## **EP 25 Birds**

## Scope

This procedure relates to drainage maintenance and construction works.

## Purpose

To ensure the protection of birds and to comply with relevant legislation.

## Responsibilities

The responsibility lies with the regional staff.

## **Related Documentation**

Wildlife Act 1976.

**OPW Series EcIA No.6 Riparian Birds** 

## Procedure

- 1. Programme removal of any dense layer of vegetation or trees between September and February (inclusive) to minimise impacts on nesting birds.
- 2. For SPAs containing important over-wintering bird populations, time all works to minimise potential disturbance, typically October to March inclusive.
- 3. Sightline to over wintering bird populations should be minimised if possible, ie. If constructing a new embankment, leave the existing embankment in place as long as possible.
- 4. If removing trees within the bird-nesting season 1st March 31st August, engage an ecologist to survey for nesting birds.
- 5. Install nesting boxes as habitat creation where possible.

# **Bird Nesting Window**



#### **EP 26 Bats**

#### Scope

This procedure relates to all drainage and construction works where masonry structures with niches and crevices suitable for bat roosts or large mature ivy covered trees are encountered.

#### Purpose

To ensure the protection of bats and to comply with relevant legislation. It is an offence to disturb, injure or kill bats or destroy their roosts.

#### **Responsibilities**

The responsibility lies with the regional staff.

#### **Related Documentation**

OPW Drainage Maintenance. Guidance notes: Protection and Enhancement for Bats.

#### Procedure

- 1. Ensure specialist bat surveys carried out where required. Bats found in mature woodland, and structures. Riparian zones can be important foraging habitat. Licence will be required to interfere with known bat roost.
- 2. Avoid removal of large mature Ivy covered trees, they have greater potential for bat roosts. Smaller trees will have less potential as roosts.
- 3. Limb large trees carefully preventing the limb from free-falling and leave in fallen position for 24hrs to allow bats to vacate
- 4. Fill out Bridge Inspection Form EP4 for any works on bridges.
- 5. Install artificial bat boxes where appropriate.

#### When should I seek a bat Specialist?

#### No

- a. Low profile bridges or structures that flood out or works below high water level on larger bridges.
- b. Trees / Hedgerows removal of smaller bushes and immature trees should have no impact. Try to retain the overall line of trees / hedgerow, which acts as commuting paths for Bats.

## Yes

- a. Significant works above high water level on larger structures, where the structure has any crevices.
- b. Large scale removal of mature trees, which contain crevices, heavy ivy growth.

Bats are protected all year around, hibernating during the winter months and their breeding season is spring - early summer. During the winter when tree felling is occurring, be mindful that bats could hibernate in large trees.

## **Placement of Bat Boxes**

- Place on any bridge / culvert / other structure, which has suitable height.
- Place the bat box at least 0.75m (2' 6") above summer high water level.
- Place bat boxes on any part of a bridge i.e. soffit, parapet walls, wing walls e.t.c.
- Place bat boxes in new large culverts prior to placement, to reduce any safety risks of working in the channel.
- Place bat boxes vertically in wall and parapets or flat underneath bridge soffits.
- Place in a south facing position if possible, as the bat box will gain more heat.
- Locate the bat box to be out of easy reach of people, to minimise potential vandalism.
- Bat Boxes are maintenance free and can be attached by galvanised straps attached to the structure or built into the concrete or masonry elements.

## **Record Location of Bat Boxes**

- Record the location of the bat box and forward to Environment Section.
- Environment Section will update the ecological enhancement GIS layer.

## Supply of Bat Boxes

- All depots should have a minimum of one or two bat boxes in their stores.
- Notify Environment Section if no bat boxes are left.



**Pic. 26.1** This type of bridge would be likely bat habitat.



**Pic. 26.2** This is typical bat habitat; this culvert contained bats, they were vacated under Licence and the culvert removed for construction purposes.

**Pic. 26.3** Typical bat habitat, attention should be paid when felling mature trees, especially if they are ivy covered.

Pic. 26.4 and Pic. 26.5 artificial bat boxes.







## **EP 27 Rare Plants**

#### Scope

This procedure relates to any location where works encounter rare plants.

#### Purpose

To ensure the protection of rare plants and to comply with relevant legislation.

#### **Responsibilities**

The responsibility lies with the regional staff.

#### **Related Documentation**

Key environmental data GIS Layer, Red List Vascular Plants NPWS, Table 26.1

#### Procedure

## For Rare Plants from the Red List

- 1. Known locations of Opposite Pondweed, Triangular Clubrush and other rare plants require an ecological survey, to permit works to proceed.
- 2. Apply for a Section 21 Licence under the Wildlife Act from NPWS, if you need to interfere with a rare plant.
- 3. Implement a 10m buffer around any stands of protected plant wherever feasible.



**Pic. 27.1** Opposite Leaved Pondweed, Red Listed and Wildlife Act licence required.



**Pic. 27.2** Triangular Clubrush, Red Listed and Wildlife Act licence required.

Animal and Plant

Species	Common name	Туре	Red List	Identification	Restrictions
Schoenoplectus triqueter	Triangular Club Rush	Bankside	Y	Three cornered stem, flower near top	Hard to identify until August
Groelandia densa	Opposite Leaved Pondweed	Submerged	Y	Leaves oppositely paired along stem	Avoid removal, comply with EP7 & EP9
Ephemerum spp.	Mud dwelling mosses	Submerged	Ν	Slimy moss like	Avoid removal, comply with EP7 & EP9
Berula erecta	Water Parsnip	Floating	Ν	white ball flowers, carrot smell	Avoid removal, comply with EP7 & EP9
Eleocharis acicularis	Needle Spike Rush	Bankside	Y	Spicky stem with a hairy seed	Embankments relocate
Butomus umbellatus	Flowering rush	Bankside	Ν	Bright lilac flowers	Embankments relocate
Hordeum secalinum	Meadow Barley	Bankside	Y	Hay like, with hairy seed	Embankments relocate

Table 27.1

#### **EP 28 Fresh Water Pearl Mussel**

#### Scope

This procedure relates to all works not just restricted to in-channel works. Removal of heavy vegetation on riverbanks can lead to bank erosion and silt entering the watercourse.

## Purpose

To ensure the protection of Freshwater Pearl Mussels (FPM) and to comply with relevant legislation.

#### Responsibilities

The responsibility lies with the regional staff.

#### **Related Documentation**

FPM GIS layer, OPW Series EcIA No.7 Fresh Water Peal Mussel.

#### Procedure

- 1. Check Environmental information from mapping. Tick "Shown on Map Checklist" if present on weekly records card as per EP6. Ensure ecological assessments are in place when working adjacent or upstream of these sites.
- 2. Tree maintenance where no instream works required, can still have an impact, carry out an AA screening or EcIA where required.
- 3. Cease works, if operational staff locate a new population during operations.
- 4. Comply with site specific mitigation measures from relevant assessments.

Limit cattle access where possible, fence channels and close drinking slips when the opportunity arises. This will reduce pollution and diminish erosion of riverbanks.



**Pic. 28.1, 28.2, 28.3** Freshwater Pearl Mussel, up to 140mm in size, yellowish-brown in colour when young and becoming darker with age.





## **EP 29 Swan and Duck Mussel**

#### Scope

This procedure relates to any location where works encounter swan or duck mussles.

#### Purpose

To ensure the protection of swan and duck mussels who are not strictly a protected species; however, they are of conservation interest.

#### Responsibilities

The responsibility lies with the regional staff.

#### **Related Documentation**

Key environmental data GIS layer

#### Procedure

- 1. Check Environmental information from mapping. Tick "Shown on Map Checklist" if present on weekly records card as Other per EP6.
- 2. Note on Observed on Site on weekly records card as Other, if newly found.
- 3. Both species are similar in appearance and habitat requirements and distinguishing between them is not necessary.
- 4. Identify extent of channel applicable from observing spoil and GIS records.
- 5. Impact reducing measures:
  - Operational Staff to observe spoil and return any Mussels to the channel.
  - Use the weed-cutting bucket when aquatic vegetation removal is the objective.
  - Skip sections to retain intact habitat where possible.
  - Confine maintenance to 1/2 of channel width leaving marginal vegetation and silt intact.



**Pic. 29.1** Swan mussel, typically 100mm up to 200mm, pale greenish or brownish in colour.

**Pic. 29.2** Duck Mussel, typically 75mm up to 120mm in size, brown/yellow in colour.

# Section 5 – Habitat Procedures Relevant to all staff

## **EP 30 Alluvial (Wet Woodland)**

#### Scope

This procedure relates to all riverside woodland that has been identified by an ecologist or by NPWS.

## Purpose

To ensure the protection of recorded wet woodland and to comply with relevant legislation.

## Responsibilities

The responsibility lies with the regional staff.

## **Related Documentation**

**OPW Series EcIA No.1 Screening** 

## Procedure

- 1. Consult with Environment Section if, the site is within a SAC with low riverbanks (alluvial woodland is categorised as being flooded on a regular basis) and overgrown with mature trees and scrub Works cannot proceed until an ERA (EP 2) is sent to the Environment Section and the necessity for a site specific AA is assessed. ERA (EP2) should flag the requirement for a site specific AA.
- 2. Liaise with the Environment Section. A site specific AA and additional surveys will typically be required.
- 3. Comply with any site specific mitigation measures stemming from relevant assessments.
- 4. If adjacent to freshwater pearl mussels, do not track heavy machinery. If maintenance is required, use chainsaws and handwork where possible.

Woody material left in channels can have good ecological benefit, helping water chemistry and improving the amount of biodiversity in the river. This could be good source of food for fish and other animals by improving the amount and type of insects.



**Pic. 30.1** Wet woodland typically where the floodplain is overgrown and contains braided channels. This type of woodland contains in the main the following species:

Hazel (Corylus avellana), Ash (Fraxinus excelsior), Rusty Willow (Salix cinerea), Alder (Alnus glutinosa), Sessile Oak (Quercus petraea), Holly (Ilex aquifolium), Guelder-rose (Vibernum opulus), Hawthorn (Crataegus monogyna)

## **EP 31 Wetland**

## Scope

This procedure relates to all drainage works downstream of protected wetlands.

## Purpose

To ensure the protection of wetlands and to comply with relevant legislation. Drainage can reduce water levels and impact wetlands.

## Responsibilities

The responsibility lies with the regional staff.

## **Related Documentation**

Wetlands spreadsheet on Alfresco, OPW Series EcIA No.8 Turloughs

## Procedure

- 1. Check if channels scheduled for maintenance are on the Wetlands Spreadsheet. If the channel programmed for maintenance are on the Wetlands Spreadsheet, check if they are assessed as part of the 5 year AAs.
- 2. Refer to Wetlands Spreadsheet, confirm where the nearest hydraulic control to the protected wetland is located.
- 3. Skip the channel from this maintenance cycle, if there is no flood risk or request for maintenance.
- 4. If maintenance is required, minimise new diggings and maximise the use of the weed-cutting bucket.
- 5. Consider bridge floor levels, existing water level in the wetland could be controlled by these structures. Continued maintenance may not achieve improvements in drainage outfall.

Protect existing habitats wherever possible. Wetland areas for example can store and filter water, capture carbon, provide food and fuel, and support a wealth of uniquely adapted wildlife.

Scheme	Channel Reference	Sac Name	Site Code	Habitat Type	Control Point/Level m Poolbeg
Boyne	C1/32	Rivers Boyne & Blackwater	2299	Fen	B1723/85.954
Inny	C1	Moneybeg & Clareisland Bog	2340	Raised Bog	103.00 (weir?)
Boyne	C1/37/2/2 SAC	Mount Hevey Bog	2342	Raised Bog	73.762

**Table 31.1** Example of the information available from the wetlands spreadsheet, the control point and elevation identified. Any new excavation upstream of this control below the stated elevation will yield no additional drainage outfall.



**Pic. 31.1** Weed cutting boat in operation.

**Pic. 31.2** Weed cutting bucket in operation.

**Pic. 31.3** Weed cutting bucket close up.





## EP 32 Mudflat

#### Scope

This procedure relates to any works that impact protected mudflats.

#### Purpose

To ensure works do not adversely affect protected mudflats and to comply with relevant legislation.

## Responsibilities

The responsibility lies with the regional staff.

## **Related Documentation**

EcIA No 1 Screening

## Procedure

- 1. Ensure AA is in place, when works may effect protected mudflat.
- 2. Apply for foreshore licence where required.
- 3. Consider tidal cycle and programme works effectively.
- 4. Use pre-cast concrete where possible.
- 5. Comply with EP17 Water Pollution Procedure.
- 6. Prevent soiled waters from excavations outfalling to protected habitat; comply with EP 15 Construction Silt Management.
- 7. Carefully plan excavations within the intertidal zone to limit erosion and tidal inundation of works area.
- 8. Use bog mats if machinery accessing protected mudflats.
- 9. When replacing sluice leave decommissioned sluice in place and place new sluice in parallel. Consider if new outfall could release a stagnant or polluted water.
- 10. Retain excavated mudflat material within intertidal zone. Backfill old mudflat sluice outfall channels with material from new sluice outfall channels.
- 11. Refer to ecological surveys where available and avoid designated species or habitats.
- 12. Do not programme works for the winter if area important for over-wintering birds.



Pic. 32.1 Typical estuarine habitat

## **EP 33 Floating River Vegetation Habitat**

## Scope

This procedure relates to any location where works encounter floating river vegetation habitat.

## Purpose

To ensure the protection of floating river vegetation habitat and to comply with relevant legislation.

#### Responsibilities

The responsibility lies with the regional staff.

#### **Related Documentation**

Key Environmental GIS Layer, OPW Series EcIA No.5 Floating River Vegetation.

#### Procedure

- 1. Check Environmental information from mapping. Tick "Shown on Map Checklist" if present on weekly records card as per EP6.
- 2. Target the areas of greatest maintenance need and retain some sections untouched. Strictly comply with EP7 Section 4.5 "Retain 1/3 to 1/2 of instream floating type vegetation".
- 3. Prioritise the use of weed cutting bucket or boat and leave marginal habitat in place.
- 4. If within an SAC and identified by an ecologist or on key environmental data layer, then do not touch FRV, contact Environment Section.
- 5. Some floating plants commonly referred, as "cress or celery" does not require protection. It requires regular maintenance as thick mats can block structures after frost. Use a weed-cutting bucket or skim all the cress from surface waters using the machine bucket.



**Pic. 33.1** Rannunculus, this is not rare however it is used to identify protected FRV habitat.



**Pic. 33.2** Starwort, is used to identify protected FRV habitat.

Habitat

Species	Common name	Туре	Red List	Identification	Restrictions
Rannunclus	Water Crowfoot	Floating	Ν	Daisy flowers, rooted to channel bed	Avoid removal, comply with EP7 & EP9
Callitriche	Starwort	Floating	Y	Star shaped, rooted to channel bed	Avoid removal, comply with EP7 & EP9

Table 33.1



**Pic. 33.3** Water Celery, this grows in thick mats and if you lift a clump you can see the white fibrous undergrowth.

**Pic. 33.4** Water Celery, note the long fibrous plant and the head has 5 or 6 leaves together.

Floating leaved pondweed - can be largely retained in channel maintenance, as leaves on surface and stalks underneath have limited growth structure and do not slow down flow.

## Glossary

**AA** Appropriate Assessment, Environmental Reporting to allow works proceed within an SAC/SPA.

Alluvial Place that is regularly flooded.

Arterial Drainage Acts Planning mechanism used by OPW to deliver drainage/flooding works and the associated maintenance.

Alien Invasive Species Non native to an ecosystem that causes environmental or economic harm.

Biosecurity Defence against spread of unwanted living animals, microorganisms or plants.

Biodiversity Refers to the variety and variability of life on Earth.

**CEMP** Construction Environmental Management Plan.

**Derogation Licence** Agreement to allow works proceed under certain conditions when in conflict with certain laws or regulations.

**EcIA** Ecological Impact Assessment, environmental reporting to inform works that do not impact a designated area or specified qualifying interest.

Ecological Living elements.

Ecological Survey Map of living elements within an area.

EDM Environmental Drainage Maintenance

**EE** Environmental Engineer

EIAR Environmental Impact Assessment Report

ERA Environmental Risk Assessment

**EREP** Environmental River Enhancement Programme

Fen Wetland generated from groundwater.

Floating River Vegetation Plants used to define a specific aquatic protected habitat.

**Guidelines on Fisheries** Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters. IFI

Habitat Place where animals or plants live.

**IFI** Inland Fisheries Ireland

Mitigation Damage limiting measures.

Monitoring Observe and check the progress or quality over a period of time.

**NIS** Natura Impact Statement, report that refers to mitigation that prevents damage to SAC/SPAs and is required to allow works to proceed.

**OPW** Office of Public Works

**Part 10 Planning** Local Authority led planning mechanism that requires agreement from An Bord Pleanala.

Pathogens Infection causing organisms.

**Pollarding** a pruning system involving the removal of the upper branches of a tree, promotes a dense head of foliage and branches.

Qualifying Interest Habitat or species that a SAC or SPA are protected because of.

**RE** Resident Engineer

SAC Special Area of Conservation, environmental protection area.

SPA Special Protection Area, environmental protection area for birds.

Species Animal or plant.

Wetland Land that is saturated with water either permanently or seasonally.

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