# Castlecomer Local Area Plan

## Screening of Castlecomer Local Area Plan for Appropriate Assessment

Kilkenny County Council

July 2008

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# 1. Introduction

1.1.1 Biodiversity or 'biological diversity' describes the enormous variability in species, habitats that exist on Earth. A recent study by the Department of Environment, Heritage and Local Government placed the economic value of biodiversity to Ireland at €2.6 billion annually (Bullock et al., 2008) for 'ecosystem services inlcuding food, building materials, fuel and clothing while maintaining clean air, water, soil fertility and the pollination of crops.

1.1.2 Current global decline in levels of biodiversity is a major challenge and in 1992, this challenge was recognised by the international community through the ratification of the Convention on Biological Diversity. Now reflected in policy and targets at European level, the central objective of the convention is to slow down the loss in biodiversity.

## 1.2 The Habitats Directive

1.2.1 The 1992 Habitats Directive, one of the main policy instruments for meeting this objective, requires member states to designate areas of their territory containing a representative sample of important habitats and species. These areas are known as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

1.2.2 Unlike traditional nature reserves or national parks, SACs are not 'fenced-off' from human activity and are frequently in private ownership. It is the responsibility of the competent national authority to ensure that 'good conservation status' exists for their SACs and specifically that Article 6(3) and (4) of the Directive is met. Article 6(3) and (4) require that an Appropriate Assessment be carried out for these sites where projects, plans or proposals are likely to have an effect. In some cases this is obvious from the start, for instance where a road is to pass through a designated site. However, where this is not the case, a preliminary screening must first be carried out to determine whether or not the full Appropriate Assessment is required.

## 1.3 Screening Methodology

1.3.1 The methodology for this screening statement is clearly set out in a document prepared for the Environment DG of the European Commission entitled 'Assessment of plans and projects significantly affecting Natura 2000 sites Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (Oxford Brookes University, 2001). Chapter 3, part 1, of this document deals specifically with screening while Annex 2 provides the template for the screening matrix to be used.

1.3.2 In accordance with this guidance, the following methodology has been used to produce this screening statement:

### *Step 1: Management of the Site*

1.3.3 This determines whether the plan is necessary for the conservation management of the site in question.

### *Step 2: Description of the Plan*

1.3.4 This step describes the aspects of the plan that may have an impact on the Natura 2000 site. GIS is particularly useful in this regard and it is proposed that this technique be employed for mapping the aspects of the plans with regard to the designated site. OPENFIELD uses ArcView 9.2 for this purpose.

### *Step 3: Characteristics of the Site*

1.3.5 This process identifies the conservation aspects of the site and determines whether negative impacts can be expected as a result of the plan. This is done through a literature survey and consultation with relevant stakeholders – particularly the National Parks and Wildlife Service and the Southern Regional Fisheries Board. All potential impacts are identified including those that are direct, indirect and cumulative.

1.3.6 Using the precautionary principle, and through consultation and a review of published data, it is normally possible to conclude at this point whether potential impacts are likely. It is therefore not proposed to carry out any field work at this stage.

### *Step 4: Assessment of Significance*

1.3.7 Assessing whether an impact is significant or not is dependant on the ecological receptors in question in combination with the scale of the predicted impact. Guidance in this regard is available through the National Road Authority's 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' (NRA, 2006) and is best done in consultation with key stakeholders.

1.3.8 The steps are compiled into a screening matrix, a template of which is provided in Appendix II of the EU methodology. To better demonstrate the potential impacts of the plan on the sites, figure 1 uses digital mapping technology (ArcView 9.2 GIS software) to overlay the zoning designations with conservation aspects.

1.3.9 Since no field work was carried out to inform this screening study, the analysis is based on a combination of literature review and consultation.

### *Literature Review:*

1.3.10 A full list of literature sources that have been consulted for this study is given in the References section to this report.

## 1.4 Consultation

1.4.1 The following bodies/agencies were contacted as part of the consultation process:

- National Parks and Wildlife Service (NPWS) (letter dated 14th May 2008)
- Southern Regional Fisheries Board (letter dated 14th May 2008)
- Environmental Protection Agency Regional Inspectorate, Kilkenny (letter dated 13th May 2008).

1.4.2 Discussions with the Mr Jimi Conroy, Wildlife Ranger with NPWS, highlighted the potential threat to river water quality from surface run-off from additional paved surfaces. Mr Conroy's site visit to the area of SAC within the town, confirmed that islands within the river are pasture grassland and do not represent important wetland habitats. The response verified that the content of this screening document was comprehensive and recommended that the full appropriate assessment be carried out for the LAP particularly as zoning designations within the SAC could leave open the possibility of unsuitable development.

1.4.3 The EPA did not have additional information and no response was received from the SRFB (as of July 1st).

# 2. Screening Template as per Appendix II of EU methodology

2.1.1 This plan is not necessary for the management of the site and so Step 1 as outlined above is not relevant.

## 2.2 Brief description of the plan

2.2.1 The Castlecomer Local Area Plan (LAP) will provide for the proper planning and sustainable development of the town of Castlecomer, Co. Kilkenny. The area covered by the plan is approximately 313 ha with approximately 240 ha of this is to be zoned – the remainder of which is agricultural land. The Dinin, a tributary of the Nore, flows through the town.

## 2.3 Brief description of the SAC

2.3.1 This very large SAC encompasses the main channels of the rivers Barrow and Nore and a number of their tributaries. Aside from the rivers and their associated aquatic species, a number of important habitats are to be found along the riparian margins and as islands within the rivers. Of particular note is the presence in this site of the only population of the Nore freshwater pearl mussel in the world. It is one of Ireland's most endangered species, as although it lives to ages of up to 120 years, it has stopped breeding due to a decline in water quality.

2.3.2 There is little site-specific information available for the SAC except what is available from the NPWS as a 'site synopsis' (from 2003). Specific conservation aspects are listed in this report and are detailed in Table 1 below. Since only a small part of the River Barrow and River Nore SAC is within the boundary of the LAP, not all of the listed conservation aspects will be relevant. Through a literature review is has been possible to 'scope out' those aspects considered not applicable and where this has been possible it is indicated in Table 1. The potential for significant impacts on conservation aspects is also highlighted.

2.3.3 Table 1.1 outlines the potential impact of the LAP on Habitats Directive listed habitats (Alluvial wet woodland, petrifying springs with tufa formation, old oak woodlands, floating river vegetation, dry heath and eutrophic tall herbs) and species (Sea lamprey, Brook lamprey, River lamprey, Freshwater pearl mussel, Freshwater crayfish, Twaite shad, Atlantic salmon, Otter, Daubenton's bat, Irish hare, and Common frog); the Flora Protection Order plants Bird cherry and Thin-spiked wood sedge; Birds Directive listed species (Golden plover, Peregrine and Kingfisher) and Wildlife (Amendment) Act, 2000 listed species (Badger and Pigmy shrew).

**Table 1.1 – Conservation aspects of the River Barrow and River Nore SAC**

| Aspect | Level of Protection | Relevant[1] | Likelihood of potential impacts[2] | Aspect of LAP likely to cause impact |
|---|---|---|---|---|
| Alluvial wet woodland (code: 91E0) | Habitats Directive Annex I priority | Possible | Possible | habitat loss/disturbance due to 'open space' zoning |
| Petrifying springs with tufa formation (code: 7220) | | Possible | Possible | |

[1] Relevance is interpreted as meaning the likely presence of the habitat/species in the study area and is taken from relevant literature sources
[2] The likelihood of impact is based on the potential presence of habitats from aerial photography and presence of suitable habitats for different species

| Aspect | Level of Protection | Relevant[1] | Likelihood of potential impacts[2] | Aspect of LAP likely to cause impact |
|---|---|---|---|---|
| Atlantic salt meadows (code: 1330) | Habitats Directive Annex I | No | None | - |
| Mediterranean salt meadows (code: 1410) | | No | None | - |
| Old oak woodlands (code: 91A0) | | Possible | Possible | habitat loss/disturbance due to 'open space' zoning |
| Eutrophic tall herbs (code: 6430) | | Possible | Possible | |
| Floating river vegetation (code: 3260) | | Possible | Possible | water pollution from increased population |
| Estuary (code: 1130) | | No | None | - |
| Salicornia mudflats (code: 1310) | | No | None | - |
| Dry heath (code: 4030) | | Possible | Possible | habitat loss/disturbance due to 'open space' zoning |
| Tidal mudflats (code: 1140) | | No | None | |
| Sea Lamprey *Petromyzon marinus* | Habitats Directive Annex II | Yes | Possible | water pollution from increased population |
| Brook Lamprey *Lampetra planeri* | | Yes | Possible | |
| **Aspect** | **Level of Protection** | **Relevant[3]** | **Likelihood of potential impacts[4]** | **Aspect of LAP likely to cause impact** |
| Semi-aquatic snail *Vertigo moulinsiana* | Habitats Directive Annex II | No | None | - |
| River Lamprey *Lampetra fluviatilis* | Habitats Directive Annex II, V | Yes | Possible | water pollution from increased population |
| Freshwater Pearl Mussel *Margaritifera margaritifera* | | Yes - downstream | Possible | |
| Freshwater Crayfish *Austropotamobium pallipes* | | Yes | Possible | |
| Twaite Shad *Alosa fallax fallax* | | Yes | Possible | |
| Atlantic Salmon *Salmo salar* | | Yes | Possible | |
| Otter *Lutra lutra* | | Yes | Possible | habitat loss/disturbance due to 'open space' zoning |
| Killarney fern *Trichomanes speciosum* | Habitats Directive | No | None | - |

[3] Relevance is interpreted as meaning the likely presence of the habitat/species in the study area and is taken from relevant literature sources

[4] The likelihood of impact is based on the potential presence of habitats from aerial photography and presence of suitable habitats for different species

| Aspect | Level of Protection | Relevant[1] | Likelihood of potential impacts[2] | Aspect of LAP likely to cause impact |
|---|---|---|---|---|
| | Annex II, IV; Flora Protection Order, 1999 | | | |
| Daubenton's bat *Myotis daubentoni* | Habitats Directive Annex IV; Wildlife Act, 2000 | Yes | Possible | habitat loss/disturbance due to 'open space' zoning |
| Irish hare *Lepus timidus hibernicus* | Habitats Directive Annex V; Wildlife Act, 2000 | Yes | Possible | |
| Common frog *Rana temporaria* | | Yes | Possible | |
| Badger *Meles meles* | Wildlife Act, 2000 | Yes | Possible | |
| Pygmy shrew *Sorex minutus* | | Yes | Possible | |
| **Aspect** | **Level of Protection** | **Relevant[5]** | **Likelihood of potential impacts[6]** | **Aspect of LAP likely to cause impact** |
| Greenland white-fronted goose *Anser albifrons flavirostris* | Birds Directive Annex I; Wildlife Act 2000 | No | None | - |
| Golden plover *Pluvialis apricaria* | | Possible | Unlikely | - |
| Whooper swan *Cygnus cygnus* | | No | None | - |
| Kingfisher *Alcedo atthis* | | Possible | Possible | habitat loss/disturbance due to 'open space' zoning |
| Perigrine *Falco perigrinus* | | Possible | Possible | |
| Bewick's swan *Cygnus columbianus bewickii* | | No | None | - |
| Bar-tailed godwit *Limosa lapponica* | - | No | None | - |
| Smelt *Osmerus eperlanus* | - | Yes | Possible | water pollution from increased population |
| Meadow Barley *Hordeum secalinum* | Flora Protection Order, 1999 | No | None | - |
| Divided sedge *Carex divisa* | | No | None | - |
| Clustered clover *Trfolium glomeratum* | | No | None | - |
| Basil-thyme *Acinos arvensis* | | No | None | - |
| Narrow-leaved hemp nettle | | No | None | - |

[5] Relevance is interpreted as meaning the likely presence of the habitat/species in the study area and is taken from relevant literature sources

[6] The likelihood of impact is based on the potential presence of habitats from aerial photography and presence of suitable habitats for different species

| Aspect | Level of Protection | Relevant[1] | Likelihood of potential impacts[2] | Aspect of LAP likely to cause impact |
|---|---|---|---|---|
| *Galeopsis angustifolia* | | | | |
| Borrer's saltmarsh-grass *Puccinellia fasciculata* | | No | None | - |
| **Aspect** | **Level of Protection** | **Relevant[7]** | **Likelihood of potential impacts[8]** | **Aspect of LAP likely to cause impact** |
| Opposite-leaved pondweed *Groenlandia densa* | Flora Protection Order, 1999 | No | None | - |
| Autumn crocus *Colchicum autumnale* | | No | None | - |
| Wild sage *Salvia verbenaca* | | No | None | - |
| Nettle-leaved bellflower *Campanula trachelium* | | No | None | - |
| Blue fleabane *Erigeron acer* | | No | None | - |
| Greater broomrape *Orobanche rapum-genistae* | | No | None | - |
| Bird cherry *Prunus padus* | - | Yes | Possible | habitat loss/disturbance due to 'open space' zoning |
| Rare lichens | - | unknown | unknown | |
| Thin-spiked wood-sedge *Carex strigosa* | - | Yes | Possible | |
| Fly orchid *Orphys insectifera* | - | No | None | - |
| Field garlic *Allium oleroceum* | - | No | None | - |
| Summer snowflake *Leucojum aestivum* | - | No | None | - |
| Saw-wort *Serratula tinctoria* | - | No | None | |
| Duck mussel *Anodonta anatina* | - | No | None | |

[7] Relevance is interpreted as meaning the likely presence of the habitat/species in the study area and is taken from relevant literature sources

[8] The likelihood of impact is based on the potential presence of habitats from aerial photography and presence of suitable habitats for different species

# 3. Assessment Criteria

## 3.1 Describe the individual elements of the plan (either alone or in combination with other plans or projects) likely to give rise to impacts on the SAC

1. The area of Castlecomer demesne has been zoned as ‘open space’. A portion of the SAC falls within this area.
2. A number of areas along the west bank of the Dinin river have been zoned with built development designations (see figure 1). These areas are directly adjacent, and in some cases contain portions of, the SAC.
3. Under the plan the town will see an expected increase in population and business/industrial activity. This will place increased pressure on water resources and treatment facilities. Wastewater will ultimately discharge into the Dinin river. There is an existing plan however to increase capacity at the Castlecomer wastewater treatment plant and so this may, in combination with the LAP, result in a net positive impact on water quality in the SAC.
4. The SAC, and associated areas important to its conservation status have not been zoned in the plan. This includes a number of tributaries and wooded areas that are potentially of ecological importance (see figure 3.1).

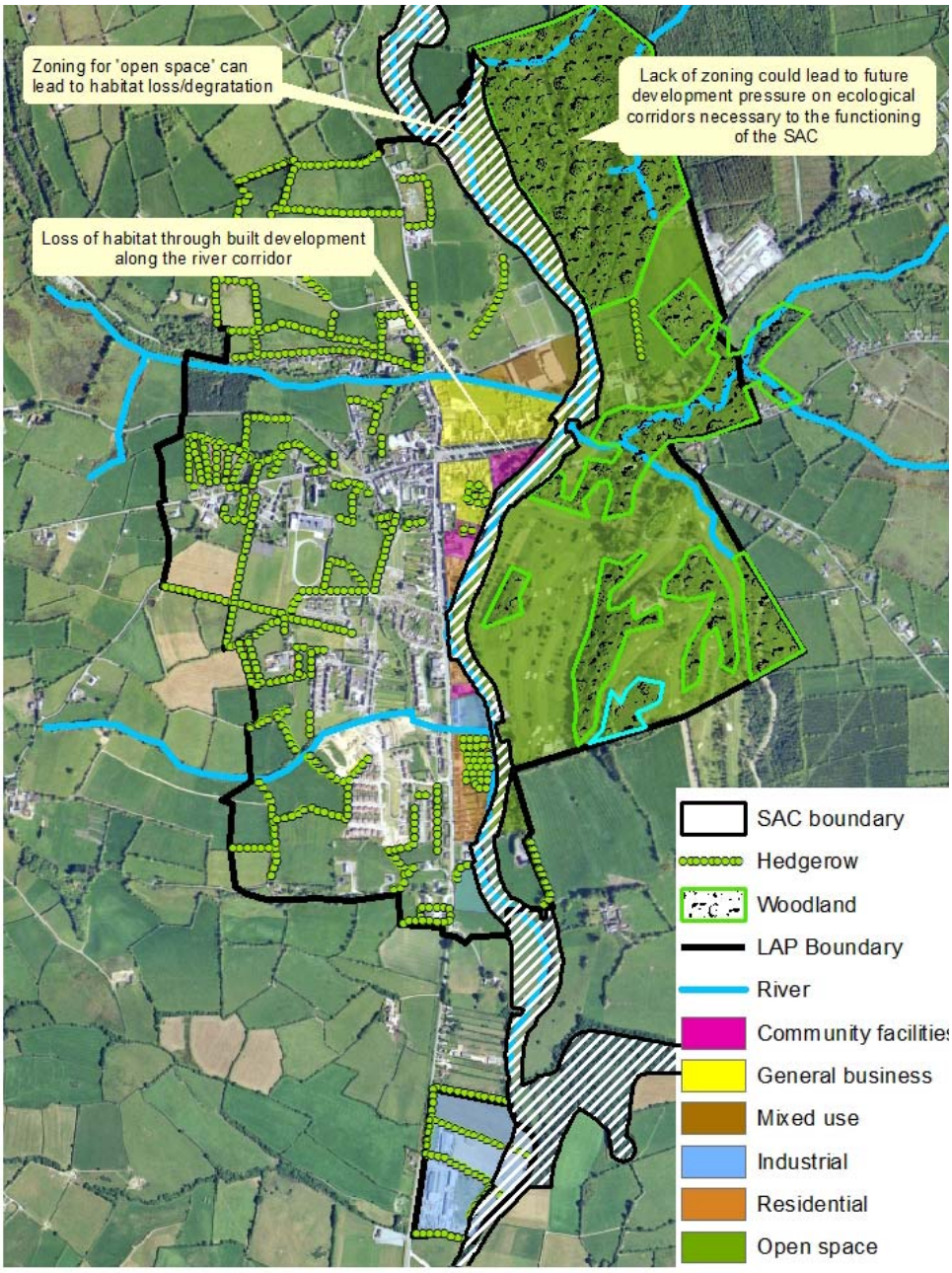


**Figure 3.1: Potential Impacts of Castlecomer Draft Local Area Plan**

## 3.2 Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the SAC

3.2.1 Zoning for built development, portions of which are within the SAC, could result in direct loss of habitat along the main riparian corridor of the Dinin.

3.2.2 Zoning for 'open space' can also result in a direct loss of habitat within the SAC through the construction of amenity infrastructure (footpaths for instance). Habitat disturbance can occur through increased pedestrian traffic, noise and both people and pets leaving marked trails. Similar activities in the adjacent area have the potential to disturb habitats and to reduce the overall 'ecosystem function' of this part of the SAC. This term relates to how the site provides the resources, in terms of food, shelter, breeding sites etc., for important species. In this way, habitat destruction or disturbance at the fringes of the site can have detrimental impacts. In this case, the whole area of the demesne is forested with broad-leaved trees (in so far as can be judged from aerial photography) and so clearly the area outside the SAC is contiguous with it.

3.2.3 Greater discharges of wastewater have the potential to increase the concentration of pollutants in surface waters. This impact can act in combination with increased development pressures in other towns along the Nore, including Kilkenny, Thomastown and Callan. A 'Programme of Works' by the South Eastern River Basin District Management Plan will be published in 2008. This project is part of the EU's Water Framework Directive which requires 'good ecological status' for all waters by 2016. An upgrading of the Castlecomer wastewater treatment plant is expected to be completed by August 2009 and will have adequate capacity for the forecasted increase in population.

3.2.4 The lack of clear zoning designations outlining the SAC boundary and associated biodiversity areas can lead to loss of habitat from future development pressures. These areas are shown as 'rivers', 'hedgerows', and 'woodland' in **figure 3.1**.

## 3.3 Describe any changes to the site arising as a result of the potential impact.

3.3.1 The built development zoning may result in a reduction in the size of the SAC. The total affected length is approximately 2.2 km. The removal of riparian vegetation, or the lack of a defined buffer zone, can also result in increased concentration of pollutants entering the Dinin and greater vulnerability to soil erosion. This activity can also remove valuable ecological corridors, reducing the ability of species to successfully disperse, thereby isolating populations. While in some cases buffer zones have been identified, it is not known whether these are of sufficient width to prevent potential negative impacts.

3.3.2 Zoning for 'open space' within a portion of the SAC can result in removal of habitat, both within the effected area and adjacent to it. There is also potential for disturbance to habitats and species through greater human and animal (particularly dogs) traffic in the area. This could result in long term reduction in the conservation status of the site.

3.3.3 Any increase in the levels of pollutants in the Dinin will have a negative impact on aquatic species. This is clearly demonstrated by the plight of the Nore freshwater pearl mussel, which has suffered as a result of poor water quality. However a number of projects are underway that are likely, in combination, to improve overall river water quality. Nevertheless, increased surface run-off from

additional paved surfaces in the town, if discharged directly to the river, will take away from these potential gains.

3.3.4 Lack of clear zoning of the SAC within the plan, as well as associated important ecological areas, could result in loss of habitat from future development proposals as well as a cumulative loss of seemingly unimportant habitats.

***Provide indicators of significance as a result of the identification of effects set out above.***

3.3.5 There is a potential loss of riparian habitat of approximately 2.2 km. This can in turn result in reduced populations of important species including Otter, Daubenton's bat, Irish hare, Common frog, Bird cherry, Thin-spiked wood sedge, Golden plover, Peregrine Kingfisher, Badger and Pigmy shrew. The scale of this loss is not possible to quantify due to lack of data.

3.3.6 Habitat loss due to amenity infrastructure will impact on an area of roughly 38 ha (the area of the Demesne). This area could contain important habitats such as Alluvial wet woodland, petrifying springs with tufa formation, or old oak woodlands. It is not possible to determine how much, or even if these habitats are present in this area. Further habitat disturbance in the adjacent area could reduce the populations of species as listed above. Again, due to lack of data, it is not possible to quantify the magnitude of this impact.

3.3.7 The Environmental Protection Agency currently have a monitoring station to the west of the town and this indicates 'moderate status'. The impact of poor water quality can lead to reduced populations of important species including Sea lamprey, Brook lamprey, River lamprey, Freshwater pearl mussel, Freshwater crayfish, Twaite shad and Atlantic salmon. However, it is predicted that long-term water quality trends will improved in line with the Water Framework Directive, thereby improving the conservation status of these species. Nevertheless, a threat of deterioration does exist if unattenuated surface water run-off is discharged directly to the river.

3.3.8 The SAC stretches for approximately 3.8 km through the town and at two points, to the extreme north and south of the LAP area, it veers inland to include wooded and/or riparian areas. There are also additional areas of woodland and hedgerows that link the SAC to the surrounding countryside that may be vulnerable to future development pressures (see figure 1). In the absence of any relevant field survey data, it is not possible to evaluate the importance or scale of these areas.

## 3.4 Describe from the above those elements of the plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.

3.4.1 The loss of designated habitat through built and amenity development, as well as the disturbance of adjacent habitats, has the potential to significantly impact on the conservation status of the SAC in the Castlecomer area. The lack of relevant field survey data for habitats and species in the study area means that the nature of this impact cannot be fully assessed.

3.4.2 The cumulative impacts of a number of projects to address water quality in the Nore catchment is expected to improve water quality in the Dinin river. The potential for negative impacts arising from this plan is therefore not considered significant.

3.4.3 The lack of a zoning for biodiversity conservation, while unlikely to impact on the SAC directly, may result in cumulative, or in combination, and indirect impacts on important ecological corridors in the LAP area. This in turn, can lead to isolation of the SAC and a deterioration of the conservation status of habitats and species therein.

## 3.5 Conclusion and Recommendation

3.5.1 Significant impacts that may arise from the LAP are expected as a result of three aspects of the plan include:

1. Direct loss and disturbance of habitat as a result of 'open space' and other built development designations both within the SAC and in areas adjacent to it.
2. Cumulative impacts, both direct and indirect, through the loss of undesignated habitats such as hedgerow and woodland, through a lack of planning designations for these areas.
3. Deterioration of water quality as a result of contaminants in surface water run-off being discharged directly to the Dinin river.

3.5.2 It is therefore recommended, in consultation with NPWS personnel, to proceed to the full Appropriate Assessment stage in order to fully assess the nature of these impacts, and to establish avoidance or mitigation measures.

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