

# 10. Biodiversity & Habitats

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# Appendix 10 Biodiversity & Habitats

## STAG Worksheet B1: Biodiversity & Habitats - Strategic & Project Level, Baseline Information

Proposal Name:		Worksheet B1: Biodiversity - Strategic & Project Level, Baseline Information				
A9 Kinraig to Dalraddy Dualling		Assessment Date:		March 2013		
Existing & Future Issues:	Implications for International Designated Features and Construction Impacts					
Location / Status <sup>1</sup>	Attribute / Feature Habitats / Species <sup>2</sup>	Scale it Matters	Importance <sup>3</sup>	Trend / Status	Ease of Substitution	Relevant Objectives <sup>4</sup>
International Designated Features						
Cairngorms: National Park	National Park. Habitats range from montane to lowland river valley, woodlands, lochs and farmland ; one of Scotland's core areas for wild cat, red squirrel and pine marten. Otters widespread.	International	The Park supports 25% of Britain's threatened flora and fauna with 39% of the land area designated as of national and international importance for nature conservation	The State of the Park Report (Cairngorms National Park Authority, 2006) identifies the current status and known trends. Woodland cover increasing, heather moor and blanket mire cover decreasing. Some loss of lowland wetlands. Climate change may be leading to reduced precipitation and snow cover	No substitution possible	32 species identified as Priorities for conservation in the Cairngorms Local Biodiversity Action Plan 2002 including Scottish crossbill, red squirrel and wild cat  Cited habitats include woodlands, especially wet woodlands, marshes and wetlands, species-rich grasslands. Need recognised to reduce habitat fragmentation.

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Existing & Future Issues:	Attribute / Feature Habitats / Species <sup>2</sup>	Scale it Matters	Importance <sup>3</sup>	Trend / Status	Ease of Substitution	Relevant Objectives <sup>4</sup>
River Spey SAC	River and associated riparian habitats, notified for the conservation of Atlantic salmon, otter, sea lamprey and freshwater pearl mussel	International	Internationally important as a clean-water river with a high ecological and water quality status in the reach adjacent to the Project and supporting, in the appropriate reaches, good populations of its notified species.	Populations of salmon and freshwater pearl mussel formerly regarded as unfavourable but thought to be recovering. Otter and lamprey favourable and stable	No substitution possible	To maintain habitat condition and populations of notified species at a favourable status
Insh Marshes SAC, SPA, Ramsar and NNR	Oligotrophic to mesotrophic open waters, mires and quaking bogs, alluvial forest, otter, and birds including spotted crane, osprey, hen harrier, wood sandpiper swan and migratory wigeon.	International	Internationally important and one of the best UK examples of an extensive riverine marshland system, supporting a number of rare plants in addition to its notified habitats and species.	Alder woodland on floodplain considered unfavourable but recovering. Other features favourable, stable and maintained	No substitution possible	To maintain habitat condition and populations of notified species at a favourable status

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Proposal Name:	Implications for International Designated Features and Construction Impacts					
Existing & Future Issues:	March 2013					
Location / Status <sup>1</sup>	Attribute / Feature Habitats / Species <sup>2</sup>	Scale it Matters	Importance <sup>3</sup>	Trend / Status	Ease of Substitution	Relevant Objectives <sup>4</sup>
Cairngorms, Kinveachy, Craigmere Wood, Anagach Wood & Abernethy Forest SPAs	Capercaillie	International	Internationally important for capercaillie populations Network of sites supporting regional metapopulation	Capercaillie a Red listed UK species of high conservation concern due to sharp historic population decline.	No substitution possible	To maintain habitat condition, habitat corridors, and populations at a favourable status
National Designated Features						
Alvie SSSI	Oak woods, wet woodland, open water and fen, rare invertebrates, breeding goldeneye (up to 15% of the UK population) and	National	A diversity of natural habitats supporting a number of uncommon or vulnerable species in addition to those notified. Forms a larger habitat network with the adjacent Spey SAC	Status of woodland, in particular oak woodland, unfavourable due to lack of regeneration. Other notified features favourable and stable	No substitution possible	To maintain habitat condition and populations of notified species at a favourable status; to improve oak woodland habitats.

Proposal Name:		Worksheet B1: Biodiversity - Strategic & Project Level, Baseline Information				
A9 Kinraig to Dalraddy Dualling		Features and Construction			Assessment Date:	March 2013
Existing & Future Issues:	Implications for International Designated Features and Construction Impacts					
Location / Status <sup>1</sup>	Attribute / Feature / Habitats / Species <sup>2</sup>	Scale it Matters	Importance <sup>3</sup>	Trend / Status	Ease of Substitution	Relevant Objectives <sup>4</sup>
Regional/District Designated Features						
Woods between Alvie Lodge and A9. Ancient Woodland site	Mature pine woods on an Ancient Woodland site with ancient woodland ground flora	Ancient woodlands of national significance, this example regarded as re-planted and considered of District value.	Generally the most diverse of woodland types supporting a ground flora limited to ancient woodland site and absent from secondary plantations	Ancient woodlands have declined nationally but probably stable in the Cairngorms. Habitat Action Plan targets (Cairngorms LBAP) achieved but improvements sought in habitat structure and success of natural regeneration	No complete substitution possible for Ancient Woodlands over realistic time scales.	Improve woodland structure and capacity for natural regeneration

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Existing & Future Issues:	Implications for International Designated Features and Construction Impacts					
Location / Status <sup>1</sup>	Attribute / Feature Habitats / Species <sup>2</sup>	Scale it Matters	Importance <sup>3</sup>	Trend / Status	Ease of Substitution	Relevant Objectives <sup>4</sup>
Woods between Alvie Lodge and A9 and A9 roadside verges. Wood ants (Scottish Biodiversity List)	Hairy wood ant (Formica lugubris)	Key species of pine woods, restricted to particular conditions of light & shade. Local to District value.	Classified as Nationally Scarce in the UK and Near Threatened on the IUCN Red List.	Populations in the UK probably stable, but vulnerable to woodland management and forestry operations.	Wood ants' nests can be moved but with varying and unpredictable success rates	Improve woodland structure to favour this species.
Local / Other Designated Features						
Dunachton Burn and Allt an Fhearna, alluvial woodland, Annex 1 EC Habitats Directive , UK and Scottish Biodiversity list	Wet alluvial woodland with alder, aspen, willows an downy birch	Local value	Distinctive community of wetland trees with characteristic invertebrate fauna and ecosystem-service role in flood storage and attenuation.	Has declined nationally but probably stable in the Cairngorms	Where ancient in origin, complete substitution over realistic time scales unlikely. Substitution possible for secondary wet woodland over medium to long term.	Restore stands where artificial drainage has reduced ground water. Improve structure and capacity for natural regeneration. Re-plant and improve habitat continuity/ecological networks. Relates to conservation objectives for dependent BAP/LBAP species, e.g. Kentish glory moth, aspen hoverfly.

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Oak parkland/ wood- pasture between Dunachton Lodge and Meadowside Quarry. Mapped as Ancient Woodland in the SNH Inventory. Wood pasture a UK BAP habitat.	Old oaks, birches, rowan and hazel over semi-improved pasture.	Local value	Often notable for its old trees, some with cavities with potential for nesting birds or as bat roosts. May be important for lichen epiphyte flora. Semi-improved grasslands can be locally moderately species-rich.	Has declined nationally. Status in Cairngorms uncertain but probably stable, but vulnerable to lack of regeneration through grazing management	Substitution possible over the very long-term	Retain and re-plant. Relates to objectives for the conservation of bats and bat roosts.
Species-rich grasslands (localised), by Leault Burn and Baldow Smiddy underpass. UK BAP habitat and some component NVC communities on the Scottish Biodiversity List.	Species-rich grasslands including acidic & damp-grassland variants.	Site value	Probably semi-improved but locally retaining a species-rich community of wild flowers and grasses of importance to invertebrates in particular.	Has declined markedly at a national level, status in Cairngorms uncertain. Habitat reservoirs present along grass banks of rivers and burns.	Re-seeding with wildflower mixes successful in producing a valuable habitat but can be difficult to replicate exactly the original community.	Conserve and restore. Relates to conservation objectives for pearl bordered fritillary (UK BAP & LPAP)

## Notes to Worksheet B1

1. 1 The name / location and designation of any relevant site / area should be provided.
2. 2 Key characteristics of note.
3. 3 As discussed in Section 7.4.6.5 of the STAG Technical Database, the assessment should be carried out according to the Ratcliffe criteria.
4. 4 Relevant objectives to be taken from BAPs and other relevant documents.

International	Special Protection Areas, Special Areas of Conservation, Ramsar Sites, Natura 2000 sites and other international convention sites.
National	Site of Special Scientific Interest, National Nature Reserves, National Biodiversity Action Plans, National Parks and other statutory designated national sites.
Regional	SNH's Natural Heritage Futures, structure plan designations and other sites of regional importance.
Local/Other	Local Nature Reserves, Sites of Interest to Nature Conservation (SINC), SWT sites, other Local Plan designations, Local Biodiversity Action Plans.



**Worksheet B2: Biodiversity & Habitats - Strategic & Project Level, Impact Assessment**

A9 Kincaig to Dalraddy Dualling		Worksheet B2: Biodiversity - Strategic & Project Level, Impact Assessment				
Proposal Name:	Potential Impacts	Potential for Cumulative Effects <sup>1</sup>	Timescales: When / Duration	Uncertainty	Mitigation	Impact Significance Assessment <sup>2</sup>
Cairngorms National Park	Added severance effect on animal crossing points, increased risk of road mortality to fauna, habitat loss, impacts on water quality.	Further works on dualling along the A9 alignment in the National Park	Construction, operation	Without mitigation, impacts likely	Dry ledges on each bank as required at bridge points over major watercourses, dry parallel culverts for minor watercourses, retained and improved underpasses with permeable fencing along side roads, closure of at-grade junctions and protective fencing along highway alignment.  See below for mitigation in relation to habitat loss and water quality.	Species-dependent, but overall Neutral to Minor Positive

River Spey SAC	Pollution of SAC Dunachton burn reach and of other contributing tributaries during construction. Additional over-shading of the Dunachton burn to second carriageway. Operational impacts of road run-off	Potential for run-off into watercourses along the works alignment	Construction, operation	Without mitigation & good works practice, impacts likely	Good works practice to agreed method statements during construction. Construction works under the supervision of ecological clerk of works. New SUDS: vegetated swales and detention basis for construction run-off where feasible and for operational run-off and control of water quality. Dunachton burn re-surveyed for otter prior to construction with mitigation formulated as necessary in the light of any new findings of holts or resting places	Construction impacts Neutral. Operational impacts Minor Positive
Insh Marshes SAC, SPA, Ramsar and NNR	Construction noise leading to disturbance of breeding birds and migratory/wintering birds	None identified.	Construction	Without mitigation, impacts possible	All works where high levels of continuous or percussive noise generated in the proximity of Inch Marshes SPA to be undertaken outside the bird breeding season.	Neutral
Cairngorms, Kinveachy, Craigmore Wood, Anagach Wood & Abernethy Forest SPAs	Construction noise leading to disturbance of breeding capercaillie, if present, along the scheme, disruption of habitat corridors	None identified	Construction	Status of species in the area uncertain but thought to be absent	Pre-construction surveys to determine any presence in Alvie Lodge woods to the west of the A9 alignment.	Neutral

Alvie SSSI	Land-take to second carriageway in wet woodlands of the SSSI, construction impacts on water quality, operational impacts on water quality	None identified.	Construction, operation	Without mitigation, impacts habitat loss certain	Compensation planting of a new area of wet woodland of around 1.4 ha in area in mitigation for losses to the Alvie SSSI and at the Dunachton burn crossing. Allt an Fhearna re-surveyed for other prior to construction with mitigation formulated as necessary in the light of any new findings of holts or resting places	Minor Positive as new plantings mature
Woods between Alvie Lodge and A9. Ancient Woodland site	No land-take, minor risk of disturbance to mammal & bird fauna	None identified.	Construction	N/A	Disturbance considered to be of low risk, no additional mitigation required	Neutral

Woods between Alvie Lodge and A9 and A9 roadside verges: Wood ant (Formica lugubris).	Two nests of wood ant lost to carriageway construction on eastern verge, 22 nests lost to cycle path and associated land-forming on the western verge	None identified.	Construction	Losses on eastern verge certain, losses on western verge comprise a 60% loss (of nests) to the population	Translocate all nests lost to works to safe sites on western verge. Minimise re-grading works on western verge. Manage site over the long-term to prevent encroaching young pines. Undertake thinning and scalloping to increase sunlit edge which favours the nests of this species.	Survivorship of translocated nests vary from 13-50% therefore Moderate Negative impact at outset. With management, population recovery expected, therefore Neutral
Dunachton Burn and Allt an Fhearna, alluvial woodland.	Temporary but medium to long-term losses of wet woodland to bridge diversions during construction, permanent losses to second carriageway with potential for loss of bat roosting habitat in mature trees.	None identified.	Construction, operation	Without mitigation, impacts habitat loss certain	Compensation planting, as above for Alvie SSSI, of a new area of wet woodland of around 1.4 ha in area in mitigation for losses to the Alvie SSSI and at the Dunachton burn crossing. See below in relation to mitigation for protected species.	Minor Positive benefit realised as plantings mature.
Oak parkland/ wood- pasture between Dunachton Lodge and Meadowside Quarry.	Habitat loss in relation to old trees in the parkland/ wood pasture with potential for loss of bat roosting habitat	Construction noise may adversely affect local breeding bird population	Construction	Uncertainty over the precise number of trees affected, or the presence of bat roosts	Identify and survey all affected trees for bat roosting potential prior to construction and in sufficient time to allow for species protection by seasonal avoidance of works. Avoid bird breeding season. Loss of nesting sites and/or bat tree roosts to be mitigated by the provision of long-lasting nest/roosting boxes placed on immediately adjacent retained trees in a ratio of 3 boxes provided for any potential roost lost.	Minor adverse in relation to any loss of old trees. Neutral in relation to protected species.

Species-rich grasslands (localised), by Leault Burn and Baldow Smiddy underpass.	Habitat loss to second carriageway and to temporary bridge diversions.	Potential for impacts on wet grasslands from changes in ground-water regime	Construction	Extent of land-take required from bridge diversions not precisely determined	Land-take minimised. Losses of grasslands mitigated by re-seeding verges with wildflower grasslands. Options for long-term management of the grasslands at the Baldow Smiddy underpass to be explored.	Potential for Minor Positive gains from verge re-seeding
<p><b>Key Assumptions:</b></p> <p>All works are undertaken to best practice with regard to minimising pollution risks , the adverse impacts of noise and with general regard to highest standards of environmental protection .</p> <p>All mitigation is undertaken as outlined, impact avoidance strategies are practical and successful and the results of habitat creation accord to the intended design, specifications and objectives.</p>						
<p><b>Key Data Sources:</b></p> <p>A9 Kinraig to Dalraddy Carriageway Widening. 2007 Environmental Statement. Volumes 1-3 (Atkins for Transport Scotland).</p> <p>Data derived from field survey August-September 2012 &amp; February 2013.</p> <p>Data derived from consultation, 2013.</p> <p>Additional references as quoted in Section 18. Volume 1 of the ES</p>						

### Notes to Worksheet B2

1. 1 Consider potential for impacts not just within the proposal but also with other external actions potentially affecting the site or resource.
2. 2 Use 7-point scale as described in STAG Technical Database Section 5.4.