

FINAL

ECOLOGICAL WALKOVER TECHNICAL NOTE

Kintore Flood Study

Project no. 4021839

Prepared for:

Aberdeenshire Council

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1. Introduction

1.1 Purpose of this report

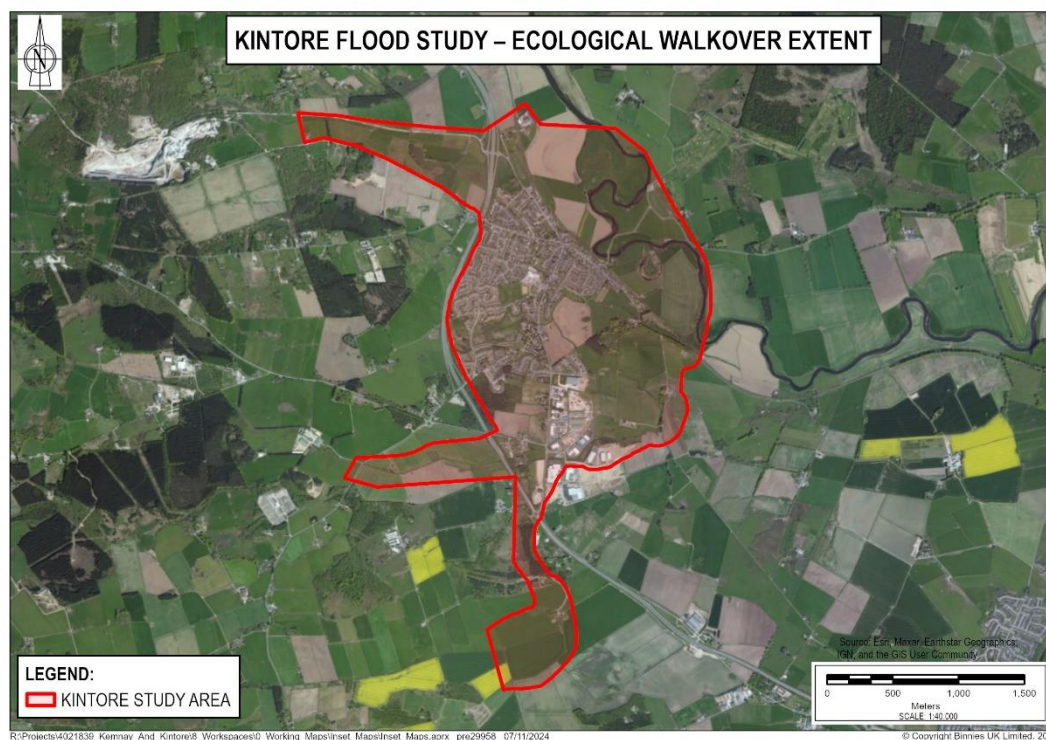
RSK/Binnies were commissioned by Aberdeenshire Council to carry out a flood study in Kintore town and the surrounding area. This technical note forms part of the initial work to gather data and identify potential ecological constraints and opportunities associated with any proposed flood alleviation scheme options (hereafter referred to as 'the Scheme').

This report provides a summary of an initial desk study and ecological walkover survey completed in September 2024. Further detailed Preliminary Ecological Assessments (PEAs) will be required of specific works locations once they are known. These PEAs could identify additional habitat and protected species constraints.

1.2 Site Location and Context

The urban area of Kintore is contained by the rail lines to the east and A96 to the west; the rail and road converge to the north of the town. To the south there is a large business park, with the rest of the surrounding area being largely rural. To the east of the rail lines the River Don flows through an area of floodplain characterised by cattle grazed pasture. The extent of the ecological walkover survey (hereafter referred to as the 'Study Area') is shown in Figure 1. The Study Area is centred at national grid reference NJ 79032 15965 and extends to approximately 550 hectares in area.

Figure 1: Kintore Ecological Walkover Study Area



1.3 Proposed Works

The proposals are at an early stage and no specific designs have been developed. Potential works to deliver a flood alleviation scheme will hereafter be referred to as 'Proposed Works'.

1.4 Legislation and Planning Policy

The report has been compiled with reference to relevant nature conservation legislation, planning policy and the UK Biodiversity framework from which the protection of sites, habitats and species is derived in Scotland. The following legislation and policy are highlighted:

- Nature Conservation (Scotland) Act 2004;
- Wildlife and Countryside Act 1981 (as amended);
- Conservation of Habitats and Species Regulations 2017; and
- Protection of Badgers Act 1992.

2. Methodology

2.1 Desk Study

A review of existing ecological and environmental baseline information available in the public domain was undertaken. Freely downloadable datasets (available from MAGIC¹) were consulted for information regarding statutorily designated sites within 5 km of the Study Area. Appendix 12 of the Aberdeenshire Local Development Plan² (2023) was consulted to identify Local Nature Conservation Sites (LNCS) within 2 km of the Study Area boundary. Scotland's Environment web³ was checked for woodlands listed on the Scotland Ancient Woodland Inventory and sites listed on the Scottish Wetland Inventory.

2.2 Ecological Walkover Survey

The ecological walkover survey was undertaken on the 17th September 2024 by Binnies Principal Ecologist Joe Whittick, who is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Conditions for the survey were bright and dry. Due to the size of the Study Area and time constraints a full walkover of all areas was not possible as part of the initial site assessment. Full access was also not available to all parts of the Study Area. The aim of the walkover was to broadly characterise habitat types within the Study Area boundary and to identify potential protected and/or invasive species constraints and further survey requirements.

Habitats within the areas subject to walkovers were classified following the standard Phase 1 survey methodology (JNCC, 2010). Phase 1 is a standard technique for classifying and mapping British habitats. Plant species were recorded, and habitats classified according to their vegetation type and community assemblage. A Phase 1 habitat plan was not part of the scope of this initial walkover and has not been produced as part of this technical note.

The suitability of the Study Area to support protected and/or notable species was assessed using field observations during the survey. The assessment of suitability for species was based on professional experience and judgement. This was supplemented by good practice guidelines on habitat suitability for key fauna, including but not limited to; birds (Gilbert et al, 1998 and Bibby et al, 2000), great crested newts *Triturus cristatus* (Gent and Gibson, 2003 and English Nature, 2001), badgers *Meles meles* (Roper, 2010 and Scottish Natural Heritage, 2002), dormouse *Muscardinus avellanarius* (Bright and Mitchell-Jones, 2006), otters (Chanin, 2003), water voles *Arvicola amphibius* (Dean et al, 2016 and Strachan et al, 2011) and bats (Collins, 2023 and Mitchel-Jones, 2004).

A formal Ground Level Tree Assessment (GLTA) was not carried out for the trees that were present within the Study Area due to time constraints, and as specific proposals are not yet known.

Plant species were recorded, and habitats classified according to their vegetation type and community assemblage. Where appropriate, consideration was given to whether habitats

¹ MAGIC Multi-Agency Geographic Information for the Countryside – available at <https://magic.defra.gov.uk/>

² Aberdeenshire Local Development Plan 2023 – available at <https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/>

³ Scotland Environment Web – available at <https://www.environment.gov.scot/>

qualify, or could qualify as habitats listed on the Scottish Biodiversity List. The Scottish Biodiversity List is a list of animals, plants and habitats that the Scottish government consider to be of principal importance for biodiversity conservation in Scotland⁴.

A detailed invasive non-native species (INNS) survey has not been completed, however incidental observations were made of invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act (WCA) 1981 (as amended), Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019 (IAS Order 2019), and other non-native species which were evident during the survey were recorded.

This technical note is produced with reference to current good practice guidelines by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017a, b) and Joint Nature Conservation Committee (JNCC, 2010) and guidelines contained in the British Standards – Code of Practice for Biodiversity and Development BS42020:2013.

2.3 Limitations

This report is an initial assessment of potential ecological constraints associated with the Scheme. It does not represent a full Preliminary Ecological Appraisal (PEA), and does not include baseline data from the Local Records Centre, North East Scotland Biological Records Centre (NESBReC), or NBN (National Biodiversity Network). The report does not include habitat maps, target notes or species information from detailed surveys, with the exception of Invasive Non-Native Species (INNS). Further surveys will be required when options have been reviewed and the Study Area has been refined.

⁴ Scottish Biodiversity List - available at: <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list>

3. Results

3.1 Desk Study

No statutorily designated nature conservation sites were identified within 5 km of the Study Area boundary. Whilst not within 5 km of the Study Area, the eastern coast of this part of Scotland (approximately 20 km from the Study Area) has a number of designations including:

- Sands of Forvie and Ythan Estuary SSSI;
- Sands of Forvie Special Area of Conservation (SAC);
- Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA); and
- Ythan Estuary and Meikle Loch Ramsar Site.

These sites are primarily designated for a range of coastal habitats and for the presence of important populations of overwintering and breeding bird species including pink-footed geese *Anser brachyrhynchus*, little tern *Sternula albifrons* and sandwich tern *Thalasseus sandvicensis*. The designated sites at the coast have been considered due to the potential for the Scheme Area to be used as functionally linked land (FLL) by qualifying species of these sites, which could trigger the need for a Habitats Regulations Assessment (HRA). The Loch of Skene SPA is also located approximately 7 km from the Study Area. This site is designated for greylag goose *Anser anser*, common goldeneye *Bucephala clangula* and goosander *Mergus merganser*.

The 'Rollo Mire' LNCS (Site 92) is located within the Study Area and lies within a residential area to west. The site is an area of marshy grassland, fen and wet woodland. Rollo Mire is also listed as an area of wet marshy grassland on the Scottish Wetland Inventory.

An area of long-established plantation ancient woodland, Gauch Hill Wood, is located within the Study Area to the south. Gauch Hill is also listed on the Native Woodland Survey of Scotland 2012 as are sections of woodland at Tuachhill and along the Don⁵.

The flood plain of the River Don at Balbithan Island, which is within the eastern part of the Study Area, is a known to support significant populations of waders.

3.2 Habitat Survey

The following habitats were identified within the Study Area. Photographs are provided in Appendix A:

Improved grassland

Improved grassland pasture fields are located throughout the Study Area (photograph 1). This includes significant improved grassland pasture associated with the floodplain of the River Don within the east of the Study Area.

⁵ Native Woodland Survey of Scotland 2012 – Forestry Commission Scotland - <https://www.forestry.gov.scot/forests-environment/biodiversity/native-woodlands/native-woodland-survey-of-scotland-nwss>

Amenity grassland

Areas of amenity grassland are located within the Study Area including small areas of parkland within Kintore town, and playing fields associated with Kintore Primary School.

Semi-improved neutral grassland

A number of semi-improved grassland pasture fields are located to the within the Study Area to the north-west, adjacent to Forest Road (photograph 2).

Marshy grassland

Occasional marshy grassland areas are located within the Study Area. Rollo Mire within the east of the Study Area includes significant areas of marshy grassland (photograph 3).

Arable

Arable fields are located throughout the Study Area, predominantly cereal crops (photograph 4). Areas of floodplain adjacent to the River Don within the east of the Study Area include extensive arable land.

Semi-natural and plantation mixed woodland

Areas of mature mixed woodland are located within the Study Area to the south and west.

Wet woodland

Areas of wet woodland are located within Rollo Mire.

Scrub

Areas of dense scrub with species including gorse *Ulex europaeus* and hawthorn *Crataegus monogyna* are located to the south of the Study Area, close to Sheriff Burn (photograph 5). Additional scrub areas are located within the east of the Study Area around the periphery of the industrial estate to the south of Kintore and along the embankments of the A96 dual carriageway.

Scattered trees

Scattered mature and semi-mature broad-leaved and coniferous trees are located throughout the Study Area.

Running water

The River Don flows through an area of floodplain within the eastern part of the Study Area.

Smaller watercourses are located within the Study Area including:

- Three channels of Tuach Burn located towards the east within the Study Area (photograph 6).
- Sheriff Burn located within the south of the Study Area.

- Torry Burn, which flows through Rollo Mire.

A number of drainage channels are located within the Study Area, including a drain on the northern side of Wyness Way within the Study Area to the south of Rollo Mire (photograph 7) and field boundary drains within the floodplain area within the east of the Study Area (photograph 8).

Standing water/swamp/fen

Ponds were identified within the north-east of the Study Area on the northern side of Forest Road (photograph 9), in an arable field in the western part of the Study Area south of the B994 (photograph 10) and an ox-bow lake within a meander of the River Don in the eastern part of the Study Area.

Areas of fen type habitat are located within Rollo Mire within the western part of the Study Area.

Two areas of swamp-type habitat associated with man-made drainage ponds are located within the industrial estate within the Study Area on the northern side of Tofthills Avenue (photograph 11). These features could have higher water levels at other times.

Full access to the Study Area was not available and additional ponds may be present.

Buildings, bare ground and gardens

Extensive buildings, areas of bare ground, roads and gardens are located within the boundary of Kintore town and the associated industrial estate to the south of the town.

3.3 Protected Species

Habitats within the Study Area have suitability to support a variety of protected species, and species listed on the Scottish Biodiversity List.

Amphibians

Ponds within the Study Area could have suitability as habitat for amphibians including great crested newt.

Badger

No evidence of badger was identified during the ecological walkover, however areas of the Study Area, particularly mature woodland areas and adjacent habitats, have good suitability as locations for badger setts.

Bats

Bats could roost within mature trees and buildings and other structures within the Study Area. Habitats along the River Don and woodland habitats within the Study Area have good suitability as foraging and commuting habitat for a variety of bat species. Rollo Mire also represents high quality potential foraging for bats.

Breeding and Over-wintering Birds

Birds could nest within woodland, trees, hedgerows and scrub within the Study Area. Birds could also nest in bankside habitats along the River Don. Arable fields within the Study Area could be used by ground nesting bird species such as lapwing *Vanellus vanellus*. Schedule 1 bird species including barn owl *Tyto alba* could also be present.

Floodplain areas along the River Don within the eastern part of the Study Area have high suitability for waders.

The arable fields within the Study Area have suitability as functionally linked land for over-wintering bird species such as pink-footed goose, which are qualifying species with the SPA and Ramsar sites at the coast.

Dormouse

No areas of high quality potential dormouse habitat were identified within the Study Area and this species is not considered further.

Fish

The River Don is known to support a range of fish species including both brown trout *Salmo trutta* and salmon *Salmo salar*.

Otter

The River Don has suitability as habitat for otter, including suitable holt locations associated with bankside features and adjacent woodland areas. Anecdotal records of otter also exist along the river.

Red Squirrel

The woodlands within the Study Area have suitability as to support red squirrel *Sciurus vulgaris*, and incidental records of this species exist in the vicinity of Kintore.

Reptiles

Areas of semi-improved and marshy grassland, scrub and field margins within the Study Area have suitability as habitat for common reptile species.

Water Vole

The River Don and associated tributaries, as well as the additional watercourses and drainage channels within the Study Area, have suitability to support water vole.

Other

Habitats within the Study Area have suitability for a variety of other protected species and species listed on the Scottish Biodiversity List including pine marten *Martes martes*, polecat *Mustela putorius*, brown hare *Lepus europaeus* and European hedgehog *Erinaceus europaeus*.

3.4 Invasive Non-Native Species (INNS)

Himalayan balsam *Impatiens glandulifera* was identified along a drainage channel located to the rear of Castle Hill (photograph 12). The drainage channel discharges into the River Don at its southern end.

4. Conclusions and Recommendations

4.1 Designated sites

Part of the Study Area lies with a Local Nature Conservation Site (Rollo Mire). Policy E1 (Natural Heritage) of the Aberdeenshire Local Plan states that for proposals which impact a Local Nature Conservation Site, the proposal's public benefits must clearly outweigh the nature conservation value of the site. In all cases, impacts must be minimised through careful design of proposals and appropriate mitigation measures.

There is a strong presumption against removing ancient semi-natural woodland or plantations. Works within ancient woodland sites should be avoided, and where ancient woodland sites are located in close proximity to Proposed Works, appropriate protection measures should be put in place.

The arable fields within the Study Area could be used as functionally linked habitat by qualifying species of the SPA and Ramsar sites at the coast. The Scheme could also impact the Lock of Skene SPA. Further desk study information, and potentially over-wintering bird surveys, may be required to assess impacts and determine whether a Habitats Regulations Assessment (HRA) is required.

4.2 Habitats

A number of habitats within the Study Area are included on the Scottish Biodiversity List. The listed habitats include wet woodland, rivers and hedgerows. Where possible proposals should aim to minimise impacts on these habitats.

In Scotland 'Net Positive for Nature' as part of National Planning Framework 4 (NPF4) Policy 3(e), includes the requirement for 'appropriate measures' to enhance biodiversity as part of development; this should be taken into account when designing proposals. In the future Scotland may adopt a metric based approach for biodiversity net gain, although no date for this has been set. Habitat creation should target habitats listed on the Scottish Biodiversity list.

Appropriate environmental protection measures should be put in place for any Proposed Works. These measures should include:

- Protection of existing ecological features, through avoidance and use of temporary protection measures such as fencing.
- Pollution control measures, particularly in relation to watercourses and Rollo Mire LNCS.

4.3 Protected Species

Habitats within the Study Area have suitability for a variety of protected species, and species listed on the Scottish Biodiversity List as detailed in Table 1 below. A full local records centre search with the North-East Scotland Biological Record Centre has not been completed at this stage and is recommended in order to identify any potential additional constraints in relation to protected species.

Table 1: Recommendations

Feature	Recommendation (design, mitigation and/or survey)	Seasonality/timing
Amphibians	<p>Habitat Suitability Index (HSI) assessments of the ponds within the Study Area are recommended if significant ground works will take place within 250 metres of these waterbodies. If the ponds are assessed as having suitability for great crested newts then additional environmental DNA (eDNA) surveys or full amphibian surveys may be required. If great crested newts are present and could be impacted by the Proposed Works then a licence will be required from NatureScot.</p> <p>In addition to the above, a precautionary working method statement (PWMS) in relation to amphibians is recommended during any works on site. The PWMS should include a toolbox talk (TBT) and pre-works searches of suitable terrestrial habitat within the working area by a suitably qualified ecologist (SQE). Potential refuge/hibernation sites for amphibians (log piles, piles of stone etc.) should not be cleared during the hibernation period.</p>	<p>Great crested newt surveys (including eDNA) from March to June.</p> <p>Amphibian hibernation period runs from November to February inclusive.</p>
Badger	<p>Badger surveys of any proposed working areas should be completed. Where active badger setts are identified works should either be re-positioned to minimise impacts, or where impacts are unavoidable a licence must be obtained from NatureScot.</p> <p>Due to the suitability of habitats within the Study Area for badgers, even where no badger setts are identified during additional surveys a PWMS should be put in place during works. This PWMS should include a walkover of working areas for signs of new badger activity within 4 weeks of the proposed start on site, a TBT for site personnel and precautionary working methods during construction including no night working and covering trenches/open excavations at the end of each working day.</p>	No seasonal constraints.

Feature	Recommendation (design, mitigation and/or survey)	Seasonality/timing
Bats	<p>If the Proposed Works will impact trees or existing buildings/structures then further bat surveys will be required. These would include an initial preliminary roost assessment (PRA) of buildings/structures to assess roosting suitability and search for evidence of bats, and GLTAs of trees</p> <p>If buildings/structures or trees are found to have suitable roosting sites for bats additional surveys may be required including tree climbing and/or emergence surveys. Where bat roosts are identified and cannot be avoided, a licence will be required from NatureScot.</p>	<p>PRA/GLTA – no seasonal constraints, however surveys of trees are more effective in winter.</p> <p>Bat emergence surveys – May to September.</p>
Breeding and over-wintering birds	<p>Where possible, removal of any potential bird nesting habitat (as outlined in Section 3.3) should be avoided. Where removal is unavoidable this should be completed outside of the nesting season (March to September). Where this is not possible checks for active nests must be completed by an SQE immediately prior to removal of potential nesting habitat. Where mature trees are to be impacted at any time of year checks should be made for nesting barn owl. These checks can be undertaken as part of bat GLTAs.</p> <p>Nesting bird checks, as detailed above, will also be required for arable land which could be used by species such as lapwing.</p> <p>The arable fields within the Study Area could be used as functionally linked habitat by qualifying species of the SPA and Ramsar sites at the coast. The floodplains of the River Don also has good suitability for waders. Further over-wintering bird surveys may be required.</p> <p>Any loss of potential nesting habitat should be compensated for with new planting and/or the erection of bird boxes.</p>	<p>Breeding birds checks to be undertaken for any removal of potential nesting habitat between March and August inclusive.</p> <p>Winter bird surveys from October to March with survey visits in each month through the winter.</p>
Fish	Any in-channel works at the River Don could impact brown trout and salmon. Timing restrictions must be placed on any in-channel works.	No works in salmonid watercourses between 1 st October and 14 th March

Feature	Recommendation (design, mitigation and/or survey)	Seasonality/timing
Otter	<p>If works will be undertaken within 30 metres of the top of the bank of the River Don then further otter surveys should be completed. Otter surveys would also be required if works are planned within mature woodland areas close to the river that could potentially support otter holts. If holts or resting sites are identified and will be disturbed as a result of the Proposed Works then an otter licence issued by NatureScot will be required.</p> <p>In addition to the above, even where no evidence of otters is found a PWMS in respect of otters will be required for any works in close proximity to the river.</p>	Otter surveys any time of year
Red squirrel	<p>Wherever possible existing woodland areas and mature trees should be avoided. Where this is not possible surveys for red squirrel should be completed. Where red squirrel dreys will be impacted by Proposed Works a licence must be obtained from NatureScot.</p> <p>A PWMS for red squirrel will be required. This would include pre-works checks of any trees that will be impacted by the works to check for evidence of red squirrel dreys.</p> <p>Any planting as part of proposals should take account of red squirrel requirements, including planting suitable food sources such as Norway spruce.</p>	Surveys can be undertaken at any time of year, optimum is spring and autumn
Reptiles	<p>Wherever possible areas of potential reptile habitat should be avoided. Where significant areas of suitable habitat could be impacted by Proposed Works, for example the scrub and grassland areas to the south of the Study Area by Sheriff Burn, additional reptile surveys should be completed in order to assess impacts.</p> <p>Where smaller areas of suitable habitat (field margins etc.) will be impacted by proposals a PWMS should be adopted, including adhering to a method statement for the protection of reptiles, which includes a TBT and pre-works searches of the suitable habitat within the</p>	<p>Reptile survey season is March/April and September/October (weather dependent).</p> <p>Reptile hibernation period runs from November to February inclusive.</p>

Feature	Recommendation (design, mitigation and/or survey)	Seasonality/timing
	<p>working area by an SQE. Potential refuge/hibernation sites for reptiles (log piles, piles of stone etc.) should not be cleared during the hibernation period.</p> <p>Opportunities exist within the proposals to create additional areas of high quality suitable reptile habitat including rough grassland and wetland areas.</p>	
Water vole	<p>Wherever possible, potential water vole habitat should be avoided. Where this cannot be achieved, water vole surveys should be completed (this includes works within 30 metres of the top of the bank of any suitable watercourses and ditches). If water voles are found to be present and will be impacted by the proposed works then a water vole license issued by NatureScot will be required.</p> <p>In addition to the above, even if no water vole are found during additional surveys, a PWMS in respect of this species will be required for works in areas of suitable habitat.</p>	Water vole surveys from mid-April to mid-September
Scottish Biodiversity List species	<p>A pre-works check of working areas for the presence of other notable species should be completed by an SQE immediately prior to the start of works.</p> <p>A method statement should be in place which includes protection of small mammals such as hedgehog.</p>	N/A

4.4 Invasive Non-Native Species (INNS)

Himalayan balsam was identified during the ecological walkover. A PWMS should be produced detailing measures that will be implemented on site to minimise the risk of spread of this INNS.

No other INNS were identified; however, a detailed survey of all areas was not completed. When working areas are known, a detailed INNS survey should be completed in advance of the proposed start on site.

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Appendix A: Photographs

Photograph		Photograph	
1	Improved grassland fields within east of Study Area	2	Semi-improved grassland within north-west of Study Area
			
3	Rollo Mire marshy grassland and fen	4	Arable fields within west of Study Area
			

Photograph		Photograph	
5	Scrub within south of Study Area	6	Tuach Burn crossing beneath Kingsfield Road
			
7	Drainage channel to south of Rollo Mire	8	Drainage channel
			

Photograph	Photograph
<p>9 Pond within west of Study Area</p> 	<p>10 Pond within west of Study Area in arable field on southern side of the B994</p> 
<p>11 Swamp habitat within drainage ponds to north of Tofthills Avenue</p> 	<p>12 Drainage channel with Himalayan balsam</p> 