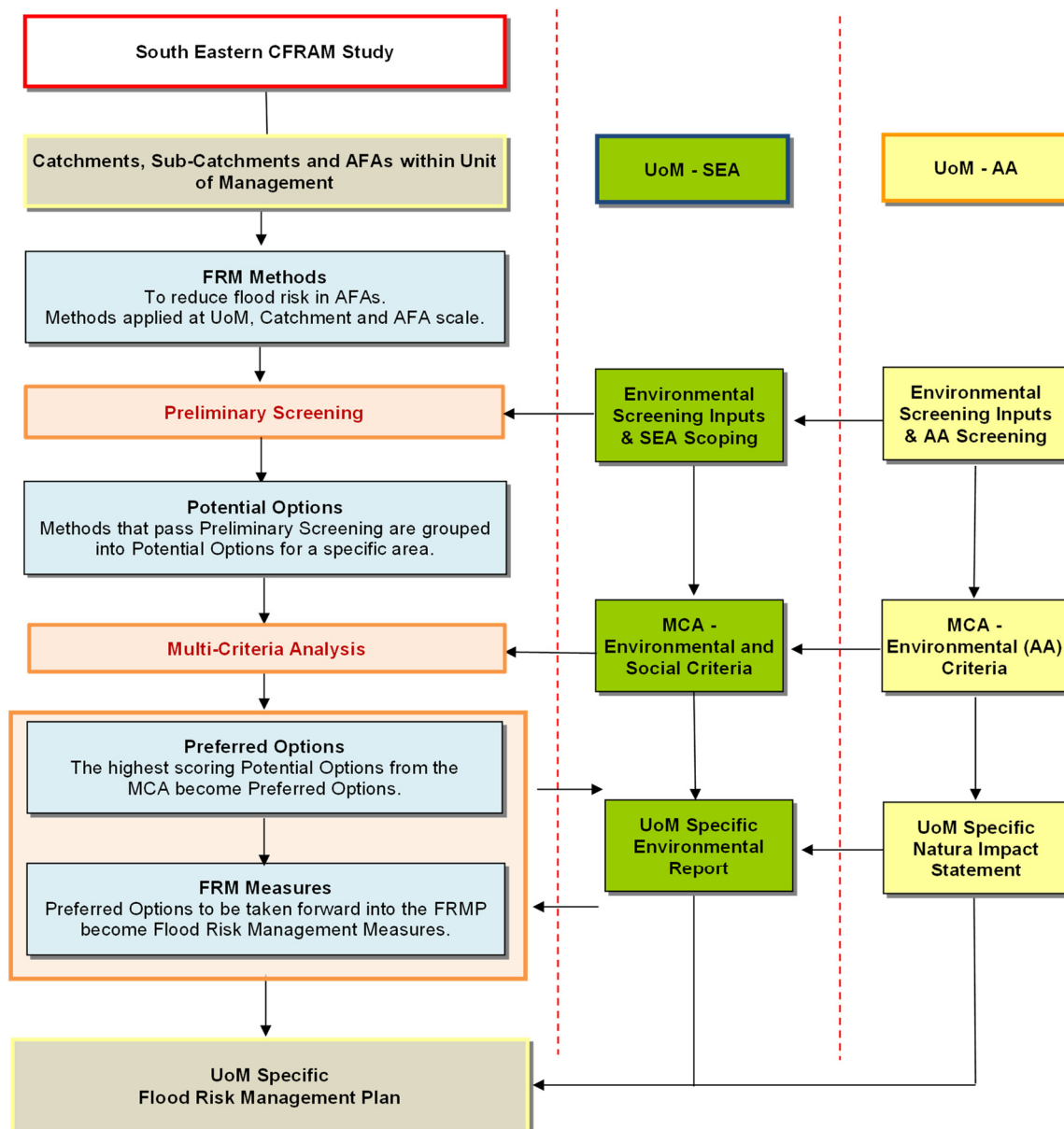


Figure 3.1 Interactions of the Plans and Environmental Assessments

The main steps of environmental input to the Plans can therefore be summarised as follows:

- 1 - Preliminary Screening of FRM Methods
- 2 - Multi-Criteria Analysis of FRM Options (Alternatives)
- 3 - Environmental Assessment of Preferred Options.

3.1 PRELIMINARY SCREENING OF FRM METHODS

For each area of flood risk to be assessed the starting point was to look at a long list of FRM methods that could be implemented to manage this risk. This long list of FRM methods was specified by OPW and included structural and non-structural methods that are available to manage flood risk in Ireland. The long list of methods was considered for each of the flood risk areas identified. A table of the high level environmental / social impacts of these FRM methods was developed early in this process and consulted on alongside the SEA Scoping Report. This table outlines the main potential likely impacts of implementation of the flood risk management methods on the general environment. These impacts can be positive, negative or neutral. The purpose of producing this information was to develop a streamlined assessment of impacts of flood risk management methods on the general environment, which was then used within the environmental assessments for the Plans. These are high-level / strategic impacts and are not site or species specific. This is to reflect the strategic nature of the Plans and the environmental assessments of the Plans. This information was circulated for consultation to statutory bodies, stakeholders and Local Authorities. Where feedback was received the table was amended accordingly.

The FRM methods went through an initial screening to determine their technical, economic and social / environmental feasibility. In this initial screening, if a FRM method was found to be technically feasible, i.e. it could completely or partially manage flood risk for an area, it was then screened for its economic viability. If the method was found to be economically viable it was then screened for environmental and social feasibility. The environmental and social criteria in the screening stage were based on the potential for impacts on designated European sites (namely special areas of conservation and special protection areas) and UNESCO World Heritage Sites (including tentative sites) in the first instance. Further social criteria were also taken into account for potentially detrimental impacts on socially important sites, e.g. relocation of hospitals would be deemed unacceptable.

Table 3.1 demonstrates the long list of flood risk management methods that were originally considered across all areas of flood risk and which were subject to a preliminary screening assessment. The methods highlighted in green are non-structural, which are policy and administrative based, and currently do not include physical works. The methods highlighted in red are considered the structural methods, wherein there will be an engineered scheme with works required on the ground at a specific geographic location.

Table 3.1 Flood Risk Management Methods

| Method | Description | |
|---|---|-------------------------------|
| Do Nothing | Implement no new flood risk management measures and abandon any existing practices. | Non-Structural Methods |
| Maintain 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, includes channel or flood defence maintenance works / programme. | |
| Planning and Development Control | 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. | |
| Catchment Wide Sustainable Drainage Systems (SuDS) | Implement SuDS on a catchment wide basis. | |
| Land Use Management (NFM) | Creation of wetlands, riparian buffer zones, etc. | |
| Strategic Development Management | Necessary floodplain development (proactive integration of structural measures into development designs and zoning, regulation on developer-funded communal retention, drainage and / or protection systems, etc.) | |
| Flood Warning / Forecasting | Installation of a flood forecasting and warning system and development of emergency flood response procedures. | |
| Public Awareness Campaign | Targeted public awareness and preparedness campaign. | |
| Upstream Storage | Single or multiple site flood water storage, flood retardation, etc. | Structural Methods |
| Improvement of Channel Conveyance | In-channel works, floodplain earthworks, removal of constraints / constrictions, channel / floodplain clearance, etc. | |
| Hard Defences | Construct walls, embankments, demountable defences, Rehabilitate and / or improve existing defences, etc. | |
| Relocation of Properties | Relocation of properties away from flood risk. | |
| Diversion of Flow | Full diversion / bypass channel, flood relief channel, etc. | |
| Other works | Minor raising of existing defences / levels, infilling gaps in defences, site specific localised protection works, etc. | |
| Individual Property Flood Resistance | Protection / flood-proofing and resilience. | |

During this preliminary screening the environmental specialists helped to steer the planning team towards more sustainable FRM methods and provided guidance on environmental issues in the areas of interest. This screening process coincided with the development of the SEA Scoping Report and the AA Screening Report for the South Eastern CFRAM Study. The outcomes of all Preliminary Screenings for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins were included within Appendix E of the draft Plans of the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins.

3.2 MULTI-CRITERIA ANALYSIS OF FRM OPTIONS

The methods that were found to be technically, economically, socially and environmentally acceptable in the preliminary screening were then combined into groups of options, which were then subjected to detailed Multi-Criteria Analysis (MCA), looking at technical, economic, social and environmental criteria.

Multi-Criteria Analysis is based on the numeric, but non-monetised assessment of options against the range of objectives, whereby indicators are set for each objective. These indicators are then used to define scores for that objective on the basis of the degree to which the option being appraised goes beyond the Basic Requirement for that objective towards meeting the Aspirational Target. The sums of the scores, set against the total costs of their achievement, represent the preference for a given option (using all criteria) or the net benefits of an option (using only the economic, social and environmental criteria). These total scores can be used to inform the decision on the selection of (a) preferred option(s) for a given location and the prioritisation of potential schemes between locations. These options are the alternatives available to the Plan that are likely to have physical impacts in their development and operation. The assessment of alternatives and the preferred alternative were discussed in Section 8 and 9 of the SEA Environmental Report.

SEA is particularly suited to the MCA approach to options assessment as the environmental / social criteria developed for the SEA can be directly inputted to the MCA framework and in turn directly influence the decision making process.

The FRM options were assessed against the Plan Objectives within the MCA. This assessment considered the issues of social and environmental impacts alongside the technical and economic criteria. The MCA framework has been developed to take account of the broader range of issues relevant to delivery of the Plans in the development and selection of FRM options, and their subsequent prioritisation. The SEA Objectives were developed from these Plan Objectives.

The MCA used 'Global Weightings' to rank the general importance of the objectives and 'Local Weightings' to determine the importance or relevance of each objective in each individual area of flood risk (e.g. catchment or AFA). Global weightings were developed through a public poll using a structured questionnaire. Local Weightings were determined through the project teams, steering groups, stakeholders and public consultation, using a nationally consistent approach.

The scorings of the options used in the MCA generally range from +5 to -5; however a score of -999 was also used where an option is to be completely removed due to unacceptable impacts. The scoring indicators, along with the global and local score weighting assignments, for the Plan objectives that were brought through into the SEA were given in Appendix B of the SEA Environmental Report. The local weightings and their justifications could be found in Appendix D of the draft Plans.

The MCA Scores for all options considered, including the environmental and social scores and justifications, could be found in Appendix C of the SEA Environmental Report and Appendix F of the draft Plans. The highest scoring option for each area of flood risk (e.g. catchment or AFA), along with consideration of feedback from public and stakeholder consultation, has been put forward into the draft Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins as the preferred option. The SEA process has been critical for this MCA as it has provided the necessary information for the environmental and social inputs.

The MCA of FRM options stage was heavily influenced by the environmental specialists involved in the study. The development of FRM options was an iterative process between the environmental and FRM planning specialists. Where possible, environmental and sustainability criteria were considered in the selection and positioning of FRM options, prior to assessment in the MCA. This MCA stage coincided with the development of the SEA Environmental Report and the NIS.

3.3 ENVIRONMENTAL ASSESSMENT OF PREFERRED OPTIONS

The SEA Environmental Report specifically contributed to the scoring of social and environmental criteria and assessment in the MCA, while also providing qualitative supporting narrative in the environmental report. Expert judgement was used in both methods of assessment. The preferred options assessed in this Environmental Report are scored and reported on in terms of environmental impacts and their significance, which was from +5 to -5; however there was no preferred option selected that was scored with unacceptable impacts, and therefore no -999. The purpose of this further assessment of the preferred FRM Options is to ensure all potential wider environmental impacts have been identified, to provide further transparency on the potential impacts of the preferred options and to ensure the requirements of the SEA Directive were met. The preferred options were assessed against the environmental and social objectives for their potential short, medium and long term impacts on the following environmental topic areas, taking account of any secondary, cumulative, synergistic, permanent and temporary, positive or negative effects:

- Biodiversity, Flora & Fauna
- Population & Human Health
- Geology, Soils and Landuse
- Water
- Climatic Factors
- Material Assets & Infrastructure
- Cultural, Architectural & Archaeological Heritage
- Landscape & Visual Amenity
- Fisheries & Angling
- Amenity, Community & Socio-Economics

3.4 PLAN AND SEA OBJECTIVES

It is a requirement of the EU 'Floods' Directive [Art. 7(2)] as transposed through SI No. 122 of 2010 [Section 15(2)] that Flood Risk Management Objectives are to be established as part of the planning process. The Flood Risk Management Objectives set out the goals that the Plans are aiming to achieve. They have a key role in the preparation of the Plans and the measures proposed, as the options that are available to manage flood risk within a given area are appraised against these objectives to determine how well each option will contribute towards meeting the defined goals. The objectives are focussed at considering potential benefits and impacts across a broad range of issues including human health, the environment, cultural heritage and economic activity. This broadly aligns with the environmental considerations defined for SEA.

3.4.1 Development of Strategic Environmental Objectives

In order to have a proactive and positive influence on decision making, the SEA has fed into the MCA framework adopted to assist the decision making process for the Plans. The SEA uses a system of objectives, targets and indicators to assess the benefits and impacts of a given plan or programme. These environmental objectives cover a range of issues including population; human health; water; material assets; cultural heritage; biodiversity etc.

The Plans also include specific environmental and social objectives (included on equal weighting and importance as the technical and economic objectives) which broadly correspond to the issues considered in the SEA. As such the two processes offer considerable opportunity to coordinate, allowing the SEA to directly support decision making through the MCA.

Many of the Plan objectives therefore coordinated directly with the SEA objectives as they were directly compatible. The objectives / sub-objectives that match the SEA issues are shaded green in **Table 3.2**. In the SEA Environmental Report the environmental assessment of the preferred options was expanded upon from the MCA, based on these Objectives and Sub-Objectives. The scoring indicators, along with the global and local score weighting assignments, for the Plan objectives that have been brought through into the SEA were given in Appendix B of the SEA Environmental Report.

Although the environmental criteria and assessments have significantly influenced the development of the FRM options, the findings and outcomes of the environmental report and the NIS had the potential to still bring further amendments and improvements to the draft Plans. This iterative process adopted was to provide for more sustainable Plans in the long term.

The full assessment outputs can be found in Section 9.3 of the main volume of the SEA Environmental Report.

Table 3.2 Plan Objectives used in MCA and their SEA Compatibility

| CRITERIA | | OBJECTIVE | | SUB-OBJECTIVE | | Related SEA Topic |
|----------|----------------------|-----------|---|---------------|---|-------------------|
| 1 | Social | a | Minimise risk to human health and life | i) | Minimise risk to human health and life of residents | P/HH |
| | | | | ii) | Minimise risk to high vulnerability properties | P/HH |
| | | b | Minimise risk to community | i) | Minimise risk to social infrastructure and amenity | ACS |
| | | | | ii) | Minimise risk to local employment | ACS |
| 2 | Economic | a | Minimise economic risk | i) | Minimise economic risk | |
| | | b | Minimise risk to transport infrastructure | i) | Minimise risk to transport infrastructure | MA |
| | | c | Minimise risk to utility infrastructure | i) | Minimise risk to utility infrastructure | MA |
| | | d | Minimise risk to agriculture | i) | Minimise risk to agriculture | S |
| 3 | Environmental | a | 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. | W |
| | | b | 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. | BFF |
| | | c | Avoid damage to, and where possible enhance, the flora and fauna of the catchment | i) | Avoid damage to or loss of, and where possible enhance, nature conservation sites and protected species or other known species of conservation concern. | BFF |

| | | | | | | |
|----------|------------------|----------|---|-----|--|----------|
| | | d | 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. | F |
| | | e | 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. | L |
| | | f | 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. | H |
| | | | | ii) | Avoid damage to or loss of features, institutions and collections of archaeological value and their setting. | H |
| | | | | | | |
| 4 | Technical | a | Ensure flood risk management options are operationally robust | i) | Ensure flood risk management options are operationally robust | |
| | | b | Minimise health and safety risks associated with the construction, operation and maintenance of flood risk management options | i) | Minimise health and safety risks associated with the construction, operation and maintenance of flood risk management options | |
| | | c | Ensure flood risk management options are adaptable to future flood risk, and the potential impacts of climate change | i) | Ensure flood risk management options are adaptable to future flood risk, and the potential impacts of climate change | C |

BFF – Biodiversity, Flora, Fauna. P/HH – Population, Human Health. S – Soils, Geology, Landuse. W – Water. MA – Material Assets. H – Heritage. L – Landscape. F – Fisheries. ACS – Amenity, Community, Socio-Economics.

3.5 RECOMMENDED MITIGATION MEASURES

Section 10.1 of the SEA Environmental Report demonstrates the mitigation measures proposed to be included within the Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. 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 Plans. Mitigation has been further enhanced following consultation of the draft Plans which is reflected in the following section below.

3.5.1 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 will be required at the project level, where potential impacts have been identified in this SEA and accompanying NIS for the Plans.

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 Plans 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 in this SEA and accompanying NIS for the Plans. 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.

3.5.2 Mitigation by Environmental Impact

Table 3.3 demonstrates environmental impact specific mitigation measures that should be adopted within the Plans 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 3.3 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 FRMPs 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 construction. | 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 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 or 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 infrastructure during the construction phase, e.g. traffic, water and electricity. | 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. |
| 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. |

3.5.3 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.

Section 6.6 of the Final Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins provide the mitigation adopted by OPW, to be carried forward into the next stages of implementing the Plans, which is detailed feasibility study and detailed design.

3.6 HOW CONSULTATION FEEDBACK HAS INFLUENCED THE FINAL PLAN

The draft Plans for the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins issued for public consultation were accompanied by the SEA Environmental Report and NIS. Many submissions were received on these documents. All plan and environmental submissions received have been addressed as comprehensively as possible. The submissions received on the draft Plans for the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins and how these submissions were actioned are detailed within the OPW Synthesis Report. All environmental submissions received and how they were actioned are provided in **Appendix B** of this SEA Statement. The main themes of the environmental comments received can be summarised as:

- More detail / information required on options and impacts of options.
- Requests for clarification on environmental assessment.
- Recommendations for mitigation of impacts.
- Recommendation of additional detailed information.
- Greater alignment of the Floods Directive and the Water Framework Directive.

Following the public consultation of the draft Plans for the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins the following amendments were made to the Final Plans:

- Environmental mitigation was added to Section 6 of the Plans.
- Acknowledgment of the environmental risks and benefits of FRM options was added to Section 7 of the Plans, specific to measures at each AFA.
- Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to Section 8 of the Plans, which outlines the numerous consents, surveys and studies that are still to be undertaken on any proposed physical flood relief works, before any physical works take place. This is to demonstrate that the outcomes of the Plans are further detailed study and design.

4 PREFERRED SCENARIO AND REASON FOR CHOOSING THE FINAL PLAN

4.1 ALTERNATIVES CONSIDERED

As detailed in Section 7 of the Plans there are a wide range of different approaches or methods that can be taken to reduce or manage flood risk. These can range from non-structural methods that do not involve any physical works to prevent flooding but rather comprise actions typically aimed at reducing the impacts of flooding, to structural works that reduce flood flows or levels in the area at risk or that protect the area against flooding. The range of methods (Alternatives) for managing flood risk that were considered in the Final Plans can be summarised as follows:

Flood Risk Prevention Methods

- Sustainable Planning and Development Management
- Sustainable Urban Drainage Systems (SUDS)
- Voluntary Home Relocation
- Preparation of Local Adaptation Planning

Flood Protection Methods

- Enhance Existing Protection Works
- Flood Defences
- Increasing Channel Conveyance
- Diverting Flood Flows
- Storing Flood Waters
- Implementing Channel Maintenance Programmes
- Maintenance of Drainage Schemes
- Land Commission Embankments

Flood Preparedness (Resilience) Methods

- Flood Forecasting and Warning
- Emergency Response Planning
- Promotion of Individual and Community Resilience
- Individual Property Protection
- Flood-Related Data Collection

Continue Existing Regime / Do Nothing / Minor Measures

- Continue Existing Regime / Maintain
- Do Nothing
- Minor Measures

These alternatives were assessed via the methodology summarised in **Section 3** of this SEA Statement, which included environmental assessment and influence at all stages.

4.2 FINAL PLAN FLOOD RELIEF MEASURES

The Final measures to be progressed for further detailed study and design for the Study area are given in Section 7.4 of the Final Plans, and can be summarised as follows:

4.2.1 Measures Applicable for All Areas

There are certain prevention and preparedness measures related to flood risk management that form part of wider Government policy. These measures, set out below under the themes of prevention, protection and preparedness, should be applied across all areas of the River Basin, including properties and areas outside of the AFAs, as well as within:

- **Prevention:** Sustainable Planning and Development Management - Application of the Guidelines on the Planning System and Flood Risk Management (DHPCLG/OPW, 2009)
- **Prevention:** Sustainable Urban Drainage Systems - Implementation of Sustainable Urban Drainage Systems (SUDS)
- **Prevention:** Voluntary Home Relocation - Voluntary Home Relocation Scheme
- **Prevention:** Local Adaptation Planning - Consideration of Flood Risk in local adaptation planning
- **Prevention:** Land Use Management and Natural Flood Risk Management Measures - Assessment of Land Use and Natural Flood Risk Management Measures.

- **Protection:** Minor Works Scheme
- **Protection:** Maintenance of Arterial Drainage Schemes and Existing Flood Relief Schemes - There is one Arterial Drainage Scheme within the Owenavorrigh & Blackwater River Basins, namely the Owenavorrigh Scheme. There are two existing flood relief schemes within the Slaney River Basin. There is one Arterial Drainage Scheme within the Ballyteigue River Basin, namely the Ballyteigue (Kilmore) Scheme. The OPW has a statutory duty under the Arterial Drainage Act, 1945, and the Amendment of the Act, 1995, to maintain the Arterial Drainage and the flood relief Schemes. The local authorities should also maintain those flood relief schemes for which they have maintenance responsibility. These Plans do not amend these responsibilities to provide additional flood relief. These Plans therefore do not set out additional measures in this regard.
- **Protection:** Maintenance of Drainage Districts – There is one Drainage Districts within the Owenavorrigh & Blackwater River Basins, namely the the Cahore Drainage Districts. There are three Drainage Districts within the Slaney River Basin, namely the Douglas, Carrigower and Sow Drainage Districts. The local authorities have a statutory duty to maintain the Drainage Districts, and these Plans do not amend these responsibilities to provide additional flood relief. The Plans therefore do not set out additional measures in relation to the maintenance of Drainage Districts.
- **Maintenance** of Channels Not Part of a Scheme - 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.

- **Preparedness:** Flood Forecasting - Establishment of a National Flood Forecasting and Warning Service
- **Preparedness:** Review of Emergency Response Plans for Severe Weather - Ongoing Appraisal of Flood Event Emergency Response Plans and Management Activities
- **Preparedness:** Individual and Community Resilience - Individual and Community Action to Build Resilience
- **Preparedness:** Individual Property Protection
- **Preparedness:** Flood-Related Data Collection

4.2.2 Sub- Catchment Measures

No Sub-Catchments for assessment of options were identified within the Owenavorrigh & Blackwater, Slaney or Ballyteigue - Bannow River Basins, consequently no methods have been proposed at this scale of assessment.

4.2.3 Baltinglass AFA Preferred Measure

Potentially viable flood relief works for Baltinglass that may be implemented after project-level assessment and planning or Exhibition and confirmation might include physical works. The preferred measure consists of building hard defences, at risk properties would be protected by a series of flood embankments and walls. These hard defences would protect to the 1% AEP flood event with an estimated average height of 1.3m and a total length of 0.58km. The preferred measure will deliver several key flood protection benefits; reducing risk to numerous local properties and commercial properties, NIAH buildings, transport links and social infrastructure/amenity sites in the medium and long term. The preferred measure scored better environmentally has a significantly higher benefit cost ratio than other potential measure.

4.2.4 Wexford AFA Preferred Measures

Potentially viable flood relief works for Wexford that may be implemented after project-level assessment and planning or Exhibition and confirmation might include physical works. The preferred measure consists of building hard defences and improvement of channel conveyance. At risk properties would be protected by a series of flood embankments and walls, along with improvement of channel conveyance close to the downstream end of the Carricklawn River. The hard defences required to protect to the 1% AEP fluvial flood event and a 0.5% AEP coastal flood event, have an estimated average height of 1.4m and a total length of 1.3km. Conveyance could be improved by dredging the existing channel, which conveys the entire flow from the downstream end of the Carricklawn River over 271m before reaching the downstream of the Coolcots River and the sea. The preferred measure will deliver several key flood protection benefits; reducing risk to numerous local properties and commercial properties, NIAH buildings, transport links and social infrastructure/amenity sites in the medium and long term. The preferred measure has a higher benefit cost ratio than other potential measures which were investigated.

4.2.5 Enniscorthy AFA Preferred Measures

The development of a flood relief scheme is currently underway for Enniscorthy (Slaney). No additional measures specific to Enniscorthy are proposed.

4.2.6 Tullow AFA Preferred Measures

A flood relief scheme has been implemented for Tullow AFA and is maintained by the Local Authority. No additional measures specific to Tullow AFA are proposed.

5 MEASURES TO MONITOR SIGNIFICANT ENVIRONMENTAL EFFECT OF IMPLEMENTING THE PLAN

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. The Environmental Monitoring Programme is based on these indicators and is discussed in more detail below. This monitoring is included within Section 8 of the Final Plans.

5.1 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 Plans 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 Plans, 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 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 from the SEA Environmental Report

is given in **Table 5.1** and is based on the Targets and Indicators established in the SEA Objectives. This has been adopted into the final Plans and the monitoring will then be undertaken during development of the 2nd cycle of the Plans.

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 5.1 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 Owenavorrage & Blackwater, Slaney and Ballyteigue - Bannow River Basins (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 Owenavorrage & Blackwater, Slaney and Ballyteigue - Bannow River Basins (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 Owenavorrage & Blackwater, Slaney and Ballyteigue - Bannow River Basins | OPW, Local Authority and Emergency Services Reporting. |
| | | ii) | Minimise risk to high vulnerability properties | High vulnerability sites impacted by flooding in the Owenavorrage & Blackwater, Slaney and Ballyteigue - Bannow River Basins | 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 Owenavorrage & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | 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 / SERBD – 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 Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | 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 Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | OPW, Local Authority and NRA reporting. |
| | | ii) | Minimise risk to utility infrastructure | Number and type of utilities that have flooded in the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | 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 Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | 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 Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | 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 the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. Change of quality in existing scenic areas and routes in the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. Loss of public landscape amenities in the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | 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 Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. Barriers to fish movement within the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | 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 Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins. | OPW and Local Authority reporting. |
| | | ii) | Minimise risk to local employment | Non-residential properties impacted by flooding in the Owenavorrigh & Blackwater, Slaney and Ballyteigue - Bannow River Basins | OPW and Local Authority reporting. |

6 SCREENING AND CHANGES TO FINAL PLAN

No significant amendments were made between the draft and Final Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins, so no environmental screening of changes to the Plans were required. Following receipt and review of all environmental submissions on the draft Plans, the SEA Environmental Report and NIS, minor amendments were however made to the SEA Environmental Report and NIS to provide greater clarity on assessment and to ensure these documents were as complete as possible. No additional assessment of FRM options was however undertaken for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins in these environmental reports.

7 CONCLUSIONS AND NEXT STEPS

The SEA and AA processes carried out during the preparation of the Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins have ensured that the potential significant environmental impacts associated with implementation of the Plans have been identified and that they have been given appropriate consideration. Consultation on the draft Plans, Environmental Report and NIS has further contributed to the development and finalisation of the Plans for the Owenavorrhagh & Blackwater, Slaney and Ballyteigue - Bannow River Basins.

In accordance with the requirements of the EU 'Floods' Directive, the PFRA, flood maps and Plans will be reviewed on a six-yearly cycle, with the first reviews of the PFRA, maps and final Plans due by the end of 2018, 2019 and 2021 respectively.

The review of the flood maps, on an ongoing basis and formally by the end of 2019, will take account of additional information received and/or physical amendments such as the construction of new infrastructure, and, where appropriate, the amendment of the flood maps.

This review of the Plans shall include any changes or updates since the publication of the Plans, including:

- A summary of the review of the PFRA and the flood maps, taking into account the potential impacts of climate change, including where appropriate the addition or removal of AFAs
- An assessment of the progress made towards the achievement of the flood risk management Objectives
- A description of, and an explanation for, any measures foreseen in the final version of the Plan which were planned to be undertaken and have not been taken forward
- A description of any additional measures developed and/or progressed since the publication of the Plan

The Review of the Plan, which will include assessments under the SEA and Habitats Directives as appropriate, taking into account new information available at that time (e.g., as available from the Environmental Monitoring Framework and from the www.catchments.ie website), will be published in line with relevant legislation, following public and stakeholder engagement and consultation.

8 GLOSSARY OF TERMS

Appropriate Assessment An assessment of the effects of a plan or project on European sites. European sites comprise Special Protection Areas under the Birds Directive and Special Areas of Conservation under the Habitats Directive.

Areas for Further Assessment (AFAs) Existing urban areas with quantifiable flood risk.

Assessment Unit 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).

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 Council Directive of 2nd April 1979 on the conservation of wild birds (79/409/EEC).

Catchment A surface water catchment is the total area of land that drains into a watercourse.

Catchment Flood Risk Management Plan (CFRMP) A large-scale strategic planning framework for the integrated management of flood risks to people and the developed and natural environment in a sustainable manner.

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 An unusual accumulation of water above the ground caused by high tide, heavy rain, melting snow or rapid runoff from paved areas. In this Study a flood is marked on the maps where the model shows a difference between ground level and the modelled water level. There is no depth criterion, so even if the water depth is shown as 1mm, it is designated as flooding.

Flood Defence A structure (or system of structures) for the alleviation of flooding from rivers or the sea.

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.

Floodplain Any area of land over which water flows or is stored during a flood event or would flow but for the presence of flood defences.

Geographical Information System (GIS) a computer-based system for capturing, storing, checking, integrating, manipulating, analysing and displaying data that are spatially referenced.

Geomorphology The science concerned with understanding the form of the Earth's land surface and the processes by which it is shaped, both at the present day as well as in the past.

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 European Community Directive (92/43/EEC) on the Conservation of Natural Habitats and of Wild Flora and Fauna and the transposing Irish regulations (The European Union (Natural Habitats) Regulations, SI 94/1997 as amended).. It establishes a system to protect certain fauna, flora and habitats deemed to be of European conservation importance.

Heavily Modified Water Body Surface waters that have been substantially changed for such uses as navigation (ports), water storage (reservoirs), flood defence (flood walls) or land drainage (dredging).

Individual Risk Receptors (IRR) Essential infrastructure assets such as a motorway or potentially significant environmentally polluting sites.

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.

Natura 2000 European network of protected 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 will include two types of area. Areas may be designated as Special Areas of Conservation (SAC) where they support rare, endangered or vulnerable natural habitats and species of plants or animals (other than birds). Where areas support significant numbers of wild birds and their habitats, they may become Special Protection Areas (SPA). SACs are designated under the Habitats Directive and SPAs are classified under the Birds Directive. Some very important areas may become 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.

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.

River Basin Districts Administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD.

Scoping (AA) the process of deciding the content and level of detail of an Appropriate Assessment under the Habitats Directive, including the key environmental issues, likely significant environmental effects and alternatives which need to be considered, the assessment methods to be employed, and the structure and contents of the Natura Impact Statement.

Scoping (SEA) the process of deciding the content and level of detail of a SEA under the SEA Directive, including the key environmental issues, likely significant environmental effects and alternatives which need to be considered, the assessment methods to be employed, and the structure and contents of the Environmental Report.

Screening (AA) The determination of whether implementation of a plan or project would be likely to have significant environmental effects on the Natura 2000 network.

Screening (SEA) The determination of whether a plan or programme is likely to require a SEA.

SEA Directive Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment'.

Sedimentation The deposition by settling of a suspended material.

Significant Effects Effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

Special Area of Conservation (SAC), Candidate Special Area of Conservation (cSAC) A 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 cSAC is a candidate site, but is afforded the same status as if it were confirmed.

Special Protection Area (SPA) A 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.

Statutory Instrument Any order, regulation, rule, scheme or byelaw made in exercise of a power conferred by statute.

Structural Options 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 Means inland waters, except groundwater, which are on the land surface (such as reservoirs, lakes, rivers, transitional waters, coastal waters and, under some circumstances, territorial waters) which occur within a river basin.

Sustainability A concept that deals with mankind's impact, through development, on the environment. Sustainable development has been defined as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (Brundtland, 1987). Sustainability in the flood risk management context could be defined as the degree to which flood risk management options avoid tying future generations into inflexible or expensive options for flood defence. This usually includes consideration of other defences and likely developments as well as processes within a catchment.

The Office of Public Works (OPW) The lead agency with responsibility for flood risk management in Ireland.

Tidal Related to the sea and its tide.

Transitional waters Bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their vicinity to coastal waters, but which are substantially influenced by freshwater flows.

Water Body A discrete and significant element of surface water such as a river, lake or reservoir, or a distinct volume of groundwater.

Water Course Any flowing body of water including rivers, streams 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.

APPENDIX A

STAKEHOLDER AND PUBLIC

ENGAGEMENT AND CONSULTATION

APPENDIX A.1

Membership of the National CFRAM Steering Group

- Office of Public Works
- County and City Managers Association
- Dept. Housing, Planning, Community and Local Government
- Dept. Agriculture, Food and the Marine
- Dept. of Arts, Heritage and the Gaeltacht
- Environmental Protection Agency
- Electricity Supply Board
- Geological Survey of Ireland (Dept. of Communications, Energy and Natural Resources)
- Irish Water
- Met Eireann
- Office of Emergency Planning
- Rivers Agency (Northern Ireland)
- Waterways Ireland

APPENDIX A.2

Membership of the South Eastern CFRAM Steering Group

- Office of Public Works
- RPS
- Environmental Protection Agency
- WFD Local Authorities Water and Communities Office LAWCO
- Southern Regional Assembly
- Carlow County Council
- Cork County Council
- Kildare County Council
- Kilkenny County Council
- Laois County Council
- Limerick County Council
- Offaly County Council
- Tipperary County Council
- Waterford County Council
- Wexford County Council
- Wicklow County Council

APPENDIX A.3

Organisations Invited to Meetings of the National Stakeholder Group

Table A.3 *Organisations Invited to Meetings of the National Stakeholder Group*

| | | |
|---|---|--|
| An Bord Pleanála | Iarnród Éireann | Irish Small and Medium Enterprises Association |
| An Taisce | Industrial Development Agency | Irish Water |
| Association of Consulting Engineers of Ireland (ACEI) | Inland Fisheries Ireland | Irish Water and Fish Preservation Society |
| Badgerwatch | Inland Waterways Association of Ireland | Irish Wildlife Trust |
| Bat Conservation Ireland | Institute of Professional Auctioneers and Valuers | IRLOGI |
| BirdWatch Ireland | Insurance Ireland | Landscape Alliance Ireland |
| Bord Gáis Networks | Irish Academy of Engineering | Macra na Feirme |
| Bord na Mona | Irish Angling Development Alliance | Marine Institute |
| Canoeing Ireland | Irish Business and Employers Confederation (IBEC) | National Anglers Representative Association |
| Chambers Ireland | Irish Co-Operative Organisation Society | National Roads Authority |
| CIWEM Ireland | Irish Countrywomen's Association | Native Woodland Trust |
| Coarse Angling Federation of Ireland | Irish Creamery Milk Suppliers Association (ICMSA) | Recreational Angling Ireland |
| Coastal and Marine Resources Centre | Irish Farmers Association (IFA) | Rivers Agency (NI) |
| Coastwatch Ireland | Irish Federation of Pike Angling Clubs | Rowing Ireland |
| Coillte | Irish Federation of Sea Anglers | Royal Town and Planning Institute (RTPI) |
| Construction Industry Federation (CIF) | Irish Marine Federation / Irish Boat Rental Association | Society of Chartered Surveyors of Ireland (SCSI) |

| | | |
|--|---|-------------------------------------|
| Council of Cultural Institutes | Irish National Committee of Blue Shield | St. Vincent de Paul |
| Dublin City Council / Dublin Flood Forum | Irish National Flood Forum | Sustainable Water Network (SWAN) |
| Eircom | Irish Natural Forestry Foundation | Teagasc |
| EirGrid | Irish Peatland Conservation Council | The Heritage Council |
| Engineers Ireland | Irish Planning Institute (IPI) | Trout Anglers Federation of Ireland |
| Health Services Executive (HSE) | Irish Red Cross | |

APPENDIX A.4

Organisations Represented at Meetings of the South Eastern CFRAM Stakeholder Group

Table A.4 *Organisations Represented at Meetings of the South Eastern CFRAM Stakeholder Group*

| | | |
|---------------|------------|---|
| Scoping Phase | 16.11.2011 | Bord Gais Networks |
| Scoping Phase | 16.11.2011 | South Eastern Regional Authority |
| Scoping Phase | 16.11.2011 | Environment Protection Agency |
| Scoping Phase | 16.11.2011 | North Tipperary County Council |
| Scoping Phase | 16.11.2011 | EIRGRID |
| Scoping Phase | 16.11.2011 | Association of Municipal Authorities of Ireland |
| Scoping Phase | 16.11.2011 | Waterways Ireland |
| Scoping Phase | 16.11.2011 | Dept. of Agriculture, Fisheries and Marine |
| Scoping Phase | 16.11.2011 | Office of Public Works |
| Scoping Phase | 16.11.2011 | Sustainable Water Network |
| Scoping Phase | 16.11.2011 | Dept. of Arts, Heritage and the Gaeltacht |
| Mapping Phase | 08.07.2015 | Wexford County Council |
| Mapping Phase | 08.07.2015 | Tipperary County Council |
| Mapping Phase | 08.07.2015 | Office of Public Works |
| Mapping Phase | 08.07.2015 | Eircom |
| Mapping Phase | 08.07.2015 | Southern Regional Assembly |
| Mapping Phase | 08.07.2015 | Laois County Council |
| Mapping Phase | 08.07.2015 | Carlow County Council |
| Mapping Phase | 08.07.2015 | National Parks and Wildlife Service |
| Mapping Phase | 08.07.2015 | Teagasc |
| Mapping Phase | 08.07.2015 | Inland Fisheries Ireland |
| Option Phase | 07.04.2016 | Tipperary County Council |
| Option Phase | 07.04.2016 | Kildare County Council |
| Option Phase | 07.04.2016 | Waterways Ireland |
| Option Phase | 07.04.2016 | Wexford County Council |
| Option Phase | 07.04.2016 | Offaly County Council |
| Option Phase | 07.04.2016 | Kilkenny County Council |

| | | |
|------------------|------------|--|
| Option Phase | 07.04.2016 | Carlow County Council |
| Option Phase | 07.04.2016 | Local Authority Water and Communities Office |
| Option Phase | 07.04.2016 | Laois County Council |
| Option Phase | 07.04.2016 | Dept. of Arts, Heritage and the Gaeltacht |
| Option Phase | 07.04.2016 | Coastwatch |
| Option Phase | 07.04.2016 | Sustainable Water Network |
| Option Phase | 07.04.2016 | Inland Fisheries Ireland |
| Draft Plan Phase | 13.10.2016 | Carlow County Council |
| Draft Plan Phase | 13.10.2016 | Tipperary County Council |
| Draft Plan Phase | 13.10.2016 | Inland Fisheries Ireland |
| Draft Plan Phase | 13.10.2016 | National Parks and Wildlife Service |
| Draft Plan Phase | 13.10.2016 | Office of Public Works |
| Draft Plan Phase | 13.10.2016 | Wexford County Council |
| Draft Plan Phase | 13.10.2016 | Kilkenny County Council |
| Draft Plan Phase | 13.10.2016 | Wicklow County Council |
| Draft Plan Phase | 13.10.2016 | Offaly County Council |
| Draft Plan Phase | 13.10.2016 | Waterways Ireland |
| Draft Plan Phase | 13.10.2016 | Irish Farmers' Association |

APPENDIX A.5

Public Consultation Days Held at the Flood Mapping Stage in UoM 11, 12 and 13

Table A.5 *Flood Mapping PCDs Held in UoM 11, 12 and 13*

| AFA | Date | Venue | No. Attendees |
|------------------|------------|---------------------------|---------------|
| Blackwater | 02.03.2015 | Blackwater Parish Hall | 12 |
| Gorey / Courtown | 02.03.2015 | Gorey Library | 8 |
| Baltinglass | 30.03.2015 | Germaine's of Baltinglass | 6 |
| Buncloody | 25.03.2015 | Millrace Hotel | 10 |
| Tullow | 25.03.2015 | Tullow Library | 10 |
| Wexford /Slobs | 16.11.14 | Wexford Town Library | 26 |

| | | | |
|---------|----------|-------------------------------|---|
| Kilmore | 04.03.15 | Stella Maris Community Centre | 7 |
|---------|----------|-------------------------------|---|

APPENDIX A.6

Public Consultation Days Held at the Flood Risk Management Optioneering Stage in UoM 11, 12 and 13

Table A.6 *Flood Risk Management Optioneering PCDs Held in UoM 11, 12 and 13*

| AFA | Date | Venue | No. Attendees |
|------------------|------------|---------------------------|---------------|
| Blackwater | 23.02.2016 | Blackwater Parish Hall | 6 |
| Gorey / Courtown | 23.02.2016 | Gorey Library | 16 |
| Baltinglass | 22.02.2016 | Germaine's of Baltinglass | 5 |
| Bunclody | 09.03.2016 | Millrace Hotel | 5 |
| Tullow | 09.02.2016 | Tullow Library | 10 |
| Wexford /Slobs | 15.12.2015 | Wexford Town Library | 4 |

APPENDIX B

Draft Plan Consultation – UoM11, 12 and 13 Environmental Submissions

Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (DAHRRGA).

| Subject | Comment | Response |
|---|--|--|
| SEA/AA Public Consultation: Archaeology | Specific projects need to be routed through the appropriate development control legislation, whether the Planning and Development Acts or Arterial Drainage Acts etc., and consultation with and referral to the National Monuments Service will need to take place. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. |
| SEA/AA Public Consultation: Archaeology | EIA requirements need to be implemented in regard to specific projects and the EIA process (and EIS) needs to fully and appropriately address archaeological issues. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. |
| SEA/AA Public Consultation: Archaeology | All notification, consent and licensing requirements under the National Monuments Act need to be fully adhered to. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. |
| SEA/AA Public Consultation: Archaeology | It is recommended that the OPW engage the services of a Project Archaeologist to oversee all proposed areas covered in the submitted UoM. They should advise on the necessary archaeological assessment for each area and liaise with National Monuments Service of DAHRRG on each scheme and particular work arising. | Revised mitigation included in Section 10 of the SEA to incorporate this. High level mitigation included within Section 6 of the Final FRMP. |
| SEA/AA Public Consultation: Archaeology | Records of Monuments and Places (RMP), known archaeological sites listed at www.archaeology.ie , the national inventory of shipwrecks, and records of the National Museum of Ireland should be considered at the earliest opportunity in the planning and design of flood relief works so as to avoid such sites if possible (see pages 2, 21 and 39). | Recommendation passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. |
| SEA/AA Public Consultation: Archaeology | National policy on the protection of the archaeological heritage in the course of development is set out in Framework and Principles for the Protection of the Archaeological Heritage (Government of Ireland, 1999). Key aspects of this should be noted as follows: (See page 3/22/40). | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Recommendation also passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. |

| | | |
|---|---|---|
| SEA/AA Public Consultation: Archaeology | For more details on the circumstances in which archaeological assessment in advance of development is considered appropriate, reference should be made to the <i>Framework and Principles for the Protection of the Archaeological Heritage</i> | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Recommendation also passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. |
| SEA/AA Public Consultation: Archaeology | It should be noted that if work commences at or in relation to any monument included in the Record of Monuments and Places as established under section 12 of the National Monuments (Amendment) Act 1994, and such work has not been notified to the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs whether by way of a specific notice or as part of a referral to the Minister under development control legislation, then a serious breach of the National Monuments Acts will have occurred. The monuments included in the RMP include a number of historic towns. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Recommendation also passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. |
| SEA/AA Public Consultation: Archaeology | Adequate time must be allowed for applications for consents and licences under the National Monuments Acts to be processed. Activities requiring consent under the Acts include alteration of, or ground disturbance around or in proximity to, National Monuments owned by a local authority, and historic bridges owned by local authorities and National Monuments in the guardianship or ownership of the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs may be considered to be within the scope of this requirement. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Recommendation also passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. |
| SEA/AA Public Consultation: Nature Conservation | It is unclear from the NIS whether the assessment adequately considered the attributes and targets of site specific conservation objectives. | Site-specific conservation objectives for designated habitats/species were taken into account insofar as plan-level details allowed. A more detailed assessment will be undertaken at project level. Text amended in 3.4.1.4 of NIS for European Sites– Selection for Preliminary Screening of Methods & Options to reflect this. |

| | | |
|---|--|--|
| SEA/AA Public Consultation: Nature Conservation | It is concluded in section 5.2.3, on page 75 of the NIS that “As a result of this Appropriate Assessment it has been concluded that after implementing the avoidance and mitigation measures suggested, the FRM measures at Wexford AFA may have some residual intermittent sedimentation impacts on the Slaney River Valley SAC and Wexford Harbour and Slobbs SPA during flood events or during maintenance of the improved conveyance measures in the Carricklawn river. The detailed design of the scheme should recognise this potential and incorporate measures to avoid scouring during flood events. The construction of the FRM measures and any ongoing maintenance should employ effective preventative measures to contain suspended solids and other pollutants. With these preventative measures in place, it has been concluded that the residual impacts will be insignificant” It is unclear why such preventative measures were not part of mitigation. In addition the reasons for reaching the conclusion that the residual impacts will be insignificant has not been explained. | Mitigation in the final NIS includes for scouring, and that detailed design, construction and maintenance phases should be carried out using effective mitigation for sedimentation. Provided these are followed carefully, significant impacts are not expected. This is a plan level strategic assessment, and should be further assessed at the detailed project stage. |
| SEA/AA Public Consultation: Nature Conservation | Despite a statement in section 7.4 of the draft FRMP that ‘The outputs of the stage 2 AA were integrated into the SEA Environmental Report and subsequently into the FRMP’ the SEA and NIS do not appear to have amended the Plan. It is critical that mitigation measures, particularly those from the NIS, are reflected in the content and objective of the FRMP. Given that no hydrometric data exists for UoM 13, for which the OPW and its consultants have proposed flood measures of hard defences for Wexford and Baltinglass AFAs as shown on maps, it is unclear if the flood measures proposed for these AFAs will be need to be modified. This needs to be clarified. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. |
| SEA/AA Public Consultation: Nature Conservation | It is unclear what types of habitat may suffer a direct loss from the proposed measures of walls and embankments. Once the proposed measures are shown on maps, as in this draft Plan, then it should be possible to look at the habitat types that may be lost and the amount of same and therefore to better assess the possible impacts of the draft FRMP. | This is a strategic-level study, and the exact location and design of FRM measures have not been decided. Further assessment and quantification of potential impacts will be made at the project stage. SEA and NIS recommend that defences be set back from waterbodies and sensitive environmental habitats and species as far as possible. |
| SEA/AA Public Consultation: Nature Conservation | The SEA has focused mainly on designated sites and it is not clear whether impacts on protected species have been adequately assessed. | Section 6.2 of each SEA has been amended to include protected species that occur outside of designated sites. Text in the ‘Biodiversity, flora and fauna’ part of Section 9 |

| | | |
|--|---|---|
| | | for each AFA has been reviewed and amended to include more information on species. |
| SEA/AA Public Consultation: Nature Conservation | Due to the large numbers of FRMPs notified or referred to this Department, in addition to on-going referrals from other public authorities, the Department are prioritising the preparation of submissions on a small number of the plans. The OPW is advised to have regard to this submission in its decision-making (including its appropriate and strategic environmental assessments) on all 29 FRMPs, as many of the points raised within may be applicable to all. | Recommendation passed to OPW. |
| SEA/AA Public Consultation: Nature Conservation | OPW must complete an appropriate assessment for the FRMPs. The Department welcomes the clarification received from the OPW that this consultation is also to serve as the consultation required with the Minister, pursuant to the European Communities (Birds and Natural Habitats) Regulations 2011, for the purposes of the OPW's appropriate assessment. | OPW to note consultation timescale comment. |
| SEA/AA Public Consultation: Nature Conservation / NIS: Nature Conservation | NIS is titled "Habitats Directive Assessment (Natura Impact Statement)." 'Natura Impact Statement' is used or defined in the Regulations and it is recommended that terminology be used in a manner that is consistent with the Regulations and corrected or amended where necessary, including in the glossary. | Document to be renamed - Natura Impact Statement |
| SEA/AA Public Consultation: Nature Conservation | FRMP Approving authorities should have regard for Regulation 42 (21) of the 2011 Regulations, including the provision for the undertaking of joint assessments, when more than one authority is required to undertake an appropriate assessment. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. |
| SEA/AA Public Consultation: Nature Conservation | In addition to the undertaking of joint assessments, where practicable, a further mitigation for timeline risks would be for the OPW to ensure all subsequent approving authorities are aware of these obligations where multiple authorisations arise so that they know to prepare accordingly. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. |
| SEA/AA Public Consultation: Nature Conservation | Ensure all documentation on which an AA is based meets the standard required to ensure the authorities compliance with the Habitats Directive. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. |

| | | |
|---|--|--|
| SEA/AA Public Consultation: Nature Conservation | Consider Regulation 27 of the 2011 Regulation with regard to European sites that should be reflected in the plan commitments and associated assessments. Public authorities are advised to incorporate obligations into their plans and programmes, and associated assessments, as required and relevant. This could usefully include the development of systems that will monitor and ensure the compliance of 'downstream' projects with these obligations, which is particularly relevant to the delivery mechanisms for the preferred measures of the FRMPs, as well as any internal mechanisms that may be needed to ensure the appropriate assessments for the Plans meet the standards required by the Directives and the national transposing Regulations. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. High level mitigation included within Section 6 of the Final FRMP. |
| SEA/AA Public Consultation: Nature Conservation | The SEA and NIS for the AA should influence the content of a Plan in a positive way. The Department recommends that the mitigation from the assessments, and any proposed monitoring and compliance check programmes should be incorporated into the Plan itself to ensure that they are carried forward and implemented as part of the Plan implementation programme. | Additional text on benefits of FRM measures added to section 7 of the FRMP. Mitigation and monitoring included within sections 6 and 8 of the FRMP. |
| SEA/AA Public Consultation: Nature Conservation | It is stated on page 14 of the NIS that "...it has been concluded that after implementing the avoidance and mitigation measures suggested, the FRM measures at Wexford AFA may have some residual intermittent sedimentation impacts on the Slaney River Valley SAC and Wexford Harbour and Slob SPA during flood events or during maintenance of the improved conveyance measures in the Carricklawn River. The detailed design of the scheme should recognise this potential and incorporate measures to avoid scouring during flood events. The construction of the FRM measures and any ongoing maintenance should employ effective preventative measures to contain suspended solids and other pollutants. With these preventative measures in place, it has been concluded that the residual impacts will be insignificant". It is unclear why such preventative measures were not part of mitigation and also the reasons for reaching the conclusion that the residual impacts will be insignificant has not been explained. | Mitigation in the final NIS includes for scouring, and that detailed design, construction and maintenance phases should be carried out using effective mitigation for sedimentation. Provided these are followed carefully, significant impacts are not expected. This is a plan level strategic assessment, and should be further assessed at the detailed project stage. |
| SEA/AA Public Consultation: Nature Conservation | Despite a statement in section 7.4 of the three draft FRMPs that "The outputs of the stage 2 AA were integrated into the SEA Environmental Report and subsequently into this FRMP" the SEA and NIS do not appear to have amended the Plan. It is critical that mitigation measures, | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some |

| | | |
|---|---|--|
| | particularly those from the NIS, are reflected in the content and objectives of the FRMP. | mitigation to section 6 of FRMP. |
| SEA/AA Public Consultation: Nature Conservation | While the restoration and improved management of European sites and other areas important for wildlife may not, on its own, reduce flood risk to the desired levels, they should form part of the overall package of measures from which complementary preferred options can be drawn. Where applicable the potential contribution of intact/restored peatlands, including raised and blanket bogs as well as other habitats such as alluvial woodlands, to the sustainability of land use practices and water retention should form part of the analysis to be undertaken in choosing the final preferred FRM options. | Land use management measure and NFM text added to Section 7.4.1.5 of the FRMP to acknowledge this. Recommendation also passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. |
| SEA/AA Public Consultation: Nature Conservation | The OPW might consider if the proposed measure should be expanded to include working with Agencies and Departments whose land-use policies may contribute towards increased flood risk and/or undermine the landscape's natural ability to retain or attenuate water. | Land use management measure and NFM text added to Section 7.4.1.5 of the FRMP to acknowledge this. Sustainable planning and development text also added to section 7.4.1.1 of the FRMP. Recommendation also passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. |
| NIS: Nature Conservation | The Department notes the reference to the guidance on AA produced by the DEHLG and revised in 2010. The statement in section 3.4.1.1 of the NIS that "As recommended in the AA of plans and projects in Ireland - Guidance for Planning Authorities (DEHLG, 2010), all European sites within a 15km precautionary buffer area of the NWNB CFRAM study area were included in the screening". This is in fact part 2 of the 3 part advice on what should be included. It is acknowledged however that the NIS does address the potential for water quality impacts at a greater distance than 15km. However, a distance of greater than 15km should also be considered where birds are concerned. | 3.4.1.1 of the NIS has been edited to make the mechanism for selection of sites more clear and acknowledge that project-level data collection may result in new sites being screened in. |
| NIS: Nature Conservation | The Department acknowledges that detailed design has not yet taken place and, as stated on page 8 of the NIS, that 'it is stressed that the SEA and AA undertaken in relation to the FRMP are plan-level assessments.' Notwithstanding this statement there needs to be some consideration in this FRMP as to what will happen if, at project stage, the options prove unviable ecologically. Insofar as is possible, the assessment at Plan stage needs to ascertain that this would not happen. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. High level mitigation included within Section 6 of the Final FRMP. |

| | | |
|--------------------------|---|---|
| NIS: Nature Conservation | <p>With regards to downstream impacts and sediment travel in rivers, it is stated on page 25 of the NIS that no specific distance limit was applied to downstream impacts and these were reviewed on a case-by-case basis. It is unclear how this works in practice or what the evidence is. This needs to be clarified. It would be useful to have details of the expected distance of travel for the type of sediment that could be released into the water as a result of proposed measures. It is not clear if expectation of no significant impacts is due to proposed mitigation measures totally removing the threat of sedimentation or partially removing the threat of sedimentation to a threshold where it is no longer likely to have an impact or any suspended sediment released as a result of measures would not travel that far. Once sediment gets into a river, while it may deposit out in time, it can get remobilised again during flood events. Therefore the aim should be to not allow extra sediment into the system where Nore freshwater pearl mussels are an issue.</p> | <p>This is a strategic-level study, and the exact location and design of FRM measures have not been decided. Therefore, quantification of sediment release and its expected travel is difficult to discern at this stage. Further assessment and quantification of potential impacts will be made at the project stage. Sediment mitigation for sensitive areas, such as FPM sensitive areas, should include a provision to ensure that the detailed FRM design and sediment mitigation must prevent additional sediment from entering the watercourse. This is included within SEA and NIS mitigation. Table 5.2.3 in NIS has been revised to clarify that careful design (setting back of hard defences) will help reduce pollution risk and when combined with recommended mitigation measures to prevent sediment loss and release of pollutants, will further reduce risk to insignificant levels.</p> |
| NIS: Nature Conservation | <p>Tables in section 5 detail Qualifying Interests (Q.I.s), potential sources of impact, pathways, potential impacts on attributes, avoidance/mitigation measures and residual impacts. It is unclear however which attribute from the conservation objectives is being referred to. This needs to be clarified.</p> | <p>NIS text heading in impact tables amended to Potential Impact. Please note this is a strategic-level assessment. Project level assessments will be undertaken based on detailed designs and site surveys to further consider the attributes and targets of site specific conservation objectives.</p> |
| NIS: Nature Conservation | <p>Section 5.1 of the three draft FRMPs state that, with regard to the hydrological analysis, there was a fair degree of potential uncertainty due to a lack of hydrometric gauge data. This was mitigated as much as possible in line with recent CFRAM guidance, however, a risk assessment to deal with areas of uncertainty is to be taken forward and built upon with the ultimate aim of providing a rationalised single error margin for the flood extent maps on an AFA by AFA basis. This Department therefore understands that the flood maps presented may need to be treated with caution. If this is the case then, given that no hydrometric data exists for UoM 13, for which the OPW and its consultants have proposed flood measures of hard defences for Wexford</p> | <p>Technical query passed to hydrology / hydraulics.</p> |

| | | |
|--------------------------|--|--|
| | and Baltinglass AFAs as shown on maps, is it likely that the flood measures proposed for these AFAs will be modified? This needs to be clarified. | |
| NIS: Nature Conservation | In Section 5.2 of the draft FRMPs for UoMs 11, 12 and 13 which deals with hydraulic modelling. It is stated that the influence of coastal water levels has been modelled by applying appropriate water level boundary profile to the downstream extent of all coastal river models including the River Slaney. It is not clear if the particular mention of the River Slaney has some significance or if it should refer to UoM 12 only. | Technical query passed to hydrology / hydraulics. |
| NIS: Nature Conservation | Sandbags do not appear to have been mentioned in this UoM. In UoM 25/26 they are flagged as potential sources of pollution which have a potential for likely significant effects and they were assessed at Plan level. The OPW and its consultants should ensure consistency between the UoMs with regard to such measures. | Sandbags were not considered as a strategic FRM measure within this CFRAM study. |
| NIS: Nature Conservation | It is noted in Section 3.1.3 that the proposed measures in the draft FRMP may be subject to some amendment prior to implementation. The OPW and its consultants should note that if the draft FRMP is amended the amendments should be subject to AA screening and, if necessary, an amended NIS produced. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. |
| NIS: Nature Conservation | Section 5 does not appear to consider alien invasive species although it does mention adherence to best practice, protocols and SOPs. Alien invasive species are mentioned in Section 6 dealing with additional mitigation measures. The measures listed at Section 6.2 propose steam cleaning footwear. However, machinery will also need to be cleaned and any imported material will need to be free from alien invasive species. | Where schemes are proposed in AFAs within or immediately adjacent to European sites, potential impacts/ mitigation for invasive species at that potentially affected European site will be included in the impact table in Chapter 5. Invasive species row added to impact tables where AFA is in or immediately adjacent to SAC or SPA. Revision to invasive species mitigation in section 6, to include machinery and imported material. |
| NIS: Nature Conservation | The OPW and its consultants should note that where there are impacts on protected species and their habitats, resting or breeding places, licenses may be required under the Wildlife Acts or derogations under the Habitats Regulations. In particular, bats and otters and cetaceans are strictly protected under annex IV of the Habitats Directive ... (See pages 9/28/45). | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works |

| | | |
|--------------------------|--|---|
| | | also provided in section 6.6 of FRMP. |
| NIS: Nature Conservation | In addition, licences will be required if there are any impacts on other protected species or their resting or breeding places, such as protected plants, badger setts or bird's nests. Where possible, hedges and trees should not be removed during the nesting season (i.e. from the 1st March to the 31st of August). In order to apply for any such licences or derogations the results of a survey should be submitted to the NPWS of this Department. Such surveys are to be carried out by appropriately qualified person/s at an appropriate time of the year. Details of survey methodology should also be provided. Such licences should generally be applied for in advance of planning to avoid delays and in case project modifications are necessary. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP. |
| NIS: Nature Conservation | It is not clear as to whether OPW and its consultants have considered cumulative impacts with Local Authority Plans e.g. County Development Plans. It cannot be assumed that because another plan has undergone AA that there will be no cumulative effects with it. | Text amended in NIS to clarify this. In section 5 - Removed ... [plan] has undergone AA and instead added "No in-combination effects are predicted at plan level. The preferred option will be re-screened at the project level." Included the following text below first paragraph in each "In-combination Effects" section: The potential for cumulative impacts was considered throughout the process of option development. Engagement with stakeholders ensured that the potential for in-combination and cumulative impacts at plan level was minimised. Cumulative effects will be further assessed at the project stage. Included as first bullet point in same section In-combination effects with FRM works, or parallel projects being carried out at other AFAs or locations in the UoM. Generic mitigation and monitoring measures have been developed, including the avoidance of undertaking FRM work on adjoining reaches of rivers for different AFAs or other parallel projects |

| | | |
|--------------------------|--|--|
| | | simultaneously. Provided the FRM works are timed correctly, no significant in-combination impacts are anticipated. |
| NIS: Nature Conservation | It is not clear whether the planned project level works in other AFAs, within and outside of this UoM, have been assessed for potential in-combination effects. Avoidance/ mitigation measure (Section 6.106) states that FRM works on adjoining reaches of rivers in different AFAs should not be scheduled to occur simultaneously with each other, or with other parallel projects. This needs to be explained. | Text amended in NIS to clarify this. In section 5 - Included the following text below first paragraph in each "In-combination Effects" section: The potential for cumulative impacts at plan level was considered throughout the process of option development. Engagement with stakeholders ensured that the potential for in-combination and cumulative impacts was minimised. Cumulative effects will be re-assessed at the project stage when project-specific information has been captured. Included as first bullet point in same section In-combination effects with FRM works, or parallel projects being carried out at other AFAs or locations in the UoM. Generic mitigation and monitoring measures have been developed, including the avoidance of undertaking FRM work on adjoining reaches of rivers for different AFAs or other parallel projects |

| | | |
|--------------------------|--|---|
| | | simultaneously. Provided the timing of FRM works is correctly planned and managed, no significant in-combination impacts are anticipated. |
| NIS: Nature Conservation | The Department is aware of a number of plans and projects which have been adopted or proposed which are not included in table 3.3.1. These include plans which may affect the effectiveness of the proposed measure. These include: Food Wise 2025; Irish Water's Water Service Strategic Plan as well as its plans for Sludge Management, Lead Mitigation, amongst others; and the OPW's Arterial Drainage Maintenance Programme. (Also see pages 10/29/46 for list of projects which may also affect certain sites). | Plans and programmes added as required to SEA and NIS. |
| NIS: Nature Conservation | It would be useful for the OPW to set out in the FRMP what systems will be put in place to enable more detailed analysis to be undertaken of the cumulative effects that may arise from works undertaken by landowners and public authorities (currently or in planning) to address flood risk/flood events that are outside the scope of the FRMPs, and to ensure the effects of such works are considered when identifying the most suitable preferred measures for the FRMPs. | Text added to sections 8.1.3, 8.1.4, and 7.4.1.13 of the FRMP to provide more clarity on this. |
| NIS: Nature Conservation | It should be noted in the NIS and draft FRMP that any other works proposed in future, such as any minor works scheme carried out by the LA, or advice given in future to householders that there will be potential for cumulative impacts with this draft Plan and this will need to be assessed at that project stage. | Text added to sections 8.1.3, 8.1.4, and 7.4.1.13 of the FRMP to provide more clarity on this. |

| | | |
|--------------------------|---|---|
| NIS: Nature Conservation | <p>The FRMP was assessed to identify the elements that could have adverse effects on European sites, even though project details are not yet available. Mitigation measures are then specified in the NIS and these are intended by the OPW and its consultants to ensure that no adverse effects would result from the projects arising from the FRMP. While this type of approach may be valid at plan level, it is advised that mitigation measures outline the general procedural steps to be followed, noting that the cumulative or in-combination effects of other plans and projects must always be taken into account (See page 16/36/56/75).</p> | <p>Mitigation and monitoring proposed in SEA Environmental Report and NIS. This includes avoidance of undertaking FRM work at nearby AFAs simultaneously. Provided the FRM work is timed correctly, cumulative impacts are not expected. OPW have added some mitigation to section 6 of FRMP. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP.</p> |
| NIS: Nature Conservation | <p>It is critical that all mitigation measures, particularly those from the NIS, are reflected in the content and objectives of the FRMP. If there is reliance on mitigation measures in the NIS or any other source, clear cross-referencing is required in all relevant elements and sections of the main plan document.</p> | <p>Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP.</p> |
| NIS: Nature Conservation | <p>Targeted mitigation measures should be developed to guide future FRMP projects and demonstrate that they will be captured for effective screening and project-specific assessment, in addition to providing a robust basis for assessing the potential cumulative effects of each successive project in combination with other plans and projects of relevance. The necessary expertise, procedures and resources should be available within the OPW and any other consenting/approving authority, including as future project proponents, to ensure that planning, design, screening, assessment and decision are: based on best practice, and robust scientific evidence and analysis; consistent with proper planning and sustainable development; and meet the</p> | <p>Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works</p> |

| | | |
|--------------------------|--|--|
| | stringent tests of appropriate assessment in particular. | also provided in section 6.6 of FRMP. |
| NIS: Nature Conservation | OPW is advised to review the mitigation proposed in relation to potentially adverse effects on integrity of sites at the project level. | Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP. |
| NIS: Nature Conservation | Species such as otter, Nore freshwater pearl mussels and kingfishers are of qualifying interest in some European sites and may be impacted by plan implementation. Effects on otters of FRM measures, as well as of other measures, such as ongoing drainage maintenance, must be assessed in the NIS and AA. There should be an acknowledgement that survey work needs to be conducted by an ecologist with otter surveying experience. The survey should include holts and couches (over ground resting sites) as well as spraint. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. |
| NIS: Nature Conservation | Mitigation is given in the tables in section 5 such as table 5.1.3. Mitigation for physical disturbance of otters and lamprey refer to best practice protocols and SOPS and to see also measures in section 6. The OPW and its consultants should note that this Department has expressed concerns regarding the adequacy of some of these as mitigation measures in the past when commenting on arterial drainage maintenance plans. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. NIS Chapter 6 has been revised and new table 6.1 .1 also makes reference to adoption of best practice at the time of option development. |

| | | |
|--------------------------|--|---|
| NIS: Nature Conservation | The proposed FRMPs will have the potential to impact on many species and habitats. It is stated in section 6 of the NIS that mitigation will include ecology surveys and ecological assessments. The OPW and its consultants should note however that surveys and assessments would not be considered as mitigation but would provide information as to the types of mitigation that would be necessary. This should be clarified. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. |
| NIS: Nature Conservation | It will be necessary to ensure that significant disturbance of waterbirds does not occur. At project stage each project will need measures to ensure this, including, if need be, limiting such works to outside the main waterbird wintering period. Avoidance/mitigation given in the NIS, for example in table 5.2.3, suggests avoiding an over-wintering period of November to March. Normally such birds start to assemble during September and remain until March. This avoidance measure therefore needs to be reviewed. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. |
| NIS: Nature Conservation | In section 6 a general measure has been given (see page 13, 32 and 48) regarding Construction Management Plans. The OPW and its consultants should note that there should not be any mitigation to supplement inadequate information and assessment. Please refer to Circular Letter PD 2/07 and NPWS 1/07 on this issue. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. |
| NIS: Nature Conservation | The Department would consider that a construction management plan (CMP) should be part of a project specification to be submitted at planning/consent stage with detailed design to demonstrate that SMPs and other such plans are adequate and effective mitigation, supported by scientific information and analysis, and that they are feasible within the physical constraints of the site. If these are undetermined at time of the assessment, all potential effects of the development on the site are not being considered. If applicants are not in a position to decide the exact location and details of these at time of application, then they need to consider the range of options that may be used in their assessment so that all issues are covered. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. |
| NIS: Nature Conservation | The Department recommends that a mitigation measure of ecological expertise is added whereby the OPW would ensure that adequate ecological expertise is available to them at the implementation stage. If deemed useful an ecological clerk of works could be appointed for each project. In particular, where Nore and/or freshwater pearl mussels are known to be or could be present and could potentially be | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. |

| | | |
|--------------------------|--|---|
| | impacted, a freshwater pearl mussel expert should be consulted. | |
| NIS: Nature Conservation | When the OPW concludes its appropriate assessment, it should take account of the NIS, as well as any queries, concerns and issues raised regarding any likely effects on European sites in submissions such as this. The decision-making authority's appropriate assessment must demonstrate how any differing scientific opinions were addressed, and must give the particular reasons for preferring one view over another. | Recommendation passed to OPW. |
| SEA: Environment Report | FRMP objectives are detailed in table 4.3 of the SEA, and haven't only concentrated on designated sites. However, Table 10.2 (monitoring) appears to concentrate on designated sites only. In addition, the discussion of impacts in section 9 for each AFA under the headings of 'Biodiversity, Flora and Fauna' does not seem to discuss species. A key species would include otter for example which is protected under the Wildlife Acts 1976-2012 and listed on Annexes II and IV of the Habitats Directive. The SEA doesn't really address biodiversity issues, such as nesting birds, otters, etc. but appears to rely on the NIS findings. | Text added to SEA Environmental Report - Section 9 and Table 10.2 (monitoring) to provide clarity that species assessed. |
| SEA: Environment Report | Section 4.6 mentions difficulties and data gaps while section 6 details baseline and relevant environmental issues. However, it is not clear what baseline data was consulted and what data gaps exist (See page 16, 34 and 50). P.16 lists available data sources. | SEA Scoping document detailed the main datasets to be used in assessment. Section 6 of SEA Environmental Report gives the environmental baseline information used. Data used was as up to date as possible at time of assessment. |
| SEA: Environment Report | Section 6.2 focuses mostly on sites or areas that are covered by a designation and does not address wider countryside species issues, protected or otherwise. There is only a brief reference to some species, including some outside designated sites, in two of the bullet points under the heading of 'key issues'. | Section 6.2 of the SEA Environmental Report has been amended to provide further clarity on protected species that occur outside of designated sites, which were included within the assessment. |
| SEA: Environment Report | As stated above under NIS, Sandbags do not appear to have been mentioned in this UoM. In UoM 25/26 they are flagged as a potential source of pollution which has a potential for likely significant effects and they were assessed at Plan Level. The OPW and its consultants | Sandbags were not considered as a strategic FRM measure within this CFRAM study. |

| | | |
|-------------------------------|---|---|
| | should ensure consistency between UoMs with regard to such measures. | |
| SEA: Environment Report | Appendix B details multi-criteria scorings and weighting used in the SEA. However, the biodiversity flora and fauna objectives 1(i) and 2(i) do not equate to the SEA objectives. In particular, the sub-objective of 2 (i) omits species. It is therefore unclear whether the analysis gave consideration to species. | Objective 1(i) sub-objective refers to 'protected species and their key habitats'. Guidance on option scoring also refers to 'Annex IV (Habitats Directive) species of flora and fauna, and their key habitats'. Objective 2(i) sub-objective refers to 'Avoid damage to, and where possible enhance, the flora and fauna of the catchment' |
| SEA: Environment Report | Section 9 contains the assessment. As stated previously, the discussion of impacts in section 9 for each AFA under the headings of Biodiversity flora and fauna does not seem to discuss species. A Key species would include otter for example which is protected under the Wildlife Act 1976-2012 and listed in Annexes II and IV of the Habitats Directive. The SEA doesn't really address biodiversity issues, such as nesting birds, otters, etc. but appears to rely on the NIS findings. | Text in the 'Biodiversity, flora and fauna' part of Section 9 for each AFA has been reviewed and amended to provide clarity that species assessed. |
| SEA: Environment Report | The proposed mitigation for impacts on the SEA topic of Biodiversity, Flora and Fauna is detailed in table 10.1. It is noted that mitigation includes the OPW, EMP and SOP. The OPW and its consultants should note that this department has expressed concerns regarding the adequacy of some of these as mitigation measures in the past when commenting on arterial drainage maintenance plans. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. Within the FRMP Section 8.1 added on implementation of the Plan. Fig. 8.1 for progression of Physical Works. Section 6.6 also applies. Wording on measures amended and status/level of the plan re-emphasised in various locations. |
| SEA: Environment Report | Surveys are mentioned in passing in table 10.1. However, there should be some narrative regarding appropriate surveys to be carried out that would indicate the necessary mitigation and what licences may need to be obtained where necessary. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. Within the FRMP Section 8.1 added on implementation of the Plan. Fig. 8.1 for progression of Physical Works. Section 6.6 also applies. Wording on measures amended and |

| | | |
|-------------------------------|---|---|
| | | status/level of the plan re-emphasised in various locations. |
| SEA: Environment Report | With regard to impacts on species such as otters and freshwater pearl mussels, the OPW should refer to the comments above under the NIS heading with regard to licences. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. Within the FRMP Section 8.1 added on implementation of the Plan. Fig. 8.1 for progression of Physical Works. Section 6.6 also applies. Wording on measures amended and status/level of the plan re-emphasised in various locations. |
| SEA: Environment Report | The OPW and its consultants should ensure that the proposed mitigation measures are the same in both the SEA and the NIS where appropriate. | Mitigation and monitoring proposed in SEA Environmental Report and NIS was updated following consultation submissions, to include this recommendation. OPW have added some mitigation to section 6 of FRMP. Within the FRMP Section 8.1 added on implementation of the Plan. Fig. 8.1 for progression of Physical Works. Section 6.6 also applies. Wording on measures amended and status/level of the plan re-emphasised in various locations. |
| SEA: Environment Report | Monitoring is dealt with in section 10.2. Details are provided in table 10.2 for biodiversity flora and fauna objective and sub-objectives. The indicators however relate to designated sites and protected species are not included. The data and responsible authorities mentioned refer mainly to reports on habitats and species reports for the Birds and Habitats Directives. The OPW and its consultants need to consider how to monitor species in the objective of 'Avoid damage to, and where possible enhance, the flora and fauna of the catchment' and its subobjective to 'avoid damage to or loss of, and where possible to enhance, nature conservation sites and protected species or other known species of conservation concern. | Proposed environmental monitoring from SEA Environmental Report has been incorporated into section 8.3 of the FRMP. |

| | | |
|--|---|---|
| SEA: Environment Report | It is stated that the monitoring programme has been adopted into section 10 of the draft FRMP and will be undertaken during development of the 2nd cycle of the FRMP. This needs to be clarified as it is unclear what or when the 2nd cycle refers to. Does it mean for example in 6 years' time when the FRMP will be reviewed? | Proposed environmental monitoring from SEA Environmental Report has been incorporated into section 8.3 of the FRMP. |
| SEA: Environment Report | In addition the OPW and its consultants should set out how the OPW/Dept. of Public Expenditure and Reform/Las will act on results of the monitoring programme and take remedial action as and when the monitoring programme indicates it is necessary. | Proposed environmental monitoring from SEA Environmental Report has been incorporated into section 8.3 of the FRMP. |
| SEA: Environment Report | Section 6.2 details the different types of nature conservation designations, including some that are not within this UoM. Although not within this UoM, additional types of designation which could be included are Refuges for Flora and Fauna designated under the Wildlife Acts, Biogenetic Reserves (Council of Europe) and UNESCO Biosphere Reserves. The Wildlife Acts 1976-2012 and the European Communities (Birds and Natural Habitats) Regulations 2011-2015 could be added to Table 7.1 | Section 6.2 has been amended to include: Refuges for Flora and Fauna designated under the Wildlife Acts and UNESCO Biosphere Reserves for relevant UoMs. The following pieces of legislation have been added to Table 7.1 and Appendix F: Wildlife Acts 1976-2012, European Communities (Birds and Natural Habitats) Regulations 2011-2015. |
| SEA: Environment Report | There are inconsistencies regarding how the above legislation is quoted in the SEA. Sub-objective (i) of 3c to 'avoid damage to or loss of, and where possible enhance, nature conservation sites and protected species or other known species of conservation concern' has the 'n' left out of known in several places in the SEA. | The following text throughout SEA for Sub-objective (i) of 3c to 'avoid damage to or loss of, and where possible enhance, nature conservation sites and protected species or other known species of conservation concern' has been amended, with the missing 'n' added to 'known' where it had been omitted. |
| NIS: Nature Conservation / SEA: Environment Report | Consideration of how and whether "soft" and non-structural measures or improvements in the sustainability of land-use practices may complement structural/engineering measures to address flood risk. | Recommendation passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. |
| SEA: Environment Report | A full appraisal should be made of peatlands (and other wetlands) within the catchment in relation to their ability to attenuate flooding downstream. Whilst such measures may not be considered to be sufficient on their own to address the worst-case projections for flood risk, it is hoped that they could be examined as part of the package of complementary measures that will be progressed under the Plans. This could involve the restoration of habitats that would contribute to water attenuation or to improvements to land-use policies that undermine such attenuation. | Recommendation passed to OPW for inclusion within Consultation Synthesis Report and Project handover notes. Additional text also added to Section 7.4.1.5 of the FRMP. |

| | | |
|--------------------------|--|--|
| NIS: Nature Conservation | It is also unclear what estimates of direct loss of habitat from rock armour, walls and embankments have been used, to reach the above conclusions. For example, in table 5.1.3 (Page 55) of the NIS such impacts are stated to be expected to be local in scale" and that as mitigation one should set hard defences back from the SPA boundary wherever possible and to refer to section 6 for additional mitigation. However, section 6.2, dealing with mitigation for loss of habitats and species deals mostly with fish and alien invasive species. Otters have not been considered. | Please note this is a strategic-level study, and the exact location and design of FRM measures have not been decided. Further assessment and quantification of potential impacts will be made at the project stage. General mitigation and monitoring measures have been further developed, including those for otter. |
| NIS: Nature Conservation | It is unclear what types of habitat may suffer a direct loss from the proposed measures of walls and embankments. Once the proposed measures are shown on maps, as in this draft Plan, then it should be possible to look at the habitat types that may be lost and the amount of same and therefore to better assess the possible impacts of the draft FRMP. | Please note this is a strategic-level study, and the exact location and design of FRM measures have not been decided. Further assessment and quantification of potential impacts will be made at the project stage. Additional text added to NIS 3.4.1.1. Paragraph 5&6 - The potential physical flood relief works or 'Schemes' set out in the Plans that have been developed through the CFRAM Programme are to an outline design, and are not at this point ready for construction. Further option design through a project-level of assessment will be required for such works before implementation. At the project level, where physical measures are to be developed, local information that cannot be captured at the Plan-level of assessment, such as project-level environmental surveys and assessments, will be used to inform the Appropriate Assessment of the potential physical flood relief works or 'Schemes'. The capture of additional local information may result in the identification of European sites within the Scheme's Zone of Influence that were not apparent during the plan screening process. |
| NIS: Nature Conservation | Loss of Annex I habitats within SACs as a result of the construction of hard solutions/defences is contrary to the conservation objectives of European sites, marine or otherwise. The information on whether such habitat loss would certainly not occur within coastal habitats, or indeed other habitats, does not appear to be adequately presented in the NIS. There is a | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Section 6.6 also |

| | | |
|--------------------------|---|--|
| | note in table 5.2.3 for example for the Wexford Harbour and Slob SPA, that direct loss of natural and semi-natural habitat may occur as a result of construction but that the impacts are expected to be short term and local in scale and therefore unlikely to impact significantly on attributes used to define conservation status. In order to reach a conclusion of no likely significant effect the next step, indicating that the habitat would not be a qualifying feature of the site, is not immediately apparent. If the preferred option is building over or very close to Annex I habitat, then this cannot be reconciled with the conclusion of no likely significant effect or the statement at the end of the NIS, because there is insufficient mitigation in the draft Plan. | amended to reflect this. Wording on measures amended and status/level of the plan re-emphasised to clarify this issue. Section 7 of the FRMP acknowledges the potential risks and benefits of implementing the preferred measures. |
| NIS: Nature Conservation | Apart from loss of habitat, there is the potential alteration of the hydrological or sediment transport parameters. This does not appear to have been addressed in the NIS and the only reference seems to be as mitigation in table 5.2.3 for the Wexford Harbour and Slob SPA that coastal hard defences should be set back from the SAC boundary wherever possible to avoid impacting on designated wetland habitat. At project level both the construction of hard defences and changes in hydrology/sedimentation may negatively interact with the conservation of hard defences and changes in hydrology/sedimentation may negatively interact with the conservation objectives of the designated sites. In order to reach a conclusion of no likely significant effects at Plan stage with regard to coastal sediment processes, a supported statement would be helpful for example stating that the design would be such that a conclusion of no likely significant effect would be achieved. | This is a strategic-level study, and further assessment will be made at the project stage. Impact table amended to include Construction of coastal defences has the potential to alter coastal processes which may result in indirect impacts to intertidal sediments and estuarine habitats. Coastal flood walls and embankments must not alter coastal processes where a protected habitat requires inundation. Mitigation: Survey by a qualified ecologist prior to commencement of the FRM work. Design will be subjected to hydrodynamic testing to establish nature and scale of effects to allow an assessment of significance. |
| NIS: Nature Conservation | Page 29 is missing the word “site” from point ii. | Amended in NIS |

Environmental Protection Agency (EPA)

| Subject | Comment | Response |
|-------------------------|--|--|
| Additional Observations | Each Plan should include in the title the timescale over which the Plans will be operational. | Amended on final FRMP cover. |
| Additional Observations | Each Plan should include a summary description of the key findings, including recommendations and mitigation measures, from the SEA and AA. A summary should also be provided showing how these have been incorporated in the Plans. | Acknowledgment of environmental risks and benefits added to section 7 of FRMP. Section 6 of FRMP details environmental assessment influence on plan. |

| | | |
|-------------------------|--|--|
| Additional Observations | The SEA ERs for all Plans should include the information set out in Annex I (a) to (j) of the SEA Directive. The full range of effects on the environment should be assessed and reported on. | The FRMPs were fully assessed and all anticipated significant environmental impacts were reported by topic. |
| Additional Observations | The Non-Technical Summary should reflect the information under Annex II of the SEA Directive. Suitable maps and Figures and summary tables should be included as appropriate. | Information included. |
| Additional Observations | We welcome the consistent approach adopted in setting of objectives, targets, indicators and assessment weightings across the series of CFRAM Plans. There is also merit in considering a similar approach to the SEA process, associated methodology and preparation of the SEA ERs, including the assessment of Strategic Environmental Objectives. In some CFRAMS, for instance, for the related SEA ERs a number of the technical and economic objectives have been included. This would facilitate a more consistent approach to the SEA process both for the initial series of the plans and subsequent reviews of the plans. IT would also help inform a national approach to FRMP implementation related monitoring. | Recommendation for OPW for inclusion in synthesis report. |
| Additional Observations | The baseline environment description should reflect the most recently available environmental monitoring data and published reports. The date(s) of the data should be clearly stated. | The baseline environmental description was based on the best available data at the time of assessment. Any future plans or projects will need to consider the most up to date information available. |
| Additional Observations | The EPA's publication Ireland's Environment 2016 - An assessment is due to be published shortly. The SEA ERs should reflect the relevant updated information in this report. The Chapters on Nature, Water, Climate, Agriculture and Environmental Challenges and Emerging Issues will be of particular relevance to the Plans. | The baseline environmental description was based on the best available data at the time of assessment. Any future plans or projects will need to consider the most up to date information available. |
| Additional Observations | As new information and monitoring data becomes available during implementation, including through the Environmental Monitoring Framework and Preliminary Flood Risk Assessment review, this should be integrated, where relevant, to inform the on-going implementation of the Plans. | Recommendation for OPW for inclusion in synthesis report. |
| Additional Observations | The Plans, subsequent reviews and associated SEA ERs should take into account, where appropriate, the most recently available information on flooding within the individual Plan areas. This information will be particularly relevant in the review of the PFRA. | Recommendation for OPW for inclusion in synthesis report. |
| Additional Observations | EPA's recently launched website catchments.ie provides comprehensive GIS based data and information resource on Risk, Water Quality, | Recommendation for OPW for inclusion in synthesis report and Project Handover Sheets. |

| | | |
|-------------------------|--|--|
| | Environmental Pressures, Protected Areas, and Susceptibility. This information should be taken into account particularly in the detailed design of project level water related mitigation measures. This is with a view to ensuring the implementation of the Plans does not compromise the overall objectives of the WFD. | www.catchments.ie link added to Section 6.6.1 |
| Additional Observations | There would be merits in considering integrating, where possible, the relevant catchments. i.e. map-based information with the OPW's CFRAM generated series of flood related mapped information, including flood extent, flood zone, flood depth, flood velocity and flood hazard. This could become a very useful tool in developing waterbody specific mitigation measures. It could also provide a framework against which the impacts of implementation of individual and combinations of flood risk management related projects, and the effectiveness of project specific mitigation measures, could be monitored. In addition, it would assist in delivering on the requirement, under Article 9 of the Floods Directive, for coordination between the application of the Floods and WFD. | Recommendation for OPW for inclusion in synthesis report and Project Handover Sheets. www.catchments.ie link added to Section 6.6.1 |
| Additional Observations | In describing the key environmental characteristics of the Plan area, where relevant, a description of existing environmental problems associated with specific topics should be included. | Information included. |
| Additional Observations | Where data gaps or technical deficiencies have been encountered during the SEA process, these should be highlighted along with the implications for the Plan and SEA. Where relevant, recommendations should be put forward to address specific aspects identified either prior to implementation or at the project level assessment stage. | Information included. |
| Additional Observations | In considering options for individual AFAs, it should be ensured the selection of preferred options is suitably justified with reference to the relevant Environmental Objectives and the MCA scores. | Acknowledgment of environmental risks and benefits added to section 7 of FRMP, along with reasons for option selection. |
| Additional Observations | Where the preferred MCA option is not selected, clear justification should be provided for the selection of the preferred alternative. | Acknowledgment of environmental risks and benefits added to section 7 of FRMP, along with reasons for option selection. |
| Additional Observations | There would be merits in considering including a summary table indicating the overall outcome of the MCA by AFA and SEA topics in section 9 of the ER. | Information included. |

| | | |
|-------------------------|---|--|
| Additional Observations | The overall positive aspects of the Plans to population and communities should be highlighted in both the SEA ER and the Plans. This should also be captured in the associated Plan implementation and environmental related monitoring and associated reporting. | Acknowledgment of environmental risks and benefits added to section 7 of FRMP, along with reasons for option selection. |
| Additional Observations | Where there is potential for significant cumulative negative effects associated with implementation of the Plans, this should be acknowledged in the SEA ERs and also reflected in the Plans. This is of particular relevance in the context of water quality and biodiversity including fisheries. | The potential for cumulative impacts was considered throughout the process of option development and engagement with stakeholders ensured that the potential for in-combination and cumulative impacts was minimised. No significant in-combination impacts are anticipated. Generic mitigation and monitoring measures have been developed. These include avoidance of undertaking FRM work at nearby AFAs simultaneously. Provided the FRM work is timed correctly, cumulative impacts are not expected. |
| | The mitigation measures proposed should also seek to address, where possible, potential catchment/subcatchment level negative cumulative effects. This could for example include phasing of proposed measures and related construction and/or environmental enhancement. | Mitigation and monitoring proposed in SEA Environmental Report and NIS, which should reflect this. OPW have added some mitigation to section 6 of FRMP. |
| Additional Observations | The interrelationship between the relevant environmental issues should also be considered in the overall environmental assessment. | Any interrelationships between the relevant environmental issues were taken into consideration in the multi-staged environmental assessment. If significant inter-relationship impacts were identified they were noted. |
| Additional Observations | The potential impacts of the Plans on wider biodiversity should be considered. | Wider biodiversity impacts were attempted to be included within SEA Objective 2(i). |
| Additional Observations | It would be useful to clarify the extent to which flood prevention options such as re-zoning or de-zoning existing undeveloped local authority zoned lands at high risk of flooding has been considered. | Strategic planning report being completed for each FRMP using local area plan and development zone information as part of the CFRAM study. |
| Additional Observations | Reference should be included to a number of key relevant national and sectoral plans/programmes, some of which are in preparation and will be finalised during the lifetime of the Plans (See page 5 for list). | Information included. |

| | | |
|-------------------------|--|--|
| Additional Observations | It is acknowledged that more detailed assessments will be required at the options development and project level stages, which will determine more specific details on mitigation. Notwithstanding this, where significant adverse environmental impacts are identified for the preferred options, where possible, detailed descriptions of plan-level mitigation measures should be provided. These should provide more certainty on the effectiveness of the mitigation measures to prevent, reduce and as fully as possible offset any significant adverse effects, including residual effects, on the environment during Plan implementation. | Mitigation proposed in SEA Environmental Report and NIS, which should reflect this. OPW have added some mitigation to section 6 of FRMP. |
| Additional Observations | The Plans and SEA ERs should promote a standardised approach to the application of appropriate buffer zones between features of biodiversity and proposed projects. The specific details should be considered at project level assessment stages (including EIA and Habitats Directive). Where the application of buffer zones is being considered, the NPWS and Inland Fisheries Ireland should be consulted. | Mitigation proposed in SEA Environmental Report and NIS, which should reflect this. OPW have added some mitigation to section 6 of FRMP. |
| Additional Observations | Where opportunities exist for environmental enhancement, these should be incorporated in project specific design and implementation. These should be developed in consultation with the relevant statutory authorities, including as appropriate, NPWS, Inland Fisheries and relevant local community groups, and the resulting positive effects should be monitored and reported. | Mitigation proposed in SEA Environmental Report and NIS, which should reflect this. OPW have added some mitigation to section 6 of FRMP. |
| Additional Observations | The proposed Monitoring Programme should incorporate trigger levels for specific environmental aspects which would determine when remedial actions would need to be implemented in response to adverse effects identified. These should take into account relevant environmental objectives. This approach should also be reflected at project level environmental monitoring. CEMPs and the suggested EMS and associated EMPs based approach, would need to reflect the relevant trigger levels for remedial action for specific environmental topics. | Environmental monitoring proposed in SEA ER incorporated into FRMP section 8. Recommendation for inclusion in OPW synthesis report and Project Handover Notes. |
| Additional Observations | Monitoring of the effectiveness of mitigation measures required to be put in place should be captured in the overall monitoring framework. | Environmental monitoring proposed in SEA ER incorporated into FRMP section 8. Recommendation for inclusion in OPW synthesis report and Project Handover Notes. |
| Additional Observations | The relevant key findings and recommendation in the HDA should be incorporated into the SEA ERS and the Plans. There should be consistency between the findings of the biodiversity, flora and fauna elements and related environmental | Information included. |

| | | |
|-------------------------|--|--|
| | aspects, such as water, of the SEA and the HDA Findings. | |
| Additional Observations | Where HDA related monitoring is proposed, this should also be reflected in the overall Monitoring Framework for the Plans. This should also include cumulative/incombination effects and the effectiveness of the mitigation measures proposed. | Information included. Environmental monitoring proposed in SEA ER incorporated into FRMP section 8. Recommendation for inclusion in OPW synthesis report and Project Handover Notes. |
| Additional Observations | The terminology used in relation to the assessment process, and the associated stages and outputs, should reflect the terminology in the European Communities (Birds and Habitats) Regulations 2011. | Text amended accordingly. |
| Additional Observations | For all UoMs covered by the CFRAM Plan Area, a prioritised programme of installation of any proposed additional gauging stations should be coordinated with the EPA via the National Hydrometric Working Group. Where proposed, the additional gauges will provide more comprehensive hydrometric data, which will in turn inform more evidence based assessments and modelling along with increased certainty in on-going flood risk assessment and review of measures. | Recommendation for OPW for inclusion in synthesis report. |
| Additional Observations | Where AFAs are located in urban areas, it is recognised that channels may already be significantly modified. Where this is the case, this should be reflected in the Plans and SEA ERs. | Each AFA is an urban area, and the majority of channels have existing modifications. This is outlined in the SEA ER. |
| Additional Observations | Where the preferred options/measures will introduce additional channel modifications, these should be described along with any associated environmental implications. It is important, where relevant, that the hydromorphological impact is considered and assessed, e.g. the % change in channel modification. This aspect should also be considered, where relevant, at project level assessment stage. | This has been attempted in the SEA at a strategic level based on outline information. Further detailed analysis, including hydromorphological and WFD assessment have been recommended and will be required at the project level based on more detailed information. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP. |
| Additional Observations | The hydrological regime is an important quality element in the process of identifying and designating 'Heavily Modified Water Bodies'. The impacts of the selected options/measures on the | This has been attempted in the SEA at a strategic level based on outline information. Further detailed analysis, including |

| | | |
|-------------------------|--|---|
| | flow regime should be described and assessed, where relevant. A requirement for more detailed hydrological assessments should be included for any future EIAs arising out of implementing the Plans. This would provide greater clarity on how the options/measures will align with the WFD objectives. | hydromorphological and WFD assessment have been recommended and will be required at the project level based on more detailed information. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP. |
| Additional Observations | Mitigation measures should address the potential long term effects of increased sediment on the fluvial geomorphological conditions which are needed to support habitats which in turn, can impact the overall WFD ecological status. | Mitigation and monitoring proposed in SEA Environmental Report and NIS, which should reflect this. OPW have added some mitigation to section 6 of FRMP. |
| Additional Observations | (Following on from above comment) Where this issue is not considered to be a significant threat, this should be stated and reasons given. | Recommendation for OPW synthesis report. |
| Additional Observations | The Plans should address the potential for increased sediment in receiving water bodies during on-going channel maintenance activities arising out of any preferred options/measures. The potential environmental impacts and associated possible mitigation measures should be described. Where other key plans/programmes address these aspects, this should be described in the plans. | Mitigation and monitoring proposed in SEA Environmental Report and NIS, which should reflect this. OPW have added some mitigation to section 6 of FRMP. Recommendation for OPW synthesis report. |
| Additional Observations | Invasive Species Management as part of the suggested Construction Environmental Management Plans should cover both construction and maintenance-related activities. This is particularly relevant for species such as Himalayan balsam and Japanese knotweed. This is an important given the environmental implication of invasive species on both water quality and biodiversity. | Mitigation and monitoring proposed in SEA Environmental Report and NIS, which should reflect this. OPW have added some mitigation to section 6 of FRMP. Recommendation for OPW synthesis report. |
| Additional Observations | The SEA ERs and Plans should emphasise the requirements for the protection of existing and proposed critical service infrastructure (wastewater, waste, drinking water, electricity etc.) from risk of flooding. Where relevant, greater detail could be provided on the extent to which storm water and combined sewer overflow infrastructure are considered in the Plans. This is in terms of potential water quality and related | This has been included within Env assessments where assets will be protected by a measure. This protection however may be incidental as it is the asset owner's responsibility to manage flood risk to their own assets. |

| | | |
|-------------------------|---|--|
| | human health and ecological impacts arising from flood events affecting the sewer network. | |
| Additional Observations | A clear commitment is required to protect key critical service infrastructure in implementing the Plans. Where particular Water Treatment Plants or Waste Water Treatment Plants are at significant flood risk, or are situated near environmentally sensitive receptors which may be significantly impacted by flooding, these areas should be highlighted and specific mitigation measures considered, where appropriate. | This has been included within Env assessments where assets will be protected by a measure. This protection however may be incidental as it is the asset owner's responsibility to manage flood risk to their own assets. |
| Additional Observations | Information on historic flooding of treatment plants would also be useful to consider in relation to options and measures selection. Irish Water should be consulted to obtain information on historical flooding of drinking water and wastewater treatment plants where available. | OPW are to provide this flood risk information to the asset owners so that they can manage the flood risk to their assets. Recommendation for OPW synthesis report. |
| Additional Observations | The Plans should acknowledge the environmental, financial and social implications associated with restoring flood impacted treatment plants. The Plans should clearly acknowledge the need for specific measures to prevent reoccurrences of flooding to be implemented in partnership with other relevant stakeholders, in particular Irish Water. As part of the Water Safety Planning process being implemented by Irish Water, one of the hazards considered relates to identification of risk of flooding of water treatment plants. | OPW are to provide this flood risk information to the asset owners so that they can manage the flood risk to their assets. Recommendation for OPW synthesis report. |
| Q1 | You should update the reference to the Draft National Landscape Strategy for Ireland, to reflect its adopted status. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | At regional level, the following plans/programmes may be relevant: Regional Waste Management Plans | Scoping Comment already addressed or passed onto OPW. |
| Q1 | Location of waste management infrastructure within the region should be assessed relative to identified flood risk and flood alleviation options considered. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | Flood Alleviation options should seek to minimise potential for ingress into licensed waste and hazardous waste facilities. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | Wastes associated with construction, operation and maintenance of flood alleviation options should be carried out in accordance with relevant waste management plans. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | The Plan should take into account significant additional long term infrastructural projects proposed or underway in the Plan area and associated implications of flood risk and associated mitigation (if required). | Scoping Comment already addressed or passed onto OPW. |

| | | |
|----|--|---|
| Q1 | In Appendix C - Plans and Programmes of the Scoping Report, the text relating to the requirements of the WFD should be updated as follows: "aims to improve water quality and quantity within inland surface waters (rivers and lakes) transitional waters, coastal waters and groundwater". | Scoping Comment already addressed or passed onto OPW. |
| Q1 | It is also worth including a paragraph on the ongoing review of the RBMPs and preparation of the second cycle of these plans and associated timeline to take into account. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | In terms of setting the Policy Framework, it would also be useful to consider referencing the key relevant national legislation transposed for each specific Directive. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | It would also be useful to consider describing the policy context within which projects arising out of implementation of the Plan will need to conform to i.e. provide measures to protect water quality, biodiversity, and landscape character. Where these aspects (including natural and cultural heritage, infrastructure etc.) are provided within the respective LA County Development Plans within which flood alleviation works are proposed, this should be referred to and adhered to. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | Additionally, given that the Plan needs to inform relevant land use plans within the Plan area, the influence of the Plan in relation to LA land use plans should be considered and described. The relationship to the proposed Regional Spatial Economic Strategies should also be considered. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | Key national infrastructure projects such as roads, wind farms and the electricity interconnectors should be set in the context of flood risk implications. Recommendation should be made for collaboration with relevant stakeholders in the siting, design, operation and maintenance aspect of these key infrastructure projects. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | Chapter 2 - Flood Risk in Ireland considered the wider context of CFRAMS. It would be useful to identify where formal requirements exist for consideration on the linkages between the WFD and Floods Directive (for example) to ensure that potential for conflict between Directives is minimised. | Scoping Comment already addressed or passed onto OPW. |
| Q1 | It would be useful to clarify whether operational ESB activities relating to hydropower generation are to be included in Table 2.1 | Scoping Comment already addressed or passed onto OPW. |
| Q1 | The Plan should promote the need to collaborate with respective planning authorities and state | Scoping Comment already addressed or passed onto OPW. |

| | | |
|-----------|--|---|
| | agencies etc. to ensure flood risk management is integrated appropriately. | |
| Q2 | Section 3 - Scoping for the Eastern CFRAM Study could make greater reference to regional considerations and cumulative issues in the context of catchment level implications of any flood risk management proposals. This may be in the context of addressing an issue in the upper catchment may cause problems further downstream, for Floods Directive implementation, or the implementation of other Directives, such as WFD, Habitats etc. | Scoping Comment already addressed or passed onto OPW. |
| Q3 and Q4 | In relation to water related aspects, it would be useful to clarify whether issues such as potential impacts of freshwater flooding in estuaries or potential impacts from silt movement are to be considered. | Scoping Comment already addressed or passed onto OPW. |
| Q3 and Q4 | There would be merits in including reference to AA requirements also in Figure 3.1 | Scoping Comment already addressed or passed onto OPW. |
| Q3 and Q4 | In Table 3.4 - Potential Inter-relationship between SEA Topics; some, or potentially all, of the 'no interaction' criteria could potentially be changed, where relevant, to 'interrelationship anticipate' e.g. if water tables rise (climatic factors), this could impact on archaeological sites or monuments (cultural heritage). | Scoping Comment already addressed or passed onto OPW. |
| Q3 and Q4 | Additional considerations in relation to Biodiversity/Flora/Fauna include: coastal squeeze impacts on biodiversity associated with sea level rise; changes to the flooding regime may have an impact on habitats and species which require particular inundation periods or in the case of groundwater dependent ecosystems (e.g. fens) particular water supply mechanisms and water chemistry. | Scoping Comment already addressed or passed onto OPW. |
| Q3 and Q4 | Geology/Soil and Land Use: The relationship with forestry and forest management should be taken into account also in terms of potential influence on flood risk; change in land use based on risk to water quality, quantity and flooding, thus reducing value of land either by limiting development potential or requiring a change in land use or reduced activity or an existing use; in relation to aspects pertaining to soil, we recommended that the permeability of the soils be summarised, given that from a flood risk perspective, this is potentially of greater relevance than soil type. For example, gley soils are typically low permeability and will contribute to great surface runoff. | Scoping Comment already addressed or passed onto OPW. |

| | | |
|-----------|--|---|
| Q3 and Q4 | Water: for groundwater related aspects, it would be useful to provide an aquifer classification map where possible; the issue of rejected recharge should be considered in the context of the unproductive aquifers. These aquifers have low permeability, storage and transmissivity which may contribute to greater surface runoff during storm events; the role of wetlands and peatlands for the attenuation of flood waters should be considered. | Scoping Comment already addressed or passed onto OPW. |
| Q3 and Q4 | In the SE CFRAMS, one specific issue to be aware of related to a regulatory requirement to maintain levels/flowed at both Rathvilly, Co. Carlow on R. Slaney and Athy, Co. Kildare on R. Barrow (based on a court judgement). | Scoping Comment already addressed or passed onto OPW. |
| Q3 and Q4 | Whilst effects on wind farms are referred to, it may also be useful to consider additional national energy related infrastructure such as power stations, hydroelectric dams, pylons, sub-stations etc. | Scoping Comment already addressed or passed onto OPW. |
| Q3 and Q4 | Flood related social or socio-economic issues: Local Authority Planning and Development, Land Use Zoning; proposed Regional Spatial economic Strategies (Due to commence?) | Scoping Comment already addressed or passed onto OPW. |
| Q5 | The EPA has published an environmental spatial data inventory that can be used to inform the preparation of SEA Environmental Reports and the associated environmental assessments. | Scoping Comment already addressed or passed onto OPW. |
| Q5 | Table 4.1 Summary of Proposed Environmental Baseline Data and Sources should include Groundwater Bodies under Water. These should be listed as regional drainage could impact on Quantitative WFD objectives. | Scoping Comment already addressed or passed onto OPW. |
| Q6 | In Chapter 4 (Baseline and Environmental Problems), we acknowledge the data sources provided in Table 4.1. A number of additional data sources are provided below to be considered as appropriate - Biodiversity: DAFM; DCENR; National Biodiversity Data Centre; Inland Fisheries Ireland; Loughs Agency; Heritage Council, Local Authority Biodiversity Plans; Coillte; Bord na Mona; Irish Peatlands Conservation Committee. | Scoping Comment already addressed or passed onto OPW. |
| Q6 | Population: Consider taking account of the Regional Planning Guidelines (and Regional Economic and Spatial Strategy once prepared), as these set out population targets up to 2022 and identify key areas for growth and development. | Scoping Comment already addressed or passed onto OPW. |

| | | |
|----|---|---|
| Q6 | Human Health; Location data on known combined sewer overflows should also be incorporated in terms of potential pathogens exposure which may arise from flood related discharges. In addition, LA data on the location of Section 4 discharges should be considered for inclusion along with the location of Irish Water assets (plants and networks). | Scoping Comment already addressed or passed onto OPW. |
| Q6 | Geology, Soils and Landuse: In relation to land use, the DECLG application MyPlan.ie may be useful to highlight areas which are potentially zoned. | Scoping Comment already addressed or passed onto OPW. |
| Q6 | Amenity, Tourism and Recreational Use: proposed amenities such as cycle ways such as Sutton-Sandycove cycleway/promenade, Dublin to Galway Cycleway may be useful to consider in terms of route selection and flood risk related aspects/implications/flood alleviation option considerations; inland fisheries Ireland; Failte Ireland; water and relevant land related sports organisations - canoeing, surfing, field sports? | Scoping Comment already addressed or passed onto OPW. |
| Q6 | Water: Waterways Ireland; Local Authorities; Inland Fisheries Ireland; a national risk screening data set is available on the WFD Application which is available through the Eden portal. Further risk data will become available through the sub-catchment and catchment reports that are currently being prepared, to inform the second cycle of River Basin Management Plans. There should be ongoing liaison with EPA on the status of the WFD Application and related outputs. | Scoping Comment already addressed or passed onto OPW. |
| Q7 | In terms of the flood risk management methods table shown in Chapter 5 - Framework for Assessing Environmental Effects, to what extent will all these methods be considered under the scenarios to be assessed? | Scoping Comment already addressed or passed onto OPW. |
| Q7 | A number of the methods e.g. flood warning/forecasting, Public Awareness Campaign are likely to be relevant for all areas at risk of flooding and could potentially be excluded from screening. In addition, it would be useful to clarify whether aspects such as 'managed coastal retreat' have been considered as potential options? | Scoping Comment already addressed or passed onto OPW. |
| Q7 | For table 5.4: Description of MCA/SEA Environmental Impact Scores; are the scores and descriptions set out to be applied for each of the CFRAMS currently underway? Additionally, have the descriptions been defined for specific environmental topics? | Scoping Comment already addressed or passed onto OPW. |
| Q7 | Figure 5.2 - Example Output of Environmental Assessment. Do 'Geology, Soils and Land Use' | Scoping Comment already addressed or passed onto OPW. |

| | | |
|----|---|---|
| | aspects include potential effects on agricultural land? | |
| Q8 | Social: In terms of minimising risk to human health and life of residents, this may also include issues relating to drinking water/waste water which may arise from flooding of associated critical service infrastructure. | Scoping Comment already addressed or passed onto OPW. |
| Q8 | Geology, Soils and Landuse: May be useful to consider a sub-objective to protect high value agricultural lands where possible, in addition to the 'protect soil function' objective. | Scoping Comment already addressed or passed onto OPW. |
| Q8 | In Figure 5.2 Example Output of Environmental Assessment, it would be useful to clarify what is meant by including two metrics under a given impact assessment e.g. 'Short Term Impacts +2/-1'. Does this imply 'Slight positive environmental impacts' for Global Issues and 'Minimal negative environmental impacts' for Local Issues and where a single figure appears, it applies to both global and local issues? | Scoping Comment already addressed or passed onto OPW. |
| Q8 | In relation to Environmental Objective C - "Support the objectives of the WFD", the associated sub-objective states: "provide no impediment to the achievement of water body objectives and, if possible, contribute to the achievement of waterbody objectives". The wording of the sub-objective does not appear to be as robust as that set out in the WFD. The sub-objective should reflect the terminology of the WFD; therefore the following sub-objective should be considered to replace that currently proposed: "prevent deterioration, protect and where appropriate, enhance and restore bodies of water". | Scoping Comment already addressed or passed onto OPW. |
| Q8 | In Appendix D - Social and Environmental MCA Scorings and Weightings, in relation to Objective C - Support the objectives of the WFD, we recommend that associated sub-objective is also amended as above under Appendix C - Environmental Objective C. | Scoping Comment already addressed or passed onto OPW. |
| Q8 | The scoring process is stated to be guided by professional judgement and the likely impacts of measures on water body status. This scoring approach should take into consideration the outcomes of the WFD Characterisation process i.e. the risk of not achieving WFD objectives. | Scoping Comment already addressed or passed onto OPW. |
| Q9 | The Regional Planning Guidelines (RPGs), and the proposed Regional Spatial and Economic Strategies which are intended to replace the RPGs should be taken into consideration. The second cycle of the River Basin Management Plans (and associated programme of measures) should also be taken into account and, the relevant aspects should be integrated. The updated RBMP(s) will provide updates of | Scoping Comment already addressed or passed onto OPW. |

| | | |
|-------------------------------|--|---|
| | recommendations to achieve the requirements of the WFD. | |
| Q9 | Additionally, Irish Water and the National Federation of Group Water Schemes should also be consulted, in terms of assessing potential flood risk and flood alleviation option assessments. | Scoping Comment already addressed or passed onto OPW. |
| Methodology and Approach | The application of a standardised MCS approach has guided the selection of preferred options. There is, however, a need for national coordinated oversight to ensure that the methodology has been applied and followed through in a consistent manner across the CFRAM series of studies and Plans. This will also contribute to a consistent approach to prioritisation at implementation phase. | Section 7.3.4 Appraisal by MCA reworded in FRMP. Recommendation to be added to OPW Synthesis Report. |
| Methodology and Approach | While the overall objective of the Plans is to manage flood risk, the need to ensure key aspects of the environment are not compromised in achieving these objectives will also need to be embedded throughout the Plans and associated monitoring. It will be important to ensure they key findings and recommendations of the SEA and HDA are clearly integrated and reflected in the final Plans. | Acknowledgment of environmental risks and benefits added to section 7 of FRMP. Proposed environmental monitoring added to section 8 of the FRMP. |
| Flood Risk Management Methods | Combination of preferred solutions implemented on a prioritised and timely basis (see page 19). | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| Flood Risk Management Methods | The potential for Green/Blue infrastructure to contribute to flood risk management solutions, while captured to an extent in the measures, should be highlighted as a possible approach to be explored at local authority plan level. This could be relevant for Land Use Plans and for the proposed Local Authority Adaptation Strategies. A number of local authorities have prepared green infrastructure strategies which have been incorporated into development plans. These should be taken into account, where relevant, in the implementation of specific measures. Existing green infrastructure strategies could also be updated, where relevant, to reflect the updated findings and information in the Plans. | Recommendation included under measures 7.4.1.2 & 7.4.1.4 & 7.4.1.5. Additional text referencing blue/green infrastructure added to 7.4.1.1 of FRMP. |
| Flood Risk Management Methods | We recognised that individual flood protection measures will be subject to site specific design, and where required, project level assessments. Project design should reflect the relevant Mitigation Actions in the SEA ERs. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. |

| | | |
|-------------------------------|--|--|
| Flood Risk Management Methods | Flood Preparedness: It is recommended that the development of CFRAM/Plan Specific Flood Preparedness Strategies be considered as an action/measure in the Plans. This would guide a coordinated catchment based approach to increased community awareness of, and confidence in, flood forecasting and warning, as well as contributing to individual property and community protection. | Recommendation included under measures 7.4.1.10 - 7.4.1.13 in FRMP. |
| Relationship with the WFD | The Plans should include a detailed description of the linkages between the WFD and the Floods Directive and their respective Plans and measures. This could be supplemented by the inclusion of a suitable schematic to set out the interactions at development and implementation stages. This is in keeping with the requirement for coordination between the application of the Flood Directive and the WFD as set out in Article 9 of the Flood Directive. This coordination is relevant at the stages of flood mapping, the development of the first FRMPs, and their respective subsequent reviews. | Included in section 6.5 of FRMP. |
| Relationship with the WFD | The prepared measures selected in the Plans should not compromise the requirements of the WFD to protect surface water, groundwater, coastal and estuarine water resources and their associated habitats and species, including fisheries. Where it is identified that potential likely significant effect on water quality or hydromorphology may arise in implementing the measures, the mitigation measures proposed to ensure WFD objectives are not compromised should, where feasible, be described in more detail. Where the preferred measures are likely to result in channel modifications, the potential impacts on hydromorphology should be assessed in greater detail, including any future project level assessments arising during implementation. | Acknowledgment of environmental risks and benefits added to section 7 of FRMP. Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP. |
| Relationship with the WFD | The Plans and any subsequent project level assessment(s), should examine the interrelationships between the proposed flood risk management measures and the WFD Programmes of Measures for individual water bodies which may be impacted during the implementation of the Plan. Implementation related and project specific environmental monitoring will allow any adverse impacts on water bodies to be identified and, where necessary, suitable remedial action to be taken. | Included in 6.5.4 - Coordination on Measures |
| Linkages with other sectors | Of particular importance will be the integration of the relevant measures and associated mapping into the hierarchy of land use plans, including the proposed National Planning Framework, | Recommendation for OPW for inclusion in synthesis report and Project Handover Sheets |

| | | |
|--|--|--|
| | Regional Spatial and Economic Strategies and local authority land use plans. | |
| Linkages with other sectors | There would be merit in exploring the potential for linkages between the Dept. of Housing, Planning, Community and Local Government's MyPlan.ie online resource (land use zoning data) and the CFRAM related flood risk mapping. This has the potential to identify re-zoning/de-zoning options for undeveloped zoned areas identified as being at significant risk of flooding. | Strategic planning report being completed for each FRMP using local area plan and development zone information as part of the CFRAM study. |
| Integration of SEA and AA in the Plans | The Plans should include a detailed account of how the SEA and HDA processes have influenced and informed their preparation. Recommendations and Mitigation Measures should be clearly described in the Plans. They should be taken into account in project level assessments incorporated into detailed project specific design | Acknowledgment of environmental risks and benefits added to section 7 of FRMP. Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP. |
| Integration of SEA and AA in the Plans | A strong commitment should be included in the Plans to ensure that, in implementing the Plans, the requirements of the WFD, Habitats Directive and where appropriate, EIA Directive, will be fully complied with during the implementation of the Plans and associated measures and related projects. | Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP. |
| Integration of SEA and AA in the Plans | It is recommended that consideration be given to preparing a standard manual for FRM Mitigation Measures for the full suite of measures likely to be implemented. This could be prepared at a national and/or CFRAM/Plan (UoM) level as appropriate. It should include relevant aspects of environmental topic specific guidelines. This Manual could be referenced in any tender documentation and would inform the development of detailed design specifications for individual flood management projects incorporating the relevant Mitigation Measures. This could be incorporated into an Environmental Management System (EMS)/Environmental | Mitigation proposed in SEA Environmental Report and NIS to reflect this recommendation. OPW have added some mitigation to section 6 of FRMP. |

| | | |
|---|---|--|
| | Management Plan (EMP based approach for the roll out of individual or suites of Plan measures. | |
| Integration of SEA and AA in the Plans | The requirement for contractors to prepare Construction Environmental Management Plans (CEMPs) should be considered. These could 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. | Mitigation proposed in SEA Environmental Report and NIS to reflect this recommendation. OPW have added some mitigation to section 6 of FRMP. |
| Integration of SEA and HDA in the Plans | Monitoring measures should be incorporated into the CEMP, and as appropriate, EMS/EMP. This should also be captured in the overall Plan/SEA monitoring programme to ensure the Plan is being implemented effectively and in accordance with relevant environmental legislation and obligations. | Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Monitoring included in section 8 of FRMP. |
| Monitoring, Reporting and Review | The section on Monitoring and Review of the FRMP should also include any proposed HDA-related monitoring. Provisions should also be included for links with project specific monitoring. | Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Monitoring included in section 8 of FRMP. |
| Monitoring, Reporting and Review | Relevant existing national environmental monitoring programmes should be reflected in the Monitoring Framework. WFD related monitoring and relevant aspects of Article 17 Reporting under the Habitats Directive are of relevance in this context. | Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Monitoring included in section 8 of FRMP. |
| Monitoring, Reporting and Review | The Monitoring Programme should be reviewed at regular intervals during implementation, and updated, where necessary, to address any specific issues that arise and any new information/datasets that becomes available. | Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Monitoring included in section 8 of FRMP. |

| | | |
|---------------------------------------|---|--|
| Monitoring, Reporting and Review | Detailed provisions for reporting on Plan Implementation and related environmental monitoring should be included in the Plans. This should capture implementation at relevant scales: CFRAM level, UoM, AFA and IRR level. The monitoring should incorporate potential positive and negative, temporary and permanent, and cumulative effects associated with Plan implementation. | Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Monitoring included in section 8 of FRMP. |
| Monitoring, Reporting and Review | We recommend the inclusion of a commitment in the Plans to report on a mid-term basis, at the end of year 3 of the six-year implementation cycle, on the implementation of the Plans and the associated environmental monitoring. This will provide a formal mechanism for review of specific aspects of Plan implementation, including the effectiveness of mitigation measures. It will also signal the need for remedial actions to be introduced where Plan related adverse environmental effects have been identified during implementation. | Recommendation for OPW for inclusion in synthesis report and Project Handover Sheets |
| Monitoring, Reporting and Review | The inclusion of reporting provisions will also make the Plans more robust and provide for increased accountability and transparency during implementation. The Plan implementation and associated environmental monitoring reports, along with a summary of key progress and findings and relevant data and mapping, should be made available to statutory authorities, key stakeholders and communities. | Recommendation for OPW for inclusion in synthesis report and Project Handover Sheets |
| Monitoring, Reporting and Review | The requirement to review the Plans on a six yearly cycle is welcomed. The requirements for SEA and HDA will also need to be incorporated into cycle 2 and subsequent Plans. This will be of particular relevance where the updated PFRA identifies additional AFAs to be addressed in subsequent Plans. | Recommendation for OPW for inclusion in synthesis report and Project Handover Sheets |
| Overall Governance and Implementation | With 29 Plans and 300 AFAs and associated measures, implementation of the Plans will pose a significant challenge for the OPW and local authorities. To ensure their effective delivery, strong governance structures will need to be put in place that provide for collaboration, coordination and clear designation of responsibilities and accountability. The EPA recommends a new chapter of Governance and Implementation be included in each Plan. This should include a description of the governance arrangements and mechanisms to oversee implementation of the Plans and associated measures. | Recommendation for OPW for inclusion in synthesis report and Project Handover Sheets. Included within section 8.1 of FRMP. |

| | | |
|---------------------------------------|--|--|
| Overall Governance and Implementation | There would be merit in considering preparing an overall national level CFRAM Implementation Programme, reflecting priority measures for implementation at national CFRAM, FRMP, UoM, AFA and IRR level. Key responsibilities (including lead department/authority), priority measures/combination of measures, estimated cost and timescales could be set out alongside each of the measures in the Plans. This would assist the Inter Departmental Flood Policy Coordination Group and any CFRAM/UoM level Coordination Implementation Groups established in delivering the Measures. It would also inform reporting obligations to the wider public and to the European Commission in accordance with obligations under the Floods Directive. | Recommendation for OPW for inclusion in synthesis report. Note that FRMPs to be accompanied by National FRS Capital Investment Programme |
| Overall Governance and Implementation | Strong commitments to governance and robust implementation structures will provide an element of certainty at a national, regional and local level on the sequence of implementation. Relevant aspects of the approach taken by the Department of Agriculture, Food and the Marine in implementing Food Wise 2025 Environmental Sustainability Actions could be considered. The model set up by the Department of Communications, Climate Action and Environment for the implementation of the Offshore Renewable Energy Development Plan may also be of interest in this regard. | Recommendation for OPW for inclusion in synthesis report and Project Handover Sheets. Included within section 8.1 of FRMP. |
| Overall Governance and Implementation | We acknowledge the proactive approach adopted by the OPW and the CFRAM teams to public consultation and stakeholder engagement at key stages throughout the programme development. This positive approach to stakeholder engagement should continue at the implementation stage and during subsequent Plan cycles. | Section 8.1.4 added to FRMP on Public & Stakeholder Consultation & Engagement |
| Other Matters | Where amendments to the Draft Plans are proposed, these should be screened for likely significant effects on the environment in accordance with SEA Regulations. They should also be screened for the purpose of Habitats Directive Assessment. The SEA and HDAs should be updated to reflect any changes related to the assessment. Where additional mitigation is proposed, this should be reflected in the updated plans. | Comment passed to OPW for note and inclusion in synthesis report. |
| Other Matters | Following adoption of the respective Plans, an SEA Statement should be prepared for each plan that summarises the following: how environmental considerations have been integrated into the plans; how the environmental report, submissions, observations and consultations have been taken into account during the preparation of the Plan; the reasons for choosing the Plan adopted in the light of other reasonable alternatives dealt with; and the measures decided upon to monitor the significant | SEA Statements to be completed based on final FRMPs |

| | | |
|---------------|---|--|
| | environmental effects of implementation of the Plan. | |
| Other Matters | A copy of the SEA Statement should be sent to any environmental authority consulted during the SEA process. | Noted - SEA Statements to be sent to any environmental authority consulted during the SEA process. |

Inland Fisheries Ireland

| Subject | Comment | Final Response Text |
|---------|---|---|
| 11/12 | In addition to traditional hard engineering methods to protect cities and towns CFRAM needs to encourage and support sustainable land management in rural areas in order to address long term vulnerability. Areas that need to be addressed include: runoff reduction and attenuation, floodplain management/storage, diversion channels and sediment management. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 11/12 | In considering the maps provided for the various Draft FRMPs for the South Eastern UoM areas, AFA has various concerns and comments. It is noted from the various options maps provided that 'channel improvements' are proposed for the various locations where flood defence measures are proposed. IFI understands from the draft plans that so called 'channel improvements' or measures to increase channel conveyance may involve works such as weir/dam removal, reducing channel roughness and lowering of the river bed. While the removal of obsolete or derelict weirs or dams would be a positive development from a fisheries viewpoint, works such as reducing channel roughness and lowering of the river bed may result in significant 'channel deterioration' due to destruction and elimination of fisheries habitat. (See page 3/8). | Comment passed to OPW for inclusion in synthesis report. |
| 11/12 | The WFD legally obliges member states to protect the ecological status of river catchments and channels. Therefore, consideration has to be given to factors such as quality of instream habitat, flow, drainage, dams, bank erosion and riparian habitat etc. For this reason, IFI would have a strong preference for the draft options which do not include instream works (other than removal of derelict or obsolete dams and weirs) or so called OPW 'channel improvements'. IFIs preference generally is for flood walls, | Comment passed to OPW for inclusion in synthesis report. |

| | | |
|-------|---|--|
| | embankments, diversion channels, two stage channels, upstream attenuation/storage and land use management/natural flood risk management measures as appropriate. | |
| 11/12 | (See page 4/9) ... IFI is concerned that misrepresenting the fisheries status of a watercourse may impact on the accuracy of the SEA and AA process. Additionally, the SEA process appears to be primarily pre-occupied with considering the effects of flood risk management measures on SACs, SPAs, NHAs (including proposed NHAs) and other designated nature conservation sites. IFI takes this opportunity to restate that 'All waters are designated as requiring protection under the terms of the WFD'. | Fisheries and angling, and water (including WFD) were included within the MCA and SEA assessments at the appropriate strategic level to try to highlight and mitigate for potential impacts. Assessment methodology was consulted with IFI as part of the national and regional stakeholder groups for the CFRAM Studies. Further detailed analysis will be undertaken on more detailed project level information, as shown in section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. |
| 11/12 | IFI has concerns regarding the adequate/partial nature of the SEA. IFI's website provides information on fish surveys, angling sites and fish populations present at these sites. A desktop study would have yielded some valuable information to be included in the screening/assessment process. Accordingly, IFI would suggest that specific direct consultations need to take place with IFI so as to ensure that as much information as possible can be captured and to maximise the value derived from such consultation. | A desktop study was undertaken and fish species found were included in local weightings and a discussion of environmental issues for the relevant waterbody. IFI were included as part of the stakeholder group for CFRAM and were invited to contribute feedback on the information provided. |
| 11/12 | There are also references to instream works being permissible outside of the period October to May. This is incorrect. For the avoidance of doubt, instream works are only permitted during the period July to September inclusive, following consultation and agreement with IFI. | Generic mitigation and monitoring measures have been developed to be included in the NIS and SEA. This includes the following: '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'. |

| | | |
|-------|---|---|
| 11/12 | IFI considers that a comprehensive CFRAM strategy will incorporate the following: (See page 4) | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 11 | IFI specific concerns relating to Blackwater AFA: Blackwater village is located at the confluence of two similar sized watercourses, both draining areas of approximately 18km ² . The Blackwater system is an important salmonid system with excellent populations of sea trout and populations of salmon residing within the catchment. The fisheries potential of the Blackwater system is significantly reduced because of the presence of a large dam across the more southerly of the two watercourses referred to above. This dam is located immediately upstream of Blackwater Bridge | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 11 | IFI specific concerns relating to Blackwater AFA: The report refers to blocking of the bridge during fluvial flood events. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 11 | IFI specific concerns relating to Blackwater AFA: Our inspection of the site highlighted the dam is used to divert water to a small millrace which re-enters the Blackwater River a short distance downstream of Blackwater Bridge. IFI have concerns that the large dam across the more southerly tributary referred to above may be contributing to the flooding in Blackwater and we ask that this possibility be considered. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 11 | IFI specific concerns relating to Blackwater AFA: We request that the partial or complete removal of the dam immediately upstream of Blackwater Bridge be considered as a flood remediation measure for this site. Such works would include a significant environmental gain as the spawning and nursery habitat available to several species of fish (including sea trout and salmon); upstream of Blackwater Bridge would be increased by 100%. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 11 | IFI specific concerns relating to Courtown AFA: Inspections of the Aughboy River in the Riverchapel and Middletown area of Courtown have highlighted numerous locations where the conveyance capacity of this watercourse has been significantly reduced by the infilling of sections of channel with building rubble/sub-soil etc. and the installation of undersized culverts. Our understanding is that out of bank flooding occurs at, at-least one location in the townland of Parknacross. The main cause of this out of bank flooding is a significantly undersized culvert on the Aughboy River at this location. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |

| | | |
|----|---|--|
| 11 | IFI specific concerns relating to Gorey AFA: The Banoge River and a number of its tributaries flow through Gorey Town. The Banoge River is an important salmonid tributary of the Owenavorrach which holds excellent populations of salmon, sea trout, brown trout and lamprey. | The following text has been added to UoM11 Gorey Section 'Key Environmental Issues': The Banoge River and a number of its tributaries flow through Gorey Town. The Banoge River is an important salmonid tributary of the Owenavorrach which holds excellent populations of salmon, sea trout, brown trout and lamprey, all on Annex II of the EU Habitats Directive. Excellent populations of salmonids and lamprey are found in the Banoge and its tributaries flowing throughout the Gorey area. No change to local weightings. |
| 11 | IFI specific concerns relating to Gorery AFA: Excellent populations of salmonids and lamprey are found in the Banoge and its tributaries flowing throughout the Gorey area. | The following text has been added to UoM11 Gorey Section 'Key Environmental Issues': The Banoge River and a number of its tributaries flow through Gorey Town. The Banoge River is an important salmonid tributary of the Owenavorrach which holds excellent populations of salmon, sea trout, brown trout and lamprey, all on Annex II of the EU Habitats Directive. Excellent populations of salmonids and lamprey are found in the Banoge and its tributaries flowing throughout the Gorey area. No change to local weightings. |
| 11 | IFI specific concerns relating to Gorey AFA: The report refers to two discrete areas of flooding in Gorey both caused by insufficient channel capacity during flood events. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 11 | IFI specific concerns relating to Gorey AFA: Site visits by IFI staff to the Banoge River in Gorey have highlighted that sections of the channel are heavily overgrown principally by will and alders in the Mill-lands and community school area. At a number of locations along this section of channel, the accumulation of debris and other materials was noted to have resulted in large blockages of the channel and channel conveyance capacity was noted to be reduced. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 11 | IFI specific concerns relating to Gorey AFA: At another location in the vicinity of Gorey Community College the channel conveyance capacity was noted to be slightly reduced by the | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |

| | | |
|----|--|---|
| | presence of a large pipe crossing the line of the Banoge River. | |
| 11 | IFI specific concerns relating to Gorey AFA: IFI are aware of a number of sites in Gorey where sections of smaller channels have been culverted or piecemeal banks protection works have been undertaken at individual properties. The majority of these sites are located on tributaries of the Banoge River. IFI request that a review of all such sites/constrictions on the conveyance capacity of the Banoge and its tributaries be conducted. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Baltinglass AFA: The Slaney River throughout the Baltinglass area represents excellent salmon spawning and nursery habitat. | The status of the Slaney River as an important Salmonid river was discussed under 'Key Environmental Issues' in Section 9.7. This was included within local weightings with the highest possible score. |
| 12 | IFI specific concerns relating to Baltinglass AFA: Practices undertaken in the past which have contributed to the severity of flooding events in Baltinglass include the fact that small sections of the Slaney main channel and most of the entire channel of the Carrigower River were straightened. These works were part of a system that managed the river in a way that increased land available for agriculture. In doing this however, the natural storage within these catchments have been reduced significantly and the effect has been to increase the volume and speed at which the flood waters arrive at Baltinglass downstream. Historically, the Carrigower was a very sinuous/meandering watercourse and the straightening of this watercourse has significantly reduced the natural storage of the Slaney River upstream of Baltinglass. The catchment area of the River Slaney upstream of Blatinglass Bridge is 167km ² while we have calculated the catchment area of the Carrigower River to 50km ² , which equates to 30% of the entire catchment area upstream. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Baltinglass AFA: River reach realignment works, which involve the restoration of straightened rivers to their natural course, are among a large suite of River morphology and floodplain restoration measures aimed at increasing the natural flood storage of river systems and reducing the speed at which a flood arrives at vulnerable sites downstream. We would direct you to a Scottish Environment Protection Agency publication, Natural Flood Management Handbook, Authors H.Forbes, K. Ball and F. McLay, December 2015 and accessed on www.sepa.org.uk which details numerous measures including river reach | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |

| | | |
|----|---|---|
| | realignment works to tackle flooding (see page 10). | |
| 12 | IFI specific concerns relating to Baltinglass AFA: Another practice which may have contributed to flooding in Baltinglass is that in an attempt to prevent/reduce flooding in the nearby village of Grangecon, a watercourse upstream of Grangecon village was diverted to the upper reaches of the Rampere Stream which connects into the Slaney upstream of Baltinglass. Grangecon village is located on the extreme upper reaches of the Greese River system which is a tributary of the River Barrow and the diversion of this stream amounted to a transfer of water between catchments. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Baltinglass AFA: The report outlines two options (1) hard defences and (2) hard defences and do minimum. Option 1, includes the construction of flood embankments and walls along the banks of the River Slaney main channel whilst option 2 does not. Option 2 require that a critical structure (box culvert) is upgraded to increase its conveyance capacity from 1.3m ³ to 1.9 ³ . The report concludes that the preferred option for Baltinglass is option 1 as it is more environmentally advantageous and has a higher benefit cost ratio to option 2. IFI do not agree that option 1 is more environmentally advantageous compared to option 2. | Comment noted. Option scores very slightly better environmentally than non-selected option, based on the MCA scoring. Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Baltinglass AFA: Option 1 will involve the construction of flood walls along the River Slaney at locations where there is little or no potential for any set back, salmon spawning occurs immediately adjacent to these sites. Option 2 will not involve any Hard Defence works along the Slaney and the instream works associated with Option 2 are to a small stream with limited fisheries potential, where much of the fisheries habitat has been lost due to the culverting of a length of the channel. It is unclear if this is the critical structure which is proposed for upgrading and we request clarification of this point (see page 11). | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |

| | | |
|----|---|--|
| 12 | <p>IFI specific concerns relating to Baltinglass AFA: The report states that the main flooding location in Baltinglass is complex as it involves the Knocknareagh River and the River Slaney, with water levels within the Slaney main channel resulting in a backwater effect on the lower reaches of the Knocknareagh River. The above also results in out of bank flooding on the Knocknareagh River. A visit by IFI staff to Baltinglass on the 14/11/2014 during a high flow event (which resulted in flooding at a number of locations throughout the Slaney catchment) highlighted that water levels in the Slaney were significantly higher upstream of Baltinglass weir compared to downstream of the weir. This suggests that during high flow events the weir is acting as a control and maintaining the water levels upstream of the weir at a higher level than if the weir was not there (see page 11).</p> | <p>Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets</p> |
| 12 | <p>IFI specific concerns relating to Baltinglass AFA: The incorporation of a properly functioning fish pass-at Baltinglass weir is a critical measure in the management of salmon stocks within the Slaney system which are currently below their conservation limit. When the new fish-pass is constructed salmon migration to the important spawning habitat of the Upper Slaney and Glen of Imaal areas will no longer be impeded in Baltinglass (see page 11).</p> | <p>Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets</p> |
| 12 | <p>IFI specific concerns relating to Baltinglass AFA: The report refers to other areas of flood risk, out of bank flooding again from the Knocknareagh River due to critical infrastructure with insufficient capacity. Our knowledge of the site is that the Knocknareagh River is a small system draining approximately 2.5km² and that there is a number of culverts on the watercourse. In addition, examination of older maps highlighted that the course of the Knocknareagh River has been altered significantly over the years. IFI would regard the works proposed in option 2 as an opportunity to improve the fisheries habitat and fish transition of this tributary of the Slaney.</p> | <p>Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets</p> |
| 12 | <p>IFI specific concerns relating to Baltinglass AFA: Our knowledge of the Knocknareagh River is that a long section of this channel is culverted beneath the yard area at the Quinn's of Baltinglass site. The Quinn's of Baltinglass site is very large comprising approximately 9 acres which is composed of concreted yards, sheds and other buildings. Our knowledge of this location is that the surface water run-off from this entire site is to the Knocknareagh River upstream of the old stone built culvert visible from the N81 on Mill Street. (See page 12).</p> | <p>Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets</p> |

| | | |
|----|---|---|
| 12 | IFI specific concerns relating to Baltinglass AFA: An inspection of the Knocknareagh River by IFI staff highlighted a small masonry culvert on this watercourse a short distance upstream of Mill Street in Baltinglass. We ask if this culvert represents a channel constriction, we note that this culvert does not appear to serve any purpose and ask if there is any proposal to have it removed. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Baltinglass AFA: The same inspection also highlighted a number of constrictions along the course of the Knocknareagh River upstream of this masonry culvert but downstream of where the stream flows out from beneath the Quinn's of Baltinglass site. These constrictions were in the form of old stream crossings, willow trees and other debris within the channel. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Baltinglass AFA: Our inspection of the Knocknareagh River highlighted that the river is culverted beneath the Quinn's of Baltinglass site. This culvert at the downstream end of the site is a twin masonry box culvert and the inspection seemed to highlight that at the downstream end that one of the culverts had silted up. An inspection of the Knocknareagh Stream at the upstream end of the site highlighted that the culvert had been extended into the upstream property where a forestry access road had been installed. This culvert comprised of a 0.8m diameter pipe with a large trash screen placed over the end of this pipe, which further decreased the limited conveyance capacity of this small culvert. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Baltinglass AFA: The report highlights that the existing flood defences along the River Slaney main channel downstream of Baltinglass Bridge are constructed along the bank of the River Slaney and prevent connectivity between the River Slaney and a significant area of the Slaney River flood plain. We have calculated the area of floodplain behind the existing flood defences at this location to be over 3 acres of greenfield/open space. IFI ask why moving the existing flood defences at this location, back from the edge of the River Slaney and restoring connectivity for the Slaney River and a significant area of flood plain was not considered among the measures to mitigate flooding within the Baltinglass area. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Bunclody AFA: The Bunclody River throughout the Bunclody area represents excellent salmon spawning and nursery habitat. | There is no assessment for the Bunclody AFA in the SEA Environmental Report, as the level of flood risk is currently considered to be very low. |

| | | |
|----|---|---|
| 12 | IFI specific concerns relating to Bunclody AFA: Inspection of the Clody River through the Town of Bunclody by IFI staff have highlighted a number of locations where the conveyance capacity of this watercourse has been significantly reduced by the infilling of sections of channel with buildings rubble/sub-soil etc. Most of the infill noted in these inspections was towards the lower section of the Clody channel upstream of the confluence with the Slaney at Slaney Bridge. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |
| 12 | IFI specific concerns relating to Bunclody AFA: IFI have concerns that the conveyance capacity of the Clody River has been constricted by the placement of large concrete blocks into the Clody River immediately upstream of the Bridge over the Clody into the Millrace Hotel. We believe that these blocks were put in place as a bank protection measure where very serious bank erosion has resulted in emergency measures being taken to prevent the bank and bridge from collapse. | Comment passed to OPW for inclusion in synthesis report and Project Handover Sheets |

Sustainable Water Network (SWAN)

| Subject | Comment | Response |
|--|---|---|
| Impacts of Flood Works on WFD Objectives | It is important that these 'significant physical changes' (see page 13) are considered in both the FRMPs and the RBMPs, since they potentially impact both hydromorphological and biological conditions of affected waterbodies and hence their WFD ecological status. It is important to emphasise that any activity that will negatively impact the WFD status of a water body is only permitted under the WFD if the strict conditions, set out in Article 4 and described in the previous section are met: (See page 14). | Section 6.5 of the final FRMP details co-ordination with the WFD, while Section 6.6 details progression of the measures at the detailed stage. Comment also noted for OPW synthesis report. |
| Impacts of Flood Works on WFD Objectives | It is important to note that the reasons for any exemptions must be set out in the RBMPs (See page 14) | Section 6.5 of the final FRMP details co-ordination with the WFD, while Section 6.6 details progression of the measures at the detailed stage. Text added throughout the plan re-emphasising the level of the Plan and the further assessment and approval required. Comment also noted for OPW synthesis report. |
| Impacts of Flood Works on WFD Objectives | It is unclear as to whether there has been any legal analysis on the potential application of WFD exemptions to flood protection developments. | Section 6.5 of the final FRMP details co-ordination with the WFD, while Section 6.6 details progression of the measures at the detailed stage. Text added throughout the plan re-emphasising the level of the Plan and the further |

| | | |
|--|---|---|
| | | assessment and approval required. Comment also noted for OPW synthesis report. |
| Coordination of Flood Directive with the WFD | Ultimately, coordination is vital so as to ensure that all pressures and potential impacts of proposed measures included in these FRMPs are included in the characterisation process for the WFD and thus in the river basin management planning process, with strict application of exemption criteria where proposed measures will compromise WFD mandatory requirements. | Section 6.5 of the final FRMP details co-ordination with the WFD, while Section 6.6 details progression of the measures at the detailed stage. Text added throughout the plan re-emphasising the level of the Plan and the further assessment and approval required. Comment also noted for OPW synthesis report. |
| Coordination of Administration Arrangements of the WFD | The draft FRMP describes this coordination as occurring via bilateral meetings, cross-representation on management groups, exchange of information and coordination on measures. The information provided on these in the draft FRMP is vague in that it just outlines the process but not how/if effective coordination of implementation is being achieved. Further detail is required regarding the on-going collaborative decision-making process for dovetailing implementation of these directives. | Section 6.5 of the final FRMP details co-ordination with the WFD. Comment also noted for OPW synthesis report. |
| Coordination of Administration Arrangements of the WFD | It would appear to SWAN that operational coordination is minimal since the measures proposed in the draft FRMPs have, to our knowledge, not thus far been included in the WFD characterisation process, despite the significant hydromorphological and ecological impacts these may have on affected water bodies. Nor is there any indication in the FRMPs, or in the public domain, of on-going regular operational collaboration between scientists working on implementation of the FD with those working on the WFD. | Section 6.5 of the final FRMP details co-ordination with the WFD. Comment also noted for OPW synthesis report. |
| Coordination of FRMP and RBMP | In line with what the Commission has highlighted, because Ireland has different competent authorities for the FD and WFD, it is vital that there be effective coordination at the critical stage of developing the flood risk management measures. From the draft FRMP, it is evident that this coordination has been very limited, calling into question how effective these measures will prove. | Section 6.5 of the final FRMP details co-ordination with the WFD. Comment also noted for OPW synthesis report. |
| Coordination of FRMP and RBMP | (See pages 18 and 19) Although the objectives of the WFD may have been 'embedded' into the process, this demonstrable does not ensure that the management measures proposed will not have significant negative impacts on the | Section 6.5 of the final FRMP details co-ordination with the WFD, while Section 6.6 details progression of the measures at the detailed stage. |

| | | |
|-------------------------------|--|--|
| | achievement of WFD objectives, as is evidenced by the FRMP SEA. | Comment also noted for OPW synthesis report. |
| Coordination of FRMP and RBMP | SWAN welcomes the fact that the OPW has been liaising with the EPA and LAWCO on 'win-win' measures however it is difficult to ascertain the effectiveness of this as given that there are few measures proposed in the FRMP that would have such benefits in particular natural water retention measures. | Section 6.5 of the final FRMP details co-ordination with the WFD. Text included in Measure 7.4.1.5 - "The work will include seeking, and where possible implementing, pilot studies in coordination with LA WFD Offices and other agencies. Comment also noted for OPW synthesis report. |
| Coordination of FRMP and RBMP | Apart from recommending mitigation measures in the SEA, there is no explanation in the FRMP as to how 'measures that may otherwise cause conflict between the objectives of the two directives' are being addressed, given that the FRMP SEA has identified many significant negative impacts on water quality and the aquatic environment which would result from the physical modifications that are being proposed as part of the FRM measures. | Mitigation and monitoring proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Processes for Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Information on progression of measures and assessment of future works also provided in section 6.6 of FRMP. |
| Coordination of FRMP and RBMP | Article 7 (3) of the WFD requires that the FRMPs take the characteristics of the river basin into account and also to promote sustainable land use practices and the improvement of water retention. Thus, the FRMPs, along with the WFD RBMPs, should be based around integrated RBM and so benefit greatly from being developed in coordination with the RBMPs. Indeed, the development of the FRMPs are required to be coordinated with the reviews of the WFD RBMPs under Article 9 (2) of the FD which states: (See page 20)... Swan understands that for various political and other reasons, the development of both these plans is happening over different timescales. It is our position that this, along with having separate Competent Authorities, has resulted in a serious lack of coordination in the implementation of the two Directives, as is evidenced in the Plans by the reliance on structural measures for FRM which will have a negative impact on WFD objectives. | Section 6.5 of the final FRMP details co-ordination with the WFD. Measure 7.4.1.5 includes Land Use & NFM Measures. |

| | | |
|-------------------|---|---|
| AFA Scale Options | It is important that, as the FRMP objective states, any proposed measures 'provide no impediment' to achieving good status, as the waterbodies in the UoM are already at risk of not meeting WFD objectives and additional pressure would further exacerbate this risk. There are 26 AFAs for this UoM, 19 of which have proposed options in the FRMP, both of which include hard defences as measures. The FRMP SEA found that, of the 18 options which were assessed all would have negative impacts on the water quality... (See page 21)... | Comment noted. |
| AFA Scale Options | Any negative impacts on aquatic species such as the Freshwater Pearl Mussel must be taken into account when assessing WFD impacts as they are intrinsic element of the ecological status of the waterbody. It is not fully clear if this has been taken into account in the assessment. This point is not just relevant to this FRMP but to all the FRMPs. | FPM assessed under Objectives 3A and 3B of the FRMP and Objectives 1(i) and (ii) of the SEA ER. Note that full WFD assessment will be undertaken at the next stage of detailed feasibility. Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent processes required before development of schemes. Text also included under section 6 of FRMP, including interactions and coordination with WFD. |
| AFA Scale Options | The draft FRMP (pg. 54) states that: (see page 22)... Although the impacts on water status of implementing the proposed measures and the mitigation measures are outlined in the SEA, the FRMP itself should have at least included this information. | Section 7 of the final FRMP updated to include acknowledgments of wider environmental risks and benefits of implementing FRM schemes. |
| AFA Scale Options | Even if it is recommended to apply avoidance and mitigation measures in these sensitivity water bodies experience has shown that mitigation applied in respect to the Freshwater Pearl Mussel in OPW Flood Works is not effective and is being questioned by the European Commission but mostly there is no follow up to assess the effectiveness of mitigation or event if it has been implemented and this is unacceptable. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. NIS has added additional FPM mitigation into impact tables of all AFAs in FPM sensitive catchments. Comment also noted for OPW synthesis report and Project Handover Notes. |
| AFA Scale Options | SWAN welcomes the mention of WFD assessments at the next stage of option development, however 'may involve' is not adequate and it is vital that WFD assessments must be included if compliance with WFD objectives is to be achieved. | Section 6.5.4 of the final FRMP co-ordination with the WFD. Particular reference to a detailed appraisal under Article 4(7). |

| | | |
|-------------------|--|---|
| AFA Scale Options | The projects will be subject to the applicable planning and/or consent process; however there are no regulatory controls on physical modifications to water bodies. This is in spite of the WFD Article 11 (See page 23)...It is extremely worrying that the required regulatory system for their control has not been introduced. | Information on progression of measures and assessment of future works provided in section 6.6 of FRMP. Comment also noted for OPW synthesis report. |
| AFA Scale Options | The RBMPs further state that...(see page 22) ...a 'formal legal mechanism' to address morphological pressures on the coastal environment including 'coastal defence, built structures (urbanisation and ports and harbours) and dredging' will be provided by a 'proposed amendment to the legislative framework, to regulate physical modifications having an adverse impact on the water environment'. However, these regulations have yet to be introduced six years later, as highlighted by the DECLG's recent SWMI document (see page 22). | Information on progression of measures and assessment of future works provided in section 6.6 of FRMP. Comment also noted for OPW synthesis report. |
| AFA Scale Options | It is furthermore of extreme concern that significant structural options are being proposed in the FRMPs despite this acknowledged 'current poor understanding of the relationship between morphological alterations to surface waters and the ecological impacts'. It is difficult to understand how an adequate EIA of such projects can be conducted, especially in terms of the impacts on the aquatic ecology given this poor understanding. The lack of both regulatory controls and understanding of ecological impacts is even more reason to apply the precautionary principle when it comes to mitigation. | Information on progression of measures and assessment of future works provided in section 6.6 of FRMP. Comment also noted for OPW synthesis report. |
| AFA Scale Options | As the LAs will be responsible for implementing the proposed options, SWAN members have raised doubts about the decisions that LAs have made in the past in not proceeding with EIA and AA screening when required in the case of physical modifications to rivers, and also that there is no follow up assessment/monitoring of projects to ensure that mitigation has been implemented. | Information on progression of measures and assessment of future works provided in section 6.6 of FRMP. Fig 8.1 on processes for progressing measures included. Wording on P.42 for responsible body and implementation. |
| AFA Scale Options | The current planning and consent process in relation to flood relief schemes, arterial drainage schemes and the proposed measures in the FRMPs is unclear. There are a number of issues which need to be clarified. Will the proposed measures be subject to WFD and EIA assessment, who decides this, who conducts the screening, who would conduct the assessment? Who authorises the project based on the results of the assessment? How are current flood relief schemes and minor works assessed in relation to WFD, EIA and AA? Who decides this on screening? Who would conduct the assessment? Who authorises the project based on the results of the assessment? The planning and consent process needs to be set out clearly including | Information on progression of measures and assessment of future works provided in section 6.6 of FRMP. Fig 8.1 on processes for progressing measures included. Wording on P.42 for responsible body and implementation. |

| | | |
|-------------------|--|---|
| | what/how projects are exempt from any of the Environmental Assessments. | |
| AFA Scale Options | This measure on the application of the Guidelines on the Planning System and FRM (See page 24)... SWAN welcomes the inclusion of this measure; however enforcement of the guidelines is needed to ensure their proposer application. Currently it is unclear which body can provide such enforcement. | Text included under measure 7.4.1.1 of final FRMP. Also text included in 8.2 on monitoring of compliance with the Planning Guidelines. Comment also noted for OPW synthesis report. |
| AFA Scale Options | (See page 24)...In this context, it is of utmost concern to SWAN that the draft FRMP (Page 63) states that: (See page 24)... SWAN members strongly disagree with this proposal and recommend that there be no further development in any flood-prone areas, notwithstanding the 'Justification test'. | Text included under measure 7.4.1.1 of final FRMP. Also text included in 8.2 on monitoring of compliance with the Planning Guidelines. Comment also noted for OPW synthesis report. |
| AFA Scale Options | Apart from the above measure on the Application on the Guidelines on the Planning System specific reference should also be made in the FRMPs on ensuring the Application of the EIA (Agricultural) Regulations 2011 and the Planning and Development (Amendment) (No 2.) Regulations. This has relevance for FRM as the EIA (Agriculture) Regulations are intended to control agricultural land drainage, which reduced the capacity of the land to store water and further increases the volume of water flow in streams and rivers, which then requires the continuance of arterial drainage schemes and other FRM measures. The EIA (Agriculture) Regulations have the potential to provide additional flood protection at a catchment scale if they are implemented correctly. | Comment noted for OPW synthesis report. Recommendation for future policy that may currently not be in OPW remit. EIA regulations currently to be considered as per Fig 8.1. |
| SUDS | The draft FRMP (pg. 63 states :...(See page 26)... SWAN welcomes the inclusion of the SuDS measures, however in relation to new housing developments in the Guidelines stated that... (See page 27)...However, the review of this document has still not been published. This review is urgently required, in particular due to the increase in proposed housing developments. The Guidelines also state... (see page 27)...This poses a significant pressure in terms of increased urban run-off and renders the recommendation in the draft FRMP that 'planning authorities should seek to reduce the extent of hard surfacing and paving' 'in accordance with the Guidelines' in order to 'reduce the potential impact of development on flood risk downstream' somewhat redundant. It is an oversight that this lacuna is not identified in the draft FRMP and SWAN recommends that this is rectified, with a recommendation in the final Plan to address the lacuna. | Included under Measure 7.4.1.2 of final FRMP. Comment also noted for OPW synthesis report. |

| | | |
|--|---|--|
| Ongoing Maintenance of Arterial Drainage Schemes | There is little information on the existing Arterial Drainage Schemes in place in these UoMs, other than a list of the schemes and that these will be maintained as part of the UoM measures as mentioned in the FRMP and SEA. | Arterial drainage schemes referenced as ongoing activities that are subject to separate assessment. Acknowledged for potential in-combination and cumulative impacts, however mitigation advice provided. |
| Ongoing Maintenance of Arterial Drainage Schemes | Arterial Drainage Schemes typically involve increasing the conveyance capacity (e.g. dredging), which can impact on aquatic ecology of the watercourse. The impact of these schemes on water bodies as a whole (including those outside of Natura sites) also needs to be taken into account. Although the schemes are not a part of the CFRAM Study, they are provided as a measure in the FRMP and therefore need to be assessed for their impact on the WFD status of affected waterbodies along with other proposed measures. It is not clear if these were taken into account in the MCA analysis or SEA for the FRMP WFD objective. | Arterial drainage schemes referenced as ongoing activities that are subject to separate assessment. Acknowledged for potential in-combination and cumulative impacts, however mitigation advice provided. |
| Ongoing Maintenance of Arterial Drainage Schemes | The environmental assessments relating to arterial drainage schemes are available on the OPW websites, and given the significance of these schemes in terms of physical modifications of the affected watercourse, this should have been mentioned in the FRMP. | Arterial drainage schemes referenced as ongoing activities that are subject to separate assessment. Acknowledged for potential in-combination and cumulative impacts, however mitigation advice provided. |
| Ongoing Maintenance of Arterial Drainage Schemes | (See page 28)... SWAN appreciates the recognition of the role that natural features play in flood defence but would like to know how these features will be protected and what enhancement is being proposed. It is important that any enhancement of existing structural features must be WFD compliant. | Comment noted for OPW synthesis report. |
| Land-Use Management and Natural Water-Retention Measures | SWAN welcomes the fact that the OPW is liaising with the EPA 'to identify, where possible' NWRMs which would have benefits for both FRM and WFD objectives. However, the assessment of these measures should be well progressed by this stage, with at least some initial specific measures presented in the FRMP. It is disappointing that, to SWANs knowledge, work with the EPA on these measures has not yet started, or at best is in its infancy, with the result that no NWRMs have either been identified or put forth in the FRMP. | Text included in final FRMP - Measure 7.4.1.5 - "The work will include seeking, and where possible implementing, pilot studies in coordination with LA WFD Offices and other agencies. Also under section 6.5.4 of final FRMP. |
| Natura Sites | It is recommended that efforts are made so that there is no negative impact on NATURA 2000 sites within UoM 11 due to existing flood relief schemes. In addition, if there are any negative impacts to Natura 2000 sites due to continued flooding, that these are taken into consideration. | Comment noted for OPW synthesis report. |

| | | |
|--------------|---|---|
| Natura Sites | There are three SPAs and ten SACs in UoM12. There are two AFAs with Flood Risk Management Options (FRMOs) put forward, the Baltinglass AFA and the Wexford AFA. Impacts on Natura 2000 sites' conservation objectives resulting from the proposed FRMOs are likely to occur in Slaney River Valley SAC, The Raven SPA, the Wexford Harbour and Slobbs SPA and the Holdenstown Bog SAC due to works proposed at the Wexford AFA and Baltinglass AFA. Additionally, previously approved works scheduled to begin in 2017 within the Enniscorthy AFA are also likely to cause cumulative negative impacts to NATURA 2000 sites within the AFA. | Cumulative impacts were assessed at the strategic level in line with the level of information in the FRMP. Further detailed analysis will take place on more detailed information at the next stage of feasibility study. Mitigation proposed in SEA Environmental Report and NIS to minimise potential for cumulative impacts. OPW have added some mitigation to section 6 of FRMP. Progression of Measures Involving Physical Flood Relief Works flow chart added to section 8.1 of the FRMP, which demonstrates the consent and assessment processes required before development of schemes. |
| Natura Sites | There are many mitigation measures proposed, but we consider that these mitigation measures only partly ameliorate potential long-term and short-term negative impacts. For the Wexford AFA, the preferred option is hard defences and improvement of channel conveyance. Other options should be considered due to the critical significance of the Natura 2000 sites dependent on the Slaney River water quality. | Comment noted for OPW synthesis report and Project Handover Notes. |
| Natura Sites | See Table 5.1 outlining assessment of likely impacts from FRM measures within UoM12/UoM14/UoM15/UoM17 from SWAN review in comparison to AA review. | Noted |
| Mitigation | Otter are found widely throughout Ireland's waterways and can use quite heavily modified and polluted waterways. In particular, we have found that otters will move from rural through urban areas to forage in coastal areas. Therefore, otter surveys should be done at all AFAs and otter SOPs put in place. | This has been recommended in NIS chapters 5 & 6 and in FRMP generic mitigation table |
| Mitigation | Avoid unnecessary vegetation clearance, particularly trees | NIS added to 6.1.2.1 § <i>Avoid unnecessary vegetation clearance, particularly trees. Where possible, retain vegetated buffer strips. Ensure that reinstatement of appropriate, local riparian vegetation is carried out once works are completed.</i> |

| | | |
|------------|---|---|
| Mitigation | Reinstatement of appropriate, local riparian vegetation once works completed | NIS added to 6.1.2.1 § <i>Avoid unnecessary vegetation clearance, particularly trees. Where possible, retain vegetated buffer strips. Ensure that reinstatement of appropriate, local riparian vegetation is carried out once works are completed.</i> |
| Mitigation | Use of carbon-neutral concrete for all structural walls | Comment too detailed for strategic level assessment, however passed to OPW for consideration. |
| Mitigation | Ensure best practice with regard to invasive species prior, during and after construction | NIS: Invasive species potential impacts added to impact tables in chapter 5 and general mitigation in chapter 6 (6.1.2.1) |
| Mitigation | Qualified and experience ecologist on site during construction. Any changes in method statements and management plans must be signed off by relevant experts and authorities | NIS: requirement for an Environmental Manager in penultimate paragraph of 6.1 and requirement for method statements to be approved in 4th paragraph. Although not explicitly stated in the NIS no single ecologist is likely to be qualified to undertake all the necessary surveys and impact assessments for any single scheme, therefore the role of the Environmental Manager would be to coordinate all the various specialists. |
| Mitigation | Baltinglass: Strictly adhere and monitor to ensure worker adherence to all protocols. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Baltinglass: Ensure no chemicals, oils or detergents enter the waterway or near the banks, especially when there are slopes towards the waterway to prevent polluted surface water run-off. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Baltinglass: Keep heavy machinery as far from bank as possible, and do not destroy any existing habitats on the banks of rivers. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |

| | | |
|------------|---|--|
| Mitigation | Baltinglass: Restoration of bank vegetation should include bird boxes to compensate for losing mature vegetation. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Baltinglass & Wexford: Results of the ecological survey should inform whether works should occur. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Baltinglass: With commitment to their general mitigation measures and those specific to this site, the long-term impacts should be minimal. There will be short term impacts due to destruction of habitats and disturbance from construction works. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Wexford: Qualified ecologist monitors works, and ecological surveys conducted for two years following works to measure. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Wexford: Restore appropriate bankside vegetation. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Wexford: Reconsider Option 2, which is hard defences without dredging, less environmentally damaging. | Comment noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Any improvements to channel conveyance should be carried out in stages (sections of river channel, dredging from one bank at a time) to allow undamaged refugia to maintain aquatic macroinvertebrates populations (prey for fish including salmon) within the river channel. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |

| | | |
|----------------|--|--|
| Mitigation | Any works that involve removal of current bridges or stone embankments should ensure there are no bats roosting or hibernating in cracks, holes or crevices. All bat roosts are protected in Ireland, regardless of whether or not they are within a Natura 2000 site. Stone walls and bridges are valuable habitats for bats and other protected species, e.g. Daubenton's Bats (<i>Myotis daubentoni</i>) utilise bridges. All bridges that are built should not be modern concrete bridges nor stone masonry bridges that are pressure grouted with concrete extensions. It is essential that all bridges or embankments should have bat bricks, artificial cracks, holes and/or crevices in order to increase potential habitat for protected species. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Works should be conducted only during months that would cause the least impact to the aquatic benthic communities. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Avoid carrying out any in-channel works, even if essential, during spawning season and downstream migration. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Least amount of destruction of bankside vegetation. Limit access of heavy machinery to works areas to a single pathway. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Mitigation | Conserve, protect effectively and, where possible, restore vegetation and forests riparian woodland and wildflower meadows. Preference should be for a diversity of locally native plants that offer longest seasons of fruiting and flowering, and those most valuable for pollinators. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |
| Recommendation | When an AFA is in close proximity to Natura sites, ecological surveys must ensure that no designated habitats are lost or species impacted on. | Mitigation proposed in SEA Environmental Report and NIS. OPW have added some mitigation to section 6 of FRMP. Comment also noted for OPW synthesis report and Project Handover Sheets. |

| | | |
|-----------------|--|---|
| Recommendations | Given the need to protect existing human settlements, much of the proposed flood management work is structural. Within the draft FRMP non-structural measures were not considered in the development of options based on structural measures. However, we believe non-structural measures should be evaluated in the earliest plans and should have bearing on the development of structural measures and not simply be complementary to them. Integrated flood management using the best mix of structural and non-structural measures, including addressing objectives at a basin level rather than isolated flood management options should be the starting point of FRMPs. | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |
| Recommendations | Ireland needs a strategy to implement NFM which aims to work with natural hydrological and morphological processes, features and characteristics to manage the sources and pathways of floodwaters. These are given lip service in the FRMPs but need to be fully realised. Such strategies include: (see page 59). | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |
| Recommendations | Consider the results of international projects such as 'Slowing the Flow' and 'Room for the River' to see if aspects can be adapted to Irish waterways. | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |
| Recommendations | Public Consultation days influence the choice of preferred FRMO. Environmental groups need to have a stronger presence at these. | Section 8 of the final FRMP, Implementation of Measures & details further public consultation. Comment also noted for OPW synthesis report. |
| Recommendations | Monitoring of baseline environmental conditions and significant effects on the environment as a result of the implementation of the FRMO must be transparent and the results of such should be made available online throughout the project. Results from these should be available as part of a meta-review of case studies of mitigation options to help interest groups assess the effectiveness of proposed mitigation. | Proposed strategic level environmental monitoring of the final FRMP included in section 8. Comment also noted for OPW synthesis report. |
| Recommendations | Maintenance of completed projects should strictly adhere to AA recommendations. Any unforeseen maintenance should be subject to AA. | Recommendation noted for OPW synthesis report and project handover notes. |
| Recommendations | To prevent driving further climate change, where structural flood protection is deemed necessary, all concrete used for the structural works should be carbon-neutral (i.e. slag-based rather than Portland cement based). | Recommendation noted for OPW synthesis report and project handover notes. |

| | | |
|----------------------------------|--|--|
| Recommendations | There are many mitigation measures proposed, but we consider that these mitigation measures only partly ameliorate potential long-term and short-term negative impacts. For the Wexford AFA, the preferred option is hard defences and improvement of channel conveyance. Other options should be considered due to the critical significance of the NATURA 2000 sites dependent on the Slaney River water quality. | Comment noted for OPW synthesis report and Project Handover Notes. |
| Integrated Flood-Risk Management | Taking a catchment based approach represents a more sustainable way of dealing with floods. | Comments noted for OPW synthesis report. Catchment based approach taken by CFRAM studies. |
| Catchment-Based Approach | The full potential of taking an integrated catchment management approach has not been realised in the FRMP, as there has been a lack of full coordination with the WFD and integration and alignment with the development of the RBMP. | Comments noted for OPW synthesis report. This is the first cycle of approaching flood risk management in an integrated catchment based approach through the CFRAM studies. |
| Catchment-Based Approach | SWAN acknowledges that in some instances, structural engineering solutions may be, for various reasons, either the only option, or necessarily part of the solution required to address flood risk. However, at present the plans as presented are overly reliant on such options, neglecting to fully consider the catchment-based approach, which would mandate increased use of measures such as NWRMs and other win win options for both the WFD and FD. In fact, there are a significant number of measures that could be taken to reduce the risk of flooding that could also contribute to achieving WFD objectives. These win-win measures include :(see page 61/62). In terms of an illustrative example, the catchment-based approach proved key to the success of the Farming Floodplains for the Future project in England. | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |
| Catchment-Based Approach | It is negligent and demonstrative of worryingly narrow thinking that such catchment-based approaches to land-use management and NWRMs, incorporating for example agri-environmental schemes has so far been excluded to the extent that it has from the FRMP measures. | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |
| Natural Water-Retention Measures | The Commission has given examples of natural flood-management strategies that could meet the requirements of the FD and WFD as follows: (see page 62). | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |
| Natural Water-Retention Measures | Ireland-applicable examples of natural approaches in reducing flooding, including NWRMs, and which should be included as measures in the FRMP are presented in table 6.1 (see page 41). | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |

| | | |
|----------------------------------|--|--|
| Natural Water-Retention Measures | The negative impact that hard engineering can have on water quality and ecosystems makes it all the more important that other solutions that work with nature are given more prominence than at present in the FRMP. | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |
| Natural Water-Retention Measures | The restoration of floodplains and wetlands are an example of NFWM and should be included as a measure in the FRMP. This is the type of measure that could contribute to achieving both FD and WFD objectives (see page 64 for examples of successful implementation). | Measure 7.4.1.5 amended in final FRMP to reflect this. Comment also noted for OPW synthesis report. |
| Integrated Governance | One of the major obstacles when it comes to water management in Ireland is the lack of coherent legislation and integrated governance. This was highlighted in the FRMP SEA for the Shannon UoM 25/26 but could equally apply to UoM 06 (See page 65) | Comment noted for OPW synthesis report. Recommendation for future policy. |
| Integrated Governance | SWAN has made a number of submissions to the Department regarding integrated governance, a detailed discussion of which is beyond the scope of this submission. However, suffice to say here that the proposed new governance system, which has been developed by the Department, does not provide the mechanisms necessary for the best practice Integrated Catchment Management approach being promoted by the EPA; that is mechanisms to facilitate catchment level decisions regarding selection and implementation of water management measures, at a catchment level, including flood management. So it is regrettable that the OPW appears to play a particularly peripheral role in the new water management arrangements with very little on-going day-to-day collaboration with the EPA Catchment Management Unit. Furthermore, it is unclear whether and how the role of Local Authorities in implementing the FRMPs will be incorporated into the new water governance system. | Comment noted for OPW synthesis report. Recommendation for future policy. Final FRMP section 6.5 provides WFD co-ordination. |
| Integrated Governance | (See page 44)... It is unclear how this coordination will be achieved and how an integrated catchment-based approach to flood management will be achieved given that implementation is the responsibility of authorities whose borders are administrative rather than catchment based. This appears to represent perpetuation of the fragmented approach to water management criticised in the 2010 RBMPs. | Comment noted for OPW synthesis report. Recommendation for future policy. Final FRMP section 6.5 provides WFD co-ordination. |
| Public Participation | It is SWANs contention that the OPW's public engagement on the draft FRMPs is unsatisfactory and flawed in a number of fundamental ways. These relate to the requirements of the Aarhus Convention and the Floods Directive regarding, relatively, early and effective opportunities for the public to participate | Multi staged public and stakeholder engagement and communication undertaken for CFRAM Studies. Final FRMP section 8.1.4 provides information on future project level project level public and stakeholder engagement and |

| | | |
|----------------------|--|--|
| | in decision-making and the requirement to encourage active public involvement. | communications. Comment noted for OPW synthesis report. |
| Public Participation | In addition to the specific obligations in the Flood Directive, discussed below, the FRM Plan has numerous environmental dimensions and consequently requires the application of demonstrable rigorous public participation as described in Article 6 of the Aarhus Convention, which specifically refers to public participation rather than consultation (see page 66). | Multi staged public and stakeholder engagement and communication undertaken for CFRAM Studies. Final FRMP section 8.1.4 provides information on future project level project level public and stakeholder engagement and communications. Comment noted for OPW synthesis report. |
| Public Participation | The FD requires only that Member States makes drafts of the PFRAs, flood-hazard maps and flood-risk maps available to the public. However, as well as making the FRMP publicly available, there is an additional specific obligation to 'encourage active involvement of interested parties in the production, review and updating of the FRMPs'. It furthermore requires that the FRMP include a summary of the public information and consultation measures/actions taken. | Multi staged public and stakeholder engagement and communication undertaken for CFRAM Studies. Final FRMP section 8.1.4 provides information on future project level project level public and stakeholder engagement and communications. Comment noted for OPW synthesis report. |
| Public Participation | A diverse range of mechanisms and particular techniques can be employed to actively involve the public which the OPW could be guided on by a relevant independent professions. Some simple distinctions are commonly recognised which broadly reflect the direction of communication and the flow of information (see page 67). | Multi staged public and stakeholder engagement and communication undertaken for CFRAM Studies. Final FRMP section 8.1.4 provides information on future project level project level public and stakeholder engagement and communications. Comment noted for OPW synthesis report. |
| Public Participation | In light of the above, to fulfil the requirements of effective and meaningful participation, certain conditions need to be met. Briefly, it requires that those whose interests are, or may be affected by the matter concerned are: (see page 68). | Multi staged public and stakeholder engagement and communication undertaken for CFRAM Studies. Final FRMP section 8.1.4 provides information on future project level project level public and stakeholder engagement and communications. Comment noted for OPW synthesis report. |

| | | |
|----------------------|--|--|
| Public Participation | When examined against the above criteria from the literature, including the need for ongoing dialogue and collaborative development of the plan with stakeholders, it is clear that the OPW has not delivered opportunities for effective public participation in the development of the FRMPs. It has limited its engagement to information and consultation exercises and done almost nothing to encourage the involvement of stakeholders in the development of the Plan. There is no evidence of a genuine wish to develop a partnership approach with stakeholders, and there appears to be a clear democratic deficit particularly due to a culture of traditional minimalist consultation processes in the OPW, exacerbated by the fact that the new water governance structures are not yet fully in place, so that no mechanism exists by which to attempt to secure more stakeholder scrutiny and involvement. | Multi staged public and stakeholder engagement and communication undertaken for CFRAM Studies. Final FRMP section 8.1.4 provides information on future project level public and stakeholder engagement and communications. Comment noted for OPW synthesis report. |
| Public Participation | In relation to provisions for basic consultation, it is SWAN's position that the public consultation on the Plans is wholly inadequate. The OPW has, by default, limited the ability of stakeholders to respond in a meaningful or significant way. The consultation on the first of these complex plans started in mid-July for a period of only ten weeks over the holiday period. This is far too short a period for stakeholders to review and assimilate the contents of the Plans and make a full response to them. | Multi staged public and stakeholder engagement and communication undertaken for CFRAM Studies. Final FRMP section 8.1.4 provides information on future project level public and stakeholder engagement and communications. Comment noted for OPW synthesis report. |
| Public Participation | SWAN requested a longer consultation period, which if the FRMPs had been aligned with the consultation on the second cycle WFD RBMPs (let it be noted that Article 7 (3) of the FD requires the coordination of the FD with the WFD when it comes to the 'active involvement of all interested parties'), then both consultations should have occurred concurrently for a period of at least six months. It is regrettable that the request for a longer consultation period was denied due to political pressure to have the plans completed by the end of 2016. | Multi staged public and stakeholder engagement and communication undertaken for CFRAM Studies. Final FRMP section 8.1.4 provides information on future project level public and stakeholder engagement and communications. Comment noted for OPW synthesis report. |
| Conclusion | We make our submission with the explicitly reproach that flawed processes such as these not only disenfranchise the very communities they're meant to serve, but are emblematic of problem-solving strategies fatally distanced from exactly those environmental management approaches that will be most needed as manmade climate change threatens to push weather patterns in unpredictable directions beyond the palliative brink of mechanical ingenuity. | Comment noted. |

| | | |
|------------|---|---|
| Conclusion | SWAN would urge the OPW in conjunction with the DHPCLG to develop and begin delivering a programme of public participation for the FRMP's development and implementation, in co-ordination with WFD implementation, as a matter of urgency. | Final FRMP section 8.1.4. and section 6.5.4 WFD co-ordination amended to reflect this. Comment also noted for OPW synthesis report. |
|------------|---|---|

Other Submissions

| Subject | Comment | Response |
|---------------------------------|---|--|
| Natural Heritage Wexford AFA | The proposals will have implications for Wexford Harbour and Slobbs SPA and Slaney River Valley SAC. In absence of detail and associated AA the effects cannot be determined. Changes in hydrology of the associated wetlands have potential for significant effects and should be modelled and assessed appropriately before any determination is made. Similarly works to improve channel may have impacts which cannot be adequately be determined at this stage. | Recommendation passed to OPW for inclusion within Consultation Synthesis Report and Project Handover Notes. Section 8 of the final FRMP provides more detail on the next stages of plan implementation, including further detailed study, assessment, design and consultations to be undertaken as the next stages of any proposed scheme in the FRMP. |
| | With regard to the works at Ferrycarrig, the OPWs attention is drawn to the presence of Wet Alder Ash Woodland habitat which potentially corresponds with the Annex 1 priority habitat *Alluvial Forest with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (91EO). This habitat requires periodic flooding in order to maintain its status and this issue needs to be considered in the design of measures in this area. In respect of both of the above issues, the Council recommend that the NPWS is consulted. | Comment and recommendation passed to OPW for inclusion within Consultation Synthesis Report and Project Handover Notes. Consultation with NPWS and other key bodies included within recommended mitigation proposed in SEA and NIS. High level mitigation included within Section 6 of the Final FRMP. |
| | The Council is concerned that the lack of proposals for protection at the North and South Slobbs may result in significant effects on Natura 2000 sites due to coastal flooding of freshwater habitats. The Council request that the OPW ensure that this issue is adequately addressed in the AA and SEA of the Plan. The Council recommend that the NPWS is consulted. | Comment and recommendation passed to OPW for inclusion within Consultation Synthesis Report and Project Handover Notes. Environmental assessment of FRMPs can only assess proposals provided. |



The Office of Public Works
Head Office
Jonathan Swift Street
Trim
Co. Meath
C15 NX36

Telephone: (0761) 106000, (046) 942 6000
E-mail: floodinfo@opw.ie
Website: www.floodinfo.ie