SECTION 3

ECOLOGY & NATURE CONSERVATION

3.1 Introduction

3.1.1 The following organisations and individuals were consulted the proposal in relation to the sites ecological receptors prior, during and subsequent to the feasibility process:

- Spey Research Trust and District Salmon Fishery Board;
- Cairngorms National Park Authority;
- Forestry Commission Scotland;
- Highland Council;
- Scottish Environment Protection Agency (SEPA);
- Scottish Natural Heritage (SNH); and
- Scottish Wildlife Trust (SWT).

3.2 The Study Area

3.2.1 Boundaries at varying distances from the proposed development area and route of proposed main site access roads were defined for the purposes of baseline data collation (site survey and desk study) and impact assessment. The study area for habitat and protected species surveys was based on a boundary which includes a *c.* 1 km wide buffer around the main proposed development area, but following natural boundary features (*e.g.* the River Spey). The following clarifies the extent of the specific survey areas and related terms referred to in this chapter:

- 'core development area' is the area where the main development will occur (*e.g.* high street, houses, internal roads);
- 'site access corridor' refers to the proposed main access routes to the housing development area from Inverdruie and Coylumbridge, including the proposed bypass route; and
- The above comprise the development 'study area' or 'wider survey area', with the various buffers used for the purposes of consultation and desk study data requests from various nature conservation organisations (see below).

3.3 Assessment Area

3.3.1 The assessment comprised the following key stages:

- Detailed desk studies and field surveys to ascertain the current baseline conditions of the site; and
- Considerations of the possible interactions between the proposed development and the current site conditions, and identification of potential impacts;

3.4 Baseline Conditions

3.4.1 The proposed development site (*i.e*. the core development area) lies at *c*. 220 m elevation and is located in the area where Glen More meets Strathspey. It is in the floodplain of the River Spey, on an old river terrace, and to the north of the River Druie, which drains Glen More. There are no other significant watercourses or waterbodies within the site.

3.4.2 The Cairngorms area is renowned for the characteristic and important montane, moorland, native woodland and wetland bird communities the area supports, including many species of national and international conservation concern and restricted range in the UK.

3.4.3 The principle habitat types within the proposed development site comprise dry heath, with scattered with veteran lone ('granny') Scots pines and young silver birch, conifer plantation (predominantly Scots pine) of varying age classes and semi-natural pine and birch dominated woodland. Habitats in the wider surrounding area include juniper heath, various age classes of conifer plantation, semi-natural woodland, riverine habitats, riparian woodland and scrub, marshy grassland and enclosed arable and pasture fields. The B970 road to Nethy Bridge bounds the site to the east. A large area of semi-natural, ancient pine forest extends from south of the site, at Dell Farm to the River Druie. There is also a small triangle of semi-natural ancient woodland at the southwest corner of the wider survey area, near the confluence of the River Druie with the Spey.

3.4.4 A small manmade pond and storage shed are located just off the main access track into the east of the site. A former pond, now mire, is also located within the pole stage conifer plantation in the southwest corner. No other natural / semi-natural watercourses / waterbodies are found within the site.

3.4.5 Loch Pityoulish lies *c*. 0.5 km to the northeast of the site and the Rothiemurchus Fish Farm (comprising several ponds) is located *c*. 0.5 km to the southwest. The fish farm is a well known haunt for foraging ospreys and heron that nest in the region. The nearest major watercourses are the River Spey, *c.* 100 - 400 m to the east of the development area, and its tributary the River Druie, *c.* 1 km south. Dell Stream is a small feeder of the River Druie, *c.* 200 m north of the Druie.

3.4.6 The primary land uses within the site and surrounding area are mixed arable and beef stock farming, forestry, fishing and tourism / recreational activity. The town

of Aviemore is located on the opposite, western bank of the River Spey and the settlements of Inverdruie and Coylumbridge are *c*. 1 km to the south of the core development area. The western and southern woodlands are managed as commercial plantations, while the open moorland area is used for various recreational purposes such as quad bike tours and the local model airplane club. West and south of the plantations and semi-natural woodlands are arable and improved grasslands associated with the adjacent Dell Farm. Highland cattle and red deer are grazed in most of these fields.

3.4.7 The main access routes are proposed to enter the site from the south and east (from the B970). The southern route is proposed to follow the existing entrance to Dell Farm on the B970 at Inverdruie. The route will cross the River Druie and Dell Stream close to the existing bridges and run up a graded escarpment. The road will pass through an area of mixed and broad-leaved semi-natural woodland before joining the main development site.

3.4.8 The access from the east will be located on the existing B970. However a bypass is proposed to be located northeast of Coylumbridge, from the ski road to Glenmore. This bypass will pass through mature conifer plantation and mixed semi-natural woodland to join the B970 just north of Coylumbridge.

3.5 Process

3.5.1 An assessment of existing baseline conditions, sensitivity and magnitude of impacts was indertaken. The significance of these impacts and effects can be defined however in order to provide a level of consistency to the assessment, these assessments are based on pre-defined criteria.

3.6 Nature Conservation Value

3.6.1 A key process in the assessment of ecological impacts is the evaluation of the nature conservation importance or sensitivity of ecological receptors affected. In this evaluation each ecological receptor (including habitats and species) is described in terms of its nature conservation importance as well as its ecological function, and an assessment of the likely sensitivity of the feature / resource is also made. Assigning a nature conservation value to ecological receptors involves the consideration of a range of the criteria. In practice, rarity is often the most important criterion. Therefore, the nature conservation values described in Table 3.1, below, are primarily defined by the rarity within the different geographical units. This geographical distinction is also useful in placing values in the context of nature conservation designations, which tend to be ranked according to geographical importance.

3.6.2 The assessment of the sensitivity to change of an ecological feature, as the result of a development, is derived from experience and the ecological literature. This aspect of the assessment requires an understanding of the likely responses of a particular feature to a given set of processes or construction plans associated with a proposed development. Some published guidance has been used in the application of professional judgment, such as the Ratcliffe Criteria.

Table 3.1: Descriptions of Nature Conservation Value Levels

Value	Examples
Very high (International importance)	Habitats or species that form part of the cited interest within an internationally protected site or candidate site (*e.g*. SAC, cSAC, SPA, pSPA, Ramsar site). A feature (*e.g.* habitat or population) which is either unique or sufficiently unusual to be considered as being one of the highest quality examples in a international / national context that the site is likely to be designated as an SAC / SPA.
High (National importance)	Habitats or species that form part of the cited interest within a nationally designated site (SSSI, ASSI, NNR, MNR). A feature (*e.g*. habitat or population) which is either unique or sufficiently unusual to be considered as being one of the highest quality examples in a national / regional context for which the site could potentially be designated as an SSSI.
Medium (Regional importance)	Habitats or species that form part of the cited interest of a Local Nature Reserve, or some local-level designated sites depending on specific site conditions. Viable areas of internationally or nationally important habitats (*e.g.* Annex I habitats, priority BAP habitats) present in quality and extent at a regional level, or relevant biogeoclimatic zone, of importance. . Population of a species which is either unique or sufficiently unusual to be considered as being of nature conservation value at up to a national context (*e.g.* UK Nationally Scarce). Sites supporting critical habitats for a regularly occurring, regionally significant number of a nationally important species (*e.g.* priority UK BAP).
Low (Local importance)	High: Sites meeting the criteria for Scottish Council area designation (such as Site of Importance for Nature Conservation (SINC)), Wildlife Sites, which may include amenity and educational criteria in urban areas. Sites containing viable areas of any priority habitat identified in the UK BAP or Scottish Local Authority LBAPs. Sites supporting viable breeding populations of species known to be Scottish Local Authority rarities (*e.g*. included in the LBAP), and / or supplying critical elements of their habitat requirements. Any regularly occurring, locally significant population of bird species.
	Medium: Features / habitats or species which are not considered to qualify for non-statutory designation but which provide locally important semi-natural habitats (*i.e*. approx. 10 km radius from the site). Populations of any species conservation importance in the context of the local area (*i.e*. approx. 10 km radius from the site).

Value	Examples
	Low: Features / habitats or species which are not considered to qualify for non-statutory designation but which provide locally important semi-natural habitats in the context of the immediate surrounding area (*e.g*. species-rich hedgerows, small ponds). Populations of any species of conservation importance in the context of the immediate surrounding area.
Negligible	Commonplace feature of little or no habitat / historical significance. Loss of such a feature would not be seen as detrimental to the ecology of the area.

***Where species or habitats occur in more than one level the highest value is applicable.**

3.7 Impact Magnitude

3.7.1 The impacts (both adverse and beneficial) of the construction and operation of the proposal, and any potential cumulative and in-combination impacts associated with the proposal or other proposals for the wider area, are assessed for their potential effect on the ecological receptors. The impact magnitude is determined by the interaction between the scale of the effect in time, area and intensity, and the sensitivity of the feature being impacted. Guideline criteria for different levels of impact magnitude are given in Table 3.2 below.

Table 3.2: Categorisation of Impact Magnitude (includes consideration of impact duration)

Magnitude	Description
Total / Near Total	Would cause the loss of a major proportion or whole feature / population, or cause sufficient damage to a feature to immediately affect its viability.
High	Major impacts on the feature / population, which would have a sufficient effect to alter the nature of the feature in the short-long term and affect its long-term viability. For example, more than 20 % habitat loss or damage.
Medium	Effects that are detectable in short and long-term, but which should not alter the long-term viability of the feature / population. For example, between 10 - 20 % habitat loss or damage.
Low	Minor effects, either of sufficiently small-scale or of short duration to cause no long-term harm to the feature / population. For example, less than 10 % habitat loss or damage.
Negligible	Minimal change on a very small scale: *de-minimus.*

Magnitude	Description
Neutral	A potential impact that is not expected to affect the feature / population in any way; therefore no effects are predicted.
Duration definitions	Long-term, 20 - 30 years or longer (Period D and beyond) Medium-term, 5 - 20 years (Periods B and C) Short-term, < 5 years (Period A)

3.8 Significance and Mitigation

3.8.1 Following the determination of nature conservation value and impact magnitude, the significance of the effect is determined by combining the two. Table 3.3, below, illustrates the relationship between impact magnitude and nature conservation value. This table is for guidance only, as in practice the assessment of effect significance involves judgment based on the nature of the potential impacts and detailed understanding of the sensitivity of the ecological features affected.

3.8.2 Only those effects of moderate to major level are considered to be significant (*i.e*. considered to be "likely significant effects" in terms of the EIA Regulations). Although only significant effects require mitigation, lesser effects may also need to be addressed depending on specific circumstances.

3.8.3 Once effect significance has been determined, then the need for mitigation measures is identified. The proposed mitigation measures are then in turn assessed for their potential beneficial impact following exactly the same methodology as the assessment of potential adverse impacts. Following this, the residual effect significance is determined, once the benefits of the proposed mitigation measures are factored into the assessment.

Table 3.3: Matrix Showing the Relationship between Impact Magnitude and Nature Conservation Value in the Determination of the Significance of Effects

Impact Magnitude	Nature Conservation Value				
	Very high	*High*	*Medium*	*Low*	*Negligible*
Total / near total	Major	Major	Major	Moderate	Slight
High	Major	Major	Major-Moderate	Moderate	Slight
Medium	Major	Major - Moderate	Moderate	Moderate - Slight	Slight

Impact Magnitude	Nature Conservation Value				
	Very high	*High*	*Medium*	*Low*	*Negligible*
Low	Moderate - Slight	Moderate - Slight	Moderate - Slight	Slight	Slight
Neutral / Negligible	Neutral / Negligible Impact				

3.8.4 Residual impacts are considered to be significant under the relevant Environmental Impact Assessment Regulations if they are at a level of moderate or major. In other words, residual impacts of neutral or slight are not considered to be significant. For this impact assessment, the residual impacts have been considered and weighted on a sensible and realistic 'worst case scenario' basis, using professional judgement for all subjects.

3.9 Notes and Responses to Scoping Consultations

3.9.8 Letter to SNH - Druie River Crossing

Subject: Druie River Crossing
Date: 14/10/2008
From: Dr Andy Mackenzie
To: Keith Duncan, SNH, Achantoul, Aviemore, Inverneshire, PH22 1QD

Our ref: 039.002/AJM/10/01

Dear Keith,

Re. Proposed An Camas Mòr Development, Aviemore

Following on from our previous discussion on the River Druie and the requirement for services to cross it, we would like to agree the approach to this with SNH.

The key question, which we would value SNH's view on is: For the services crossing of the River Druie should this be achieved by (a) careful trenching or (b) attached to a bridge?

We have yet to determine the precise details of the location for any trenching but it would be likely to be in the area of the Druie close to the Fishery for the services to continue under the new pedestrian access/cycleway on the line of the existing field access track towards An Camas Mòr. It is unknown at present whether it will be possible to locate all services in the one pipe/trench or whether several might be necessary. It has been suggested that a physical

separation will be necessary between telecoms and electricity cables and also between water service pipes, but further details on this are not yet available. The services on a bridge would be likely to be located on a replacement vehicular bridge or on a new pedestrian bridge at the Fishery (it may be a combination of both to allow physical separation).

It is understood from our previous discussion that SNH are of the view that a "likely significant effect" is the case for any/all works in the vicinity of the River Druie. This would initiate the need for Appropriate Assessment under the Habitats Directive. It is MBEC's view that there are differences in risk between in-river works and spanning the river by bridge, however, regardless of the preferred solution, it is obviously critical that we avoid all impacts on the River Druie (Spey SAC) and that uncertainty related to the potential for construction/pollution impacts are minimised to acceptable levels of certainty.

I would appreciate your written views on this matter in order to progress any further details required.
For your information, I have been in contact with Pete Cosgrove and we are progressing a wading survey of the Druie for freshwater pearl mussels now. I have attached his proposed methodology and would appreciate a response that SNH are content with his approach. If SNH are not content with this approach, I would appreciate knowing ASAP, otherwise a response in writing along with your views on the services issue would be great.

I look forward to your reply.

Yours sincerely

Dr Andy Mackenzie (MBEC Partner)

Working on Behalf of Johnnie Grant of Rothiemurchus.

3.10 Reply from SNH - Druie River Crossing

Subject: Druie River Crossing
Date: 14/10/2008
From: Keith Duncan, SNH, Achantoul, Aviemore, Inverneshire, PH22 1QD
To: Dr Andy Mackenzie

Dear Andy

RE: Proposed An Camas Mòr Development, Aviemore

Thank you for your letter dated 14 October regarding methods for services crossing the River Druie and, a proposed fresh water pearl mussel survey.

The options for locating services for crossing the River Druie include fixing them to a bridge or underneath a river. The options for citing the services under the river include either trenching or directional drilling. Trenching would be SNH's least preferred option as this could result in significant disruption to the riverbed and associated potential impacts to Natura qualifying features. SNH considers that either of the other options is workable in terms of Natura interests.

With regard to the draft specification for surveying for fresh water pearl mussels in the River Druie and part of the River Spey, our advice is that the specification is appropriate and we have no additional suggestions to make.

Yours sincerely

Keith Duncan
Area Officer
Caringorms