

PPENDIX 8 – ECOLOGICAL SURVEYS AND PROTECTED SPECIES LEGISLATION

Extended Phase 1 Habitat Survey

An Extended Phase 1 Habitat Survey was carried out in July 2005 following the guidance in the Handbook for Phase 1 Habitat Survey (JNCC, 1993). This survey method was extended to include the recording of additional relevant information on habitats and species, including any evidence of the presence or potential presence of statutorily protected species, particularly bats, kingfishers *Alcedo atthis*, otters, water voles *Arvicola terrestris* and badgers, or other species of conservation significance.

Habitats, species and dominant plant community types were described and recorded on a 1: 2500 scale map of the site. Target notes (for ecological features that lie >50m beyond the River Almond and East Pow Burn) linked to the Phase 1 habitat map were produced to provide greater detail on specific habitats or features of particular ecological interest. These are provided in Appendix 9 (ES Volume Two). Ecological features within 50m of the River Almond and East Pow Burn are also recorded in Appendix 10 (ES Volume Two) as part of the River Corridor Survey (see below). Lists of plant species that could be identified at the time of survey, as well as records of birds and mammals made by direct observation or using signs, are provided in Appendix 10, Table 2. Higher plant species nomenclature follows Stace (1997) and Watson (1981) for bryophytes.

An update Phase 1 Habitat Survey was then conducted in September 2009 as a result of changes to the scheme outline design and to note any significant changes to the River Almond and the East Pow Burn between 2005 and 2009.

Consultation with SNH in March 2010 and again in late 2011/early 2012 determined that there would be no need to repeat the Phase 1 Habitat Survey for submission of the Environmental Statement. Walkover surveys were, however, conducted in February 2010, May 2011, April 2012 and May 2013 to confirm that the previous findings were still applicable and to update the Phase 1 dataset where required.

River Corridor Survey

River Corridor Survey was carried out during 2005 on sections of the River Almond and the East Pow Burn where flood protection measures are proposed, following the methodology set out in the National River Authority's Conservation Technical Handbook 1 – River Corridor Surveys (NRA, 1992). The methodology allows for efficient, yet detailed, assessment of the geography, hydrology and general ecology of watercourses and the riparian zone that is immediately adjacent to them. Ecological assessment of the watercourses includes a botanical and faunal survey of the river corridor and their interrelationships with habitat hydrology and geography. RCS complements and integrates well with Phase 1 Habitat Survey and Protected Species Surveys. The standard methodology involves the production of a sketch map, channel cross-section, written notes and photographs for every 500m section of river.

For both the River Almond and the East Pow Burn, two 500m RCS sections were completed and results recorded in accordance with the standard RCS methodology (Appendix 10, ES Volume Two). In the case of the River Almond, RCS was carried out for a 1km long stretch from the Almondbank road bridge over the river (NO065263), to the north of the proposals, to approximately 200m downstream of a weir by the southern part of Almondbank (NO071258). In the case of the East Pow Burn, RCS was carried out for a 700m long stretch from the southern edge of the flood protection scheme (near where the East Pow Burn flows under the A85, NO066251) downstream to the burn's confluence with the River Almond (NO068265).

Consultation with SNH in March 2010 and in late 2011/early 2012 determined that there would be no need to repeat the RCS for submission of the Environmental Statement.

Protected Species Surveys

Searches for protected species surveys were carried out as part of the Extended Phase 1 Habitat Survey and the RCS. These involved the following:

- Completion of an evaluation of the habitats present, how they are managed and their potential to support a particular protected species;
- Searching throughout the study area for physical evidence of protected faunal species such as footprints, tracks, hairs, droppings, spraints, latrines, pellets; nests, roosts, holts, burrows, setts; vocalisations; feeding stations and food remains;
- Recording of all signs of protected or notable species of fauna and flora; and
- Assessing the level of use of the site by a protected species based on any evidence discovered.

For ease of reference, protected species that are intrinsically linked with the survey area's watercourses (e.g. otter) are reported in the RCS report (Appendix 10) and protected species associated with habitats of the Almondbank area beyond the limit of the RCS (e.g. bat habitats in non-riparian woodland) are reported in this chapter.

Badger

Badgers *Meles meles* and their setts are protected under the Protection of Badgers Act 1992 and by Section 11 (Schedule 6) of the Wildlife and Countryside Act 1981 (as amended). It is illegal to kill, injure, take, possess or cruelly ill-treat a badger or attempt to. Badger setts are protected from interference and it is an offence to obstruct access to, or any entrance of, a badger sett. In addition it is illegal to disturb a badger when it is occupying a sett.

Most recently, the Protection of Badgers Act 1992 has been amended by the Nature Conservation (Scotland) Act 2004. This legislation makes it illegal to knowingly cause or permit an act which will interfere with a badger sett, it includes 'recklessly' killing, injuring

or taking an otter as well as ‘intentionally’, however it removes the references to ‘attempt’ to kill, injure or take a badger.

Searches for badger presence and activity were undertaken as part of the Extended Phase 1 Habitat Survey and any evidence of badger paths, latrines, setts, footprints, hairs, scratching posts and foraging scrapes were recorded where present. In addition, the suitability of potential badger habitat was assessed.

Otter

The otter *Lutra lutra* is a European protected species, protected by the EC Habitats Directive and the Conservation (Natural Habitats &c) Regulations 1994. This means that it is illegal to damage or destroy an otter shelter, whether intentionally or not, and to deliberately disturb an otter. The otter is also protected in the UK by Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (as amended). This means that it is illegal to intentionally kill, take or injure an otter, intentionally disturb an otter in its place of shelter and intentionally damage, destroy or obstruct access to a place of shelter. In 2004, this protection was extended further by the Nature Conservation (Scotland) Act 2004 to include ‘recklessly’ killing, injuring or taking an otter as well as ‘intentionally’. Development licences, issued by the Scottish Executive, permit otherwise unlawful activities and are only granted for certain purposes.

Searches for otter presence and activity were undertaken along the River Almond and the East Pow Burn during the River Corridor Survey in 2005 and then again in 2007 and 2012. Presence was identified from field signs of otter activity such as otter spraints, footprints, slides, tracks, potential holt sites and couches. Evidence was also recorded of the presence of other species important to otter ecology such as American mink, which are believed to directly compete with otter for food sources such as fish, birds and small mammals.

Water Vole

In the UK, as a result of recent declines in populations (90% decline throughout the UK in the last decade), water voles *Arvicola terrestris* are protected under Schedule 5 of the Wildlife and Countryside Act, 1981 (1998 amendment). This means that places of shelter or protection used by water voles are protected and it is illegal to intentionally damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection. In addition, it is illegal to disturb water voles while they are using such a place. Water voles themselves are not protected.

Evidence of water vole, such as sightings, tracks, droppings and latrines, burrows, lawns and feeding signs were searched for during the survey along the River Almond and the East Pow Burn during the River Corridor Survey in 2005.

Bats

All bat species are listed within Annex IV of the EC Habitats Directive (Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC)) and are

designated as European Protected Species under Regulation 39 (1) of the Conservation (Natural Habitats & c) Regulations 1994. Within the UK, bats are also listed within Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (W&CA). The W&CA and Habitat Regulations make it illegal to: intentionally or deliberately kill, injure or capture (take) bats; deliberately disturb bats (whether in a roost or not); damage, destroy or obstruct access to bat roosts, whether or not bats are present at the time. The W&CA also prohibits certain methods of killing, injuring, or taking. In 2004, this protection was extended further by the Nature Conservation (Scotland) Act 2004 to include 'recklessly' killing, injuring or taking of bats as well as 'intentionally'.

There are legal implications for sites with bats present, whereby European Protected Species licences must be obtained for development proposals and works. In order to obtain a licence there is a strict three point test that must be met which includes demonstration that there will be no changes to the species' favourable conservation status.

Daytime visits were made in October 2007 and September 2009 to evaluate the potential bat interest of the site and to search for potential bat roosts in stone-built structures and mature trees. The habitat-based assessment concentrated on identifying location(s) where potential roosts and foraging areas co-exist, and are linked to the wider countryside by "flight lines". Evidence of bat presence includes staining, scratch marks, bat droppings, insect remains, dead bats beneath or around access points and the presence of live bats.

A validation of previous surveys was undertaken in April 2012.

Red squirrel

The red squirrel *Sciurus vulgaris* is listed on Schedule 5 and 6 of the Wildlife and Countryside Act 1981 (as amended). Schedule 5 makes it an offence to kill, injure, take or sell red squirrel or parts of it or to damage, destroy or obstruct access to their resting places. Schedule 6 listing restricts certain methods of killing, taking or injuring. There is a Species Action Plan (SAP) for red squirrel in the UK BAP. It identifies the ongoing threats that they face, such as competition from grey squirrels and the threat posed by disease carried by the grey squirrels to red squirrels.

A search for any signs of potential red squirrel presence (i.e. dreys, feeding remains, animal sightings, etc.) was undertaken during the extended Phase 1 habitat survey and also during further habitat based assessment in September 2009 to inform an assessment of the area's suitability for red squirrel.

Birds

Under the Wildlife and Countryside Act 1981 (and amendments) and the Nature Conservation (Scotland) Act 2004, it is an offence to intentionally or recklessly kill, injure or take any wild bird, or to intentionally or recklessly take, damage and destroy or otherwise interfere with their eggs or nests while in use or being built (with the exception

of schedule 2 species outside of the close season). In addition, it is an offence at any other time to take, damage, destroy or otherwise interfere with any nest habitually used by a bird included in Schedule A1 of the NCSA and to obstruct or prevent any wild bird from using its nest. Special penalties are applicable for offences related to birds listed on Schedule 1 of the Wildlife and Countryside Act for which there are the additional offences of (a) disturbing these birds in, on or near their nest, (b) disturbing their dependent young, (c) disturbing any Schedule 1 bird which leks, or (d) knowingly causes or permits a crime under this legislation.

A person or persons, who intentionally or recklessly disturbs a species, including while foraging, listed on Schedule 1 shall be guilty of an offence. This provision means that an offence would be caused if disturbance occurs when there was prior knowledge that the species may be present. Such protection is extended for certain specified bird species in relation to their nest sites at all times of the year, and also prohibits the disturbance of certain bird species at their lek (breeding display) sites. Fines for offences relating to Schedule 1 bird species can be up to £5,000 and/or imprisonment for up to six months.

Kingfishers *Alcedo atthis* are typically associated with clean streams and rivers and are known to use burns and other waterways as corridors between areas of suitable nesting and foraging habitat. They are not found away from watercourses or waterbodies. Kingfisher is the only species recorded by the survey that is listed under Schedule 1 of the WCA (1981, and amendments).

Although no dedicated breeding bird surveys were undertaken, any observation of birds during the extended Phase 1 habitat survey was recorded.

Fish

A salmonid habitat assessment was carried out on the River Almond in November 2010 (Bull, C, 2010) in relation to proposed repair to Low Works Weir and the findings of this used to inform the assessment of the flood protection scheme.

Lamprey

All three species of lamprey found in the UK (brook lamprey *Lampetra planeri*, river lamprey *Lampetra fluviatilis*, and sea lamprey *Petromyzon marinus*) are listed in Annex II and V of the Habitats Directive.

A survey for lamprey was carried out in September 2008 at five locations along the River Almond and East Pow Burn.

Fresh Water Pearl Mussel

The FWPM is listed as a European protected species under Annex II (species whose conservation requires the designation of Special Areas of Conservation if the site meets with other set criteria) and Annex V (species of community interest whose taking in the wild and exploitation may be subject to management measures) of the Habitats Directive.

Under UK legislation, the FWPM is protected by the Wildlife and Countryside Act 1981, under Schedule 5 (1991 and 1998 amendments). This means that it is illegal to intentionally kill, injure or take this species from the wild, to have any part, live or dead animal in your possession, to damage, destroy, obstruct access to any structure or place of shelter or protection, to disturb an animal while occupying its place of shelter or protection and to sell or transport for intention to sell. In addition, the Nature Conservation (Scotland) Act 2004 extends this protection to include 'recklessly' killing, injuring or taking a FWPM as well as 'intentionally'.

A transect survey for freshwater pearl mussels and a record of substrate types within the main stem of the River Almond and East Pow Burn was undertaken in October 2007.