



**JBA**  
consulting

Volume V  
National Arterial Drainage  
Maintenance List of Activities  
2018-2021

Addendum to SEA Environmental  
Report

November 18

Office of Public Works  
Headford  
Co. Galway



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## Revision History

Revision Ref / Date Issued	Amendments	Issued to
V1.0 / November 2018		Nathy Gilligan, OPW

## Contract

This report describes work commissioned by The Office of Public Works, by a letter dated (27/01/2016). The Office of Public Works' representative for the contract was Nathy Gilligan. Tom Sampson, Declan Egan and Catalina Herrera of JBA Consulting carried out this work.

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## Purpose

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# 1 Introduction

This is an Addendum to the Strategic Environmental Assessment (SEA) Draft Environmental Report Statement, for the National Arterial Drainage Maintenance List of Activities 2018-2021, hereinafter referred to as, the Plan. The addendum is to incorporate a review of recent and updated national and regional plans and programmes which have been completed or commenced since the completion of the draft Environmental Report was issued in February 2017. This addendum should be read in reference to Volume II- National Arterial Drainage Maintenance Activities 2016-2021 SEA Environmental Report. The addendum does not address any other comments in the consultation submissions.

The draft activities and SEA Environmental Report refer to a timescale of 2016-2021, which has been revised to align with the timescale of the 2018-2021 River Basin Management Plan for Ireland.

## 1.1 Structure of the Plan

The structure of the Plan is set out below:

- National Arterial Drainage Maintenance Activities 2018-2021 List of Activities
- Volume I - National Arterial Drainage Maintenance Activities 2018-2021 SEA Non-Technical Summary
- Volume II - National Arterial Drainage Maintenance Activities 2018-2021 SEA Environmental Report
- Volume III - National Arterial Drainage Maintenance Activities 2018-2021 SEA Natura Impact Statement
- Volume IV - National Arterial Drainage Maintenance List of Activities 2018-2021- Appendices
- **Volume V – Addendum to SEA Environmental Report**
- Volume VI - National Arterial Drainage Maintenance List of Activities 2018-2021- SEA Statement

## 2 Interaction with other Plans, Programmes and Policies

The interaction between the National Arterial Drainage Maintenance Activities 2018-2021 List of Activities and the following plans have been considered.

### National Policy / Plans

- Project Ireland 2040
- National Biodiversity Action Plan 2017-2021
- River Basin Management Plan for Ireland (now published)
- Irish Water Strategic Water Services Strategic Plan,
- Irish Water National Water Resources Plan (in preparation)
- Forestry and Freshwater Pearl Mussel Plan (in preparation)

### Regional / Sub Regional

- The Regional Spatial and Economic Strategies in preparation.

### 2.1 Project Ireland 2040

Project Ireland 2040 is the National Planning Framework for Ireland over the long term to 2040, with the final plan published in February 2018. The framework sets out the vision for future growth and development of Ireland to protect and enhance the environment with an extra one million people living in the country.

The strategic outcomes of the framework are presented in Figure 2-1. Arterial Drainage Maintenance Activity contributes to *strengthened rural economies and communities* and can influence the delivery of *sustainable management of water, waste and other environmental resources*. Without the plan many aspects of the environment are likely to degrade. The management of Arterial Drainage Schemes, in the long term, should respond to the objectives and policies that come from the National Planning Framework. In the short term, continual improvement in the approach to drainage maintenance activities will contribute to achieving elements of the vision.



Figure 2-1: National Strategic Outcomes (from Project Ireland 2040)

## 2.2 National Biodiversity Action Plan 2017-2021

The 3rd National Biodiversity Action Plan for the years 2017-2021 is an evolution of the 2nd Biodiversity Plan (Actions for Biodiversity 2011-2016). A review of the 2nd Plan was published in January 2015 and consultation on the draft 3rd plan was held from December 2016 to February 2017.

The vision of the 3rd Plan is *“That biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally.”*

Drainage, as a modification to natural systems, is considered a main threat and pressure to EU protected habitats and species in Ireland. Threats and pressures from agriculture can also be linked to the enhanced land drainage following implementation and maintenance of drainage schemes.

There are seven objectives to the Plan, with objective 4 containing specific references to drainage schemes.

- Objective 1 Mainstream biodiversity into decision-making across all sectors
- Objective 2 Strengthen the knowledge base for conservation, management, and sustainable use of biodiversity
- Objective 3 Increase awareness and appreciation of biodiversity and ecosystem services
- Objective 4 Conserve and restore biodiversity and ecosystem services in the wider countryside
- Objective 5 Conserve and restore biodiversity and ecosystem services in the marine environment
- Objective 6 Expand and improve management of protected areas and species
- Objective 7 Strengthen international governance for biodiversity and ecosystem services

Target 4.3 under Objective 4 has specific actions for the OPW relating to drainage schemes and is presented in Figure 2-2. Continual improvement in the approach to drainage maintenance and

assessment of impacts will contribute to delivery of the intended outcomes of these actions. The SEA process is part of this assessment.

**TARGET 4.3:**  
OPTIMISED BENEFITS FOR BIODIVERSITY IN FLOOD RISK MANAGEMENT PLANNING AND DRAINAGE SCHEMES

Action	Timeframe	Lead/key partners	Performance indicators
4.3.1. Ensure that Flood Risk Management (FRM) planning and associated SEA, EIA and AA, minimises loss of biodiversity and ecosystem services through policies to promote more catchment-wide and non-structural flood risk management measures	2017-2021	OPW	1. Assessment to identify and promote natural flood management techniques that may be suitable for application in Ireland 2. Inclusion of catchment-wide and non-structural measures within the options assessed by Flood Risk Management Plans
4.3.2. All significant drainage (arterial drainage), including both initial drainage and maintenance drainage will be assessed for its implications for biodiversity, particularly for wetlands	2017-2021	OPW, IFI	1. Inclusion of biodiversity considerations in drainage programs 2. Number of assessments on drainage works

Figure 2-2: Target 4.3 of the National Biodiversity Action Plan 2017-2021

Environmentally sustainable approaches to drainage maintenance activity has the potential to contribute to many of the plan objectives. Examples include the management and control of invasive alien species (target 4.4), awareness, understanding and shared responsibilities for biodiversity (all targets under objectives 1, 2 and 3), conservation and restoration of biodiversity with other land uses (target 4.1), and management of protected areas and species (targets under objective 6). Conversely, if drainage maintenance activity is not planned or implemented carefully, or if procedures are not followed, there is potential for significant environmental damage.

## 2.3 River Basin Management Plan for Ireland

The 2nd cycle River Basin Management Plan 2018-2021 has not been finalised and published, since the completion of the draft SEA Environmental Report. The proposed changes to River Basins (as documented in section 5.2.1 of the draft SEA Environmental Report) have been adopted.

The RBMP expects a number of outcomes including *"The OPW will continue to apply best practice when carrying out drainage maintenance works. Between 2018 and 2021, 8,000km of river channel will be maintained."* This SEA is one part of achieving this outcome and the mitigation and monitoring measures proposed in the revised activities will further work towards this outcome.

Other aspects of the RBMP that related to arterial drainage schemes include:

- Impact of barriers to fish migration on drainage schemes,
- Impacts of arterial drainage activities on water quality,
- Secondary impacts of drainage on agricultural land,
- Hydromorphological impact of channel modifications from arterial drainage and embankments,
- Drainage of peatlands and wetlands,
- Maintenance of Arterial Drainage Schemes under the Arterial Drainage Acts and procedures.

There are significant interactions between arterial drainage maintenance activities and the objectives of the RBMP. These have been considered and assessed in the draft SEA Environmental Report.

Some of the indicators presented in the EPA Water Quality in 2016: An Indicators Report<sup>1</sup> can set a framework for OPW reporting on the monitoring of the SEA.

<sup>1</sup> Tierney, D., and O'Boyle, S., (2018) Water Quality in 2016: An Indicators Report (<https://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%202016%20An%20Indicators%20Report.pdf>)



## 2.4 Irish Water Strategic Water Services Strategic Plan

This is a plan for the future of water services in Ireland. The scope of responsibility for Irish Water is water supply and wastewater treatment. There is no reference to Arterial Drainage in the strategy. Where treatment plants discharge to, or abstractions take water from arterial drainage scheme channels, there is the potential for overlap in activities. This is already addressed in the SEA Environmental Report.

## 2.5 Irish Water National Water Resources Plan (in preparation)

The National Water Resources plan has been out for public consultation and is in the process of being finalised. It is possible that in some locations, water resource plans may require changes to existing arterial drainage schemes. There are no proposals to alter schemes at present and so no impact or interaction with arterial drainage maintenance activity is anticipated.

## 2.6 Plan for Forests and Freshwater Pearl Mussel (in preparation)

The Department for Agriculture, Food and the Marine is currently preparing a Plan for Forests and Freshwater Pearl Mussel. The public consultation on the plan, draft SEA Environmental Report and draft Natura Impact Statement has closed on 3rd October 2018.

Arterial drainage is recognised in the plan as a threat from forests and forest activities to Freshwater Pearl Mussel. Both the OPW and Forestry organisations have a role to play, however this plan is focused on the actions to be taken in forestry management.

The plan has a model for woodlands and forests within Freshwater Pearl Mussel catchments, which could be of use in refining OPW drainage maintenance guidance and procedures. The creation of a Water Setback zone should be considered by the OPW in Freshwater Pearl Mussel catchments. Figure 2-3 shows the different zones.

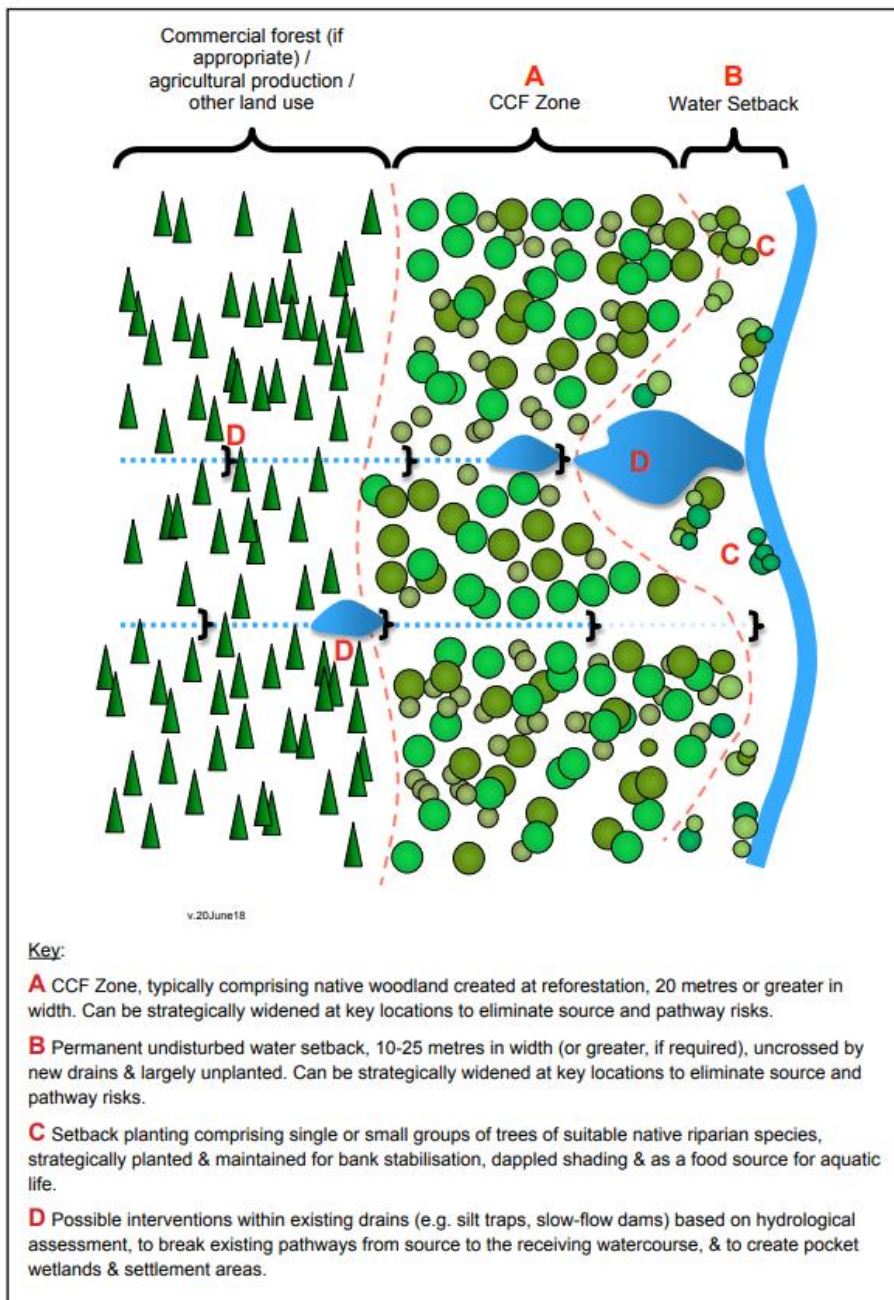


Figure 2-3: Forestry zones in the model for woodlands and forests in Freshwater Pearl Mussel catchments (from draft plan DAFM)

### 5.3.5 Natural vegetation within the water setback

The treatment of the water setback is set out in the *Woodland for Water* document. Natural vegetation will be allowed to develop undisturbed within the water setback, complimented by setback planting with single or small groups of trees of suitable native riparian species. Over time, a mosaic of mixed natural habitats will emerge, typically comprising pockets of low-lying woodland, single trees, pocket wetland and other natural habitats and plant communities. This requires ongoing monitoring and possible interventions, in agreement with the relevant statutory bodies, to control unwanted invasives (e.g. regenerating conifers, rhododendron), to prevent excessive tunnelling of the watercourse by native trees, and to enable access for anglers (where relevant).

### 5.3.6 Tree cover within the water setback

Tree cover within the water setback can include:

- Existing native broadleaf trees onsite. In the case of reforestation, these may be retained from the previous rotation, but may require pollarding to prevent windblow (which may otherwise give rise to sediment release from upturned root plates close to the watercourse, or direct disruption of the watercourse by the falling tree). In the case of afforestation, these may be trees already present onsite, which should already be windfirm. In both cases, these trees act as important seed sources.
- As set out in the *Woodland for Water* document, setback planting may be undertaken, whereby individual or groups of trees of appropriate native riparian species (e.g. alder, willow, birch, rowan, pedunculate oak) are strategically planted within the water setback to form 10-20% tree cover, in order to deliver direct instream benefits (e.g. bank stabilisation, cooling / shading, food input into the aquatic ecosystem).

Figure 2-4: Details of the Water Setback Zone

## 2.7 Regional Spatial and Economic Strategies (in preparation)

There are three regional assemblies, each preparing a regional spatial and economic strategy:

- **Northern and Western Regional Assembly:** county councils of Cavan, Donegal, Leitrim, Galway, Mayo, Monaghan, Roscommon and Sligo and the city council of Galway.
- **Southern Regional Assembly:** county councils of Carlow, Clare, Cork, Kerry, Kilkenny, Tipperary and Wexford, the city council of Cork, and the city and county councils of Limerick and Waterford.
- **Eastern and Midland Regional Assembly:** county councils of Dun Laoghaire-Rathdown, Fingal, Kildare, Laois, Longford, Louth, Meath, Offaly, South Dublin, Westmeath and Wicklow and the city council of Dublin.

Draft regional spatial and economic strategies are due to be published in the coming months. . The key issues papers for each regional assembly include rural issues and sustainable rural communities. Land drainage is not explicitly mentioned, however flood risk and climate change are discussed. The Arterial Drainage Maintenance activities are not likely to alter or be influenced by the regional strategies.

## 2.8 Conclusions

None of the additional or updated plans or programmes require a change to the assessment of impacts in the draft SEA Environmental Report. They do however, present some examples of best practise which could be applied to updated environmental drainage maintenance guidance and procedures. The information provided in the EPA's publication - *Water Quality 2016: An Indicators Report* (June 2018) will provide the OPW with some baseline data for nutrient levels and trophic status of waterbodies within catchments. Similarly, the EPA's WFDApp provides a useful resource to assist in the ongoing monitoring of water quality.



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