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Volume 1: Main Report

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Volume 2: Technical Appendices

Please see the Volume 2 document for the list of Technical Appendices

Volume 3: Environmental Drawings

Please see the Volume 3 document for the list of Environmental Drawings



Glossary

The human ear does not respond uniformly to different frequencies. A-weighting is commonly used to simulate 'A' weighting dB(A)

the frequency response of the ear.

Abutment The structure that supports the end of the bridge or supports and retains the bridge approach.

Acid grassland Grassland that occurs on acidic soils (pH less than 5.5).

Aggregate Materials used in construction, including sand, gravel, crushed stone, slag, or recycled crushed concrete. Air Quality Management A non-permanent designation created if monitoring reveals that statutory air quality thresholds are being

Area (AQMA) exceeded or will be exceeded in the near future.

Algae Single or multi-cellular organisms that photosynthesise. Alien species A species that exists outside of its normal distribution.

A proposal for land for housing, industry or other uses within a Local Plan that identifies a specific area of land Allocation

to be developed within the time period of the plan.

Alluvium Sediment deposited by a river.

Alluvial Fan A fan or cone-shaped deposit of sediment built up by a river.

Amber list species Species with unfavorable conservation status in Europe or showing moderate declines or rare or localised in

their distribution.

Ambient Noise The all encompassing sound at any point in time.

Amenity grassland Intensively managed and regularly mown grasslands that are typical of golf courses, sports pitches, playing

fields and lawns. These grasslands are typically of low diversity and limited wildlife and landscape value.

Defined as the relative pleasantness of a journey and relates in particular to the exposure of pedestrians and Amenity value

others to traffic.

Ammocoete Larval stage in the life cycle of lamprey.

Any cold blooded animal of the class Amphibia which includes frogs, toads and newts. Amphibian

Ancient Woodland Areas of land that appear as wooded on maps dated pre-1750 (in Scotland) and are considered likely to have

been continuously wooded from this date.

Ancient Woodland

Inventory

Aims to list all probable ancient semi-natural woodlands on a county basis together with those woodlands in other ancient categories of lesser woodland nature conservation interest.

Determination by an identified competent authority (Scottish Government, informed by SNH) of likely significant Appropriate Assessment

effects associated with a development on a European Protected Site.

Required by law under Regulation 48 of the Habitats Regulations (1994), implementing Article 6(3) of Habitats

Directive (92/43/EEC).

Aquifer A body of rock through which appreciable amounts of water can flow.

Land that is or can be used for growing crops. Arable land

A sheet of corrugated metal, carpet tile or other material that is placed on the ground and is typically used to Artificial refuge

survey for the presence of reptiles and amphibians.

Assessment An umbrella term for description, analysis and evaluation.

Attenuation Increase in duration of flow hydrograph with a consequent reduction in peak flow.

Attribute Characteristics of an environmental receptor.

Authority area The area administered by a local authority for example, District Council, City Council or Unitary Authority.

Average Score Per Taxon Calculated by dividing the Biological Monitoring Working Party (BMWP) score of a sample by the number of (ASPT) scoring families that contributed to the BMWP score of that sample.

Avulsion The abandonment and formation of new river channels.

Features such as roads which may impact ecological communities through restriction of movement and habitat Barrier effects

alteration, sub-dividing populations with demographic and possibly genetic consequences.

Baseline The existing conditions which form the basis or start point of the environmental assessment.

Base-poor Environments which have few chemical bases, they are dominated by environmental acids (usually organic

acids) and so are acidic.

Base-rich Environments which are neutral or alkaline.

Bedrock Hard rock that lies beneath a superficial cover of soils and sediments.

Best Practicable Means A feasible approach [to mitigation], having due regard for means, resources and conditions. Control of Pollution

Act (1974) defines this as measures 'reasonably practicable having regard among other things to local conditions and circumstances, to the current stated of technical knowledge and to financial implications'.



Bioaccumulation The process by which substances accumulate in the tissues of living organisms with particular reference to

toxic substances that accumulate via a food chain.

Biological diversity, or richness of living organisms present in representative communities and populations.

Biodiversity Action Plan

(BAP)

Sets objectives, along with measurable targets for the conservation of biodiversity.

Bog An area of soft, wet, peaty ground.

Broadleaved woodland An area of woodland with predominantly deciduous tree species (less than 10% coniferous trees in the

anopy).

Bryophyte Phylum of non-flowering plants, with little or no vascular tissue; includes plants such as true mosses and

liverworts

Buffer A natural, undisturbed strip surrounding a development or land disturbance activity or bordering a stream or

permanent water body.

Bund An embankment, wall or dam that can be used to minimise noise or alternatively built around an oil tank to

contain the contents in the event of spillage.

Burn A small stream.

Calcareous Refers to a sediment, sedimentary rock, or soil type which is formed from or contains a high proportion of

calcium carbonate.

Calcicolous A plant that grows and thrives in soil rich in lime.

Calcifugous Growing or living in acid soil.

CAR Controlled Activities Regulations

Catchment The area contributing flow to a point on a drainage system.

Channel morphology Physical characteristics of stream channels, such as width/depth ratio and sinuosity, and types of pattern e.g.

braided, meandering, straight.

Channel sinuosity

An assessment of the degree of irregularity in the path of a river channel across the landscape; it is measured

as the difference between channel length and valley length.

Community Assemblage of interacting populations that occupy a given area.

Community type The composition of plant species that form a habitat or group of habitats.

Community Conservation A conservation

Index (CCI)

A conservation indexing protocol for summarising aquatic macroinvertebrate data obtained from inland flowing

and still water sites.

Community Severance Community severance is defined here as the separation of residents from facilities and services they use within

their community caused by new or improved roads or by changes in traffic flows.

Commuting route A linear route used regularly by individuals of a population of bats for travelling between roosting and foraging

habitats.

Compulsory Purchase

Order (CPO)

A legal document giving the government (Scottish Ministers) power to compulsorily purchase the areas of land

necessary for construction of the scheme.

Coniferous woodland An area of woodland with predominantly coniferous tree species (less than 10% deciduous trees in the

canopy).

Conservation Preservation or restoration of the natural environment and wildlife.

Conservation Area Area of special architectural or historic interest, the character or appearance of which it is desirable to preserve

or enhance. Designated under section 61 Planning (Listed Buildings and Conservation Areas) (Scotland) Act

1997.

Contaminated land Land in such condition by reason of substances on or under the land that significant harm is being caused,

there is a significant possibility of such harm being caused or pollution of controlled water is being, or likely to

be caused'.

Contracting Parties Partnership or organisation which enters into a binding agreement with one or more other contracting parties.

Core Path A right of way designated by a Local Authority as being of importance to maintain access and leisure provision.

Couch Above-ground otter shelter.

Cropmark Marks visible in growing and ripening crops, especially via aerial photography, which reflect the differences in

the subsoil beneath. For example, parched lines of grass may indicate hidden stone walls or packed stone

layers

Culvert A metal, wooden, plastic, or concrete conduit through which surface water can flow under or across roads.

DAFOR Scale A scale for assessing species abundance.

Debris Cone Steep cone-shaped accumulation of rock fragments.

Decibel (dB) The range of audible sound pressures is approximately 0.00002 Pa to 00 Pa. Using decibel notation presents

this range in a more manageable form, 0 dB to 140 dB.



Deciduous Trees and shrubs that shed their leaves annually.

Demography The studying/ science of the characteristics of populations, such as size, growth rate etc.

Designed Landscape A designed area of landscape which is identified in the Inventory of Gardens and Designed Landscapes (jointly

compiled by SNH and Historic Scotland).

An area for temporarily storing water which delays its flow downstream. Includes some water quality benefits. Detention basin

Usually part of SUDS (drainage design).

Diffuse pollution Contamination and pollution arising from many dispersed and different sources. These sources are often

individually minor, but collectively may be significant.

The rate of flow of a river at a particular moment in time, relative to volume and velocity. Discharge regime

Displacement To move something from its natural environment. Diurnal Organisms which are active during daylight hours.

Dolerite Basic igneous rock similar in composition to basalt but with a coarser grain.

Do-Minimum (DM) The base scenario for assessment purposes, where there are no modifications to the existing road network.

May also refer to the minimum modifications, which will necessarily take place in the absence of a proposed

scheme.

Do-Something (DS) The 'with proposed scheme' scenario for assessment purposes,

The most common squirrel nest type. Comprises a round ball of twigs, leaves and bark. Drev

Frequently built close to tree trunk or in branch forks to provide shelter.

Drift deposits Drift geology overlying bedrock.

Driven shooting Involves birds being driven over guns by beaters. The guns are stationed in pre- determined positions.

Earthworks Works created through the moving of quantities of soil or unformed rock.

Easements A term relating to law where a right (e.g. a right of way) is held by one person to make limited use of another

landowner's property.

Echolocation The use by bats of ultrasonic signals to navigate and locate insect prey.

Ecological Clerk of Works

(ECoW)

A qualified ecologist who supervises construction sites, ensuring that ecological impacts are minimised and

that the law relating to protected species etc. is complied with.

Ecological receptors Living organisms, habitats, or natural resources that could be impacted by the construction or operation of the

proposed scheme.

The branch of biology concerned with the relations of organisms to one another and to their physical Ecoloay

surroundings.

A biological community of organisms interacting with one another and their physical environment. Ecosystem

Edge effect Processes that characterise habitat fragmentation and the concomitant creation of edges.

> Habitat conditions (such as degree of humidity and exposure to light or wind) created at or near the more-orless well-defined boundary between ecosystems, as, for example, between open areas and adjacent forest.

Effect The result of change or changes on specific environmental resources or receptors.

Eft An immature newt in its terrestrial phase.

A fish sampling technique using electric currents and electric fields to control fish movement and/or immobilize Electrofishing

fish, allowing capture.

Element A component part of the landscape or environment (e.g. roods, hedges, woodlands).

Emergent vegetation The vegetation that grows up from within the water.

Environmental Clerk of Works (EnvCoW)

A qualified environmental specialist who supervises construction sites, ensuring that environmental aspects are

considered and any mitigation measure are commitments are implemented.

Environmental Impact Assessment (EIA)

Environmental

The process by which information about the environmental effects of a project is evaluated and mitigation measures are identified.

Document which describes the processes to be followed to ensure compliance with environmental legislation

Management Plan (EMP)

and policy and minimise harm to the environment.

Environmental Statement

Document provided by the Developer to the Competent Authority, containing environmental information

required under Article 5 of Directive 85/337/EEC as amended. (ES)

Feeding station In ecology, a favoured spot where food items are often brought to be eaten and feeding remains as neat piles

of chewed lengths of vegetation are evident.

A wetland that, like a bog, has organic soil. In contrast with bogs, fens receive most of their water from the Fen

surrounding groundwater, and consequently can be either acidic or alkaline, depending on the surrounding

earth. They support a greater variety of plants than bogs, but are often still dominated by peat.

Material deposited by man in ground depression or excavated area.

Land adjacent to a river, which is subject to regular flooding. Floodplain



Flora Referring to plants of a particular region or habitat.

Flow regime Combinations of river discharge and corresponding water levels and their respective (yearly or seasonally)

averaged values and characteristic fluctuations around these values.

Fluvial geomorphology

The study of landforms associated with river channels and the sediment processes which form them.

Footprint

The geographical extent of an ecological impact.

Foraging

Searching for food or provisions.

Fragmentation

Breaking up of an organisms habitat into smaller fragments that may vary in size.

Freshwater

Bodies of water such as ponds, lakes, rivers and streams containing low concentrations of dissolved salts and

other total dissolved solids.

Geodiversity

The natural range of geological features (rocks, minerals, fossils, structures), geomorphological features (landforms and processes) and soil features that make up the landscape. It includes their relationships, properties, interpretations and systems.

Geological Conservation Review Site (GCR)

Sites designated by regional geological groups on locally developed criteria, currently the most important

places for geology and geomorphology outside statutorily protected land such as SSSIs.

Geomorphology

The branch of geology concerned with the structure, origin and development of topographical features of the

earth's crust.

Geophysical survey

Geophysical survey is a non-intrusive pre-construction archaeological evaluation technique that exploits a variety of physical or chemical characteristics of rocks and soils etc. in an attempt to locate underground features of archaeological interest. Types of geophysical survey include magnetometer survey, magnetic susceptibility survey and resistivity survey.

Geotextile Permeable fabric made of polypropylene/ polyester and which has the ability to separate, filter, reinforce,

protect or drain.

Glacial Till Glacial till is that part of glacial drift which was deposited directly by the glacier. It may vary from clays to

mixtures of clay, sand, gravel and boulders.

Glaciofluvial Pertaining to streams fed by melting glaciers, or to the deposits and landforms produced by such streams. Glevs Naturally poorly drained soils that develop under conditions of intermittent or permanent waterlogging.

Glide Even paced section of river or stream with laminar flow.

Green Belt The green belt is an area of countryside around the edge of an urban area where new building is not normally

allowed and planning is strictly controlled. The aims are to prevent urban expansion, allow easy access to the

countryside and protect attractive landscapes.

Green list species Bird species with no identified threat to their population status.

Ground Investigation Exploratory investigation to determine the structure and characteristics of the ground.

The collected information is used to establish or predict ground and groundwater behaviour during, and

subsequent to, construction.

Ground-truthing Verification on the ground of conditions on a site.

Groundwater

Water below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

Groundwater Dependent Terrestrial Ecosystem

An ecosystem that is directly dependent on the water level in or flow of water from a groundwater body (that is,

in or from the saturated zone).

Habitat Term most accurately meaning the place in which a species lives, but also used to describe plant communities

or agglomerations of plant communities, as used, for example in a Phase 1 Habitat Survey.

Habitat Action Plan Objectives set by the British government to conserve the biodiversity in given habitats.

Habitat complexity The sum of factors which interact to dictate environments in which species live.

Habitat fragmentation Describes the breaking up of an organisms preferred environment/ habitat. Occurs naturally through geological

processes that alter the layout of the physical environment over long periods of time, or through human

activities, such as land conversion.

Habitat Modification Index

An index used to assess the condition of a river corridor based on the biological condition of a sampling point.

Habitat Modification Score An assessment of the extent of anthropogenic modification to a channel. Larger scores indicate a higher

degree of modification.

Habitat Quality Assessment

A measure of the structural diversity of the river. Increasing scores are associated with increasingly complex habitat diversity.

Habitat Regulations Appraisal (HRA)

The process by which certain plans or projects are assessed which could affect the integrity of European sites. The report is used to inform an Appropriate Assessment (AA) under the requirements of the Habitats Directive.

Habitat Suitability Index Habitats Directive

A numerical index that represents the capacity of a given habitat to support a selected species. EC Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

Habituate To become accustomed to a particular situation.



Head Deposits Sediments formed through a range of mass movement slope processes

Heathland Uncultivated land with sandy soil and scrubby vegetation.

Heavy Duty Vehicle (HDV) Vehicles greater than 3.5 tonnes gross (includes HGVs, as below).

Heavy Goods Vehicle

(HGV)

Vehicles with 3 axles (articulated) or 4 or more axles (rigid and articulated).

Hibernacula Structures used by animals to hibernate through the winter, such as log piles, rock piles, vegetation piles, old

mammal burrows, tree root complexes and buildings.

Hibernation Extended period of torpor undertaken during winter.

Holt Deep underground otter shelter.

Holocene Relating to or denoting the present epoch, which is the second epoch in the Quaternary period and followed

the Pleistocene.

Hummocky Moraine A strongly undulating surface of ground moraine, showing steep slopes, deep, enclosed depressions and

meltwater channels.

Hummocky (Moundy) Glacial Deposits Glacial deposits of rock debris, sand and gravel that have a characteristic moundy topographic form.

Hydraulic Of, relating to, or operated by the force of liquid in motion.

Hydrocarbon A chemical compound of hydrogen and carbon.

Hydrogeology Branch of geology dealing with occurrence, distribution, and effect of groundwater.

HydrologicalThe exchange of water between the atmosphere, the land and the oceans.HymenopteraTaxonomic order of the Insecta which includes ants, bees and wasps.Igneous PetrologyThe study of igneous rocks, their occurrence, composition, and origin.

Impact Any changes attributable to the proposed scheme that have the potential to have environmental effects (i.e. the

causes of the effects).

Impermeable Material that does not allow fluids to pass through it.

Improved grassland Grasslands that have been so modified by fertilisers, drainage or grazing that they have lost most of the

species expected in unimproved grassland.

Incidental sighting Casual observation of a plant or animal of one or more species recorded by whilst performing a non-relevant

ecological survey.

Indicator species A species that is characteristic of a particular habitat. The disappearance of such a species is an early warning

of habitat degradation.

Inter alia 'Among other things'.

 Inter-bedded
 Alternating layers of different materials in a section of bedded rocks.

 Interstitial
 Referring to the spaces between sediment grains or in other minute spaces.

Invertebrate An animal without a backbone.

Kettle hole A low-lying area or hollow, usually filled with water from flood waters or retreating glaciers.

Laeq Equivalent Continuous Sound Level. A notional steady sound level which would cause the same A-weighted

sound energy to be received as that due to the actual, possibly fluctuating, sound level over a given period of

time.

Landform Combination of slope and elevation producing the shape and form of the land surface.

Landscape Human perception of the land, conditioned by knowledge and identity with a place.

Land-take Acquired land which is necessary to construct the proposed scheme and associated infrastructure and to

undertake the essential environmental mitigation measures.

Larvae An active immature form of an insect or other animal that undergoes metamorphosis, e.g. a caterpillar or

tadpole.

Lateral connectivity Hydrologic connectivity is defined as the condition by which disparate regions on the hillslope are linked via

subsurface water flow. Lateral refers to the spatial dimensions of riverine/ riparian/ floodplain habitats.

Lichen A group of complex organisms, which are formed from the symbiotic association of a fungus and an alga.

Listed Building Building included on the list of buildings of special architectural or historic interest and afforded statutory

protection under the 'Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997' and other

planning legislation. Classified as Categories A-C.

Lithology The study of rocks, with particular emphasis in terms of their color, texture, and composition.



Local Geodiversity Site (LGS)/ Regionally Important Geological Sites Sites designated by regional geological groups on locally developed criteria, currently the most important places for geology and geomorphology outside statutorily protected land such as SSSIs.

(RIGS)

Local Landscape Character Area (LLCA)

Macroinvertebrate

An area outlined as having distinct characteristics based on landscape features. Derived from regional

landscape studies available from SNH.

Loch Lomond Stadial The period between deglaciation and the start of the Holocene, 10,000 years ago.

An animal without a backbone that can be seen with the naked eye, for example, snails, waterfleas, shrimps or

Macrophyte An individual alga large enough to be seen easily with the unaided eye. Ground comprised of material deposited by man i.e. not natural. Made ground

Magnitude Size, extent, scale and duration of an impact.

Marginal vegetation Vegetation at the water's edge.

Marshland Low-lying wet land with grassy vegetation; usually a transition zone between land and water. Meadow An area of grassland that has is normally grazed by livestock and/ or used for growing hay.

Meander bend A bend in a sinuous watercourse. Formed when moving water in a valley bottom erodes the outer banks

causing the channel to change shape.

Mesotrophic Of a moderately rich or productive habitat.

Migration The movement (of an animal) from one habitat to another according to the seasons.

Mineral extraction The removal of a naturally occurring solid formed through geological process that has a characteristic chemical

composition, a highly ordered atomic structure and specific physical properties.

Mire General term for all peat-forming ecosystems; bog, fen, carr, muskeg, moor and peatland (does not include

marshes as these are non-peat-forming and are seasonally flooded).

Mitigation Measure to avoid, reduce or offset potential adverse impacts.

Mixed plantation woodland Planted stands with either broadleaf or conifer species comprising 10-90% of the canopy.

Monoculture Land that is used to grow one crop only.

Moraine Glacially formed accumulation of unconsolidated glacial debris (rock and sediment). Mosaic A pattern of two or more vegetation types disposed in intimate relationships to one another.

Natal holt The small space (usually a holt or couch) used by a female otter to give birth and raise cubs for a period of up

to three months.

National Vegetation

Classification (NVC)

A system to describe British vegetation types, whereby each vegetation type has a different 'code'.

Native A species occurring in its normal geographic range (not introduced).

Non-indigenous Not originating in, nor characteristic of, a particular area.

Non-motorised users Pedestrians, cyclists and equestrians.

Non-prime land Agricultural land of Land Capability for Agriculture (LCA) classes 3.2 to 7.

Non-Statutory Guidance/

Organisation

Direction from a professional governing body and not directly through legislation.

Notable species Species which are below Red Data Book species in terms of threat status.

Offsettina The process of compensating for something with something else.

Ombrogenous Dependent on rain for its formation. Ombrogenous bog is a peat-forming vegetation community lying above

> groundwater level: it is separated from the mineral soil, and is thus dependent on rain water for mineral nutrients. The resulting lack of dissolved bases gives strongly acidic conditions. Two types of ombrogenous

bogs are commonly distinguished: raised bogs and blanket bogs.

Ombrotrophic Rain-fed soils or vegetation that receive all their water and nutrients from precipitation, rather than from

streams or springs.

Any land laid out as public parks or used for the purpose of public recreation, or land which is a disused burial Open space

Outfall The place of discharge e.g. where a sewage pipe discharges into a river. Parr Young salmon or trout with distinctive thumbprint markings on flanks. Pasture An area of grassland (or other suitable plants) used to feed grazing animals.

Peat An organic soil which contains more than 60 per cent of organic matter and exceeds 50cm in thickness. Peatland Land where plant decomposes only partially and accumulates to form brown to black organic material called

peat; the two main types are bogs and fens.



Peaty soil Organic soil deposits which are less than 50cm in thickness.

Perennial A plant that continues to grow from year to year, sometimes undergoing several years of growth before seeds

are produced.

Permeable Something that can be penetrated/ passed through by something else e.g. soil is permeable to water as the

water can pass through it.

pH A figure expressing acidity or alkalinity on a logarithmic scale of 0 to 14.

Phase 1 Habitat Survey This identifies the different habitats that are contained within or make up a site, and the key plant species for

each of those habitat types.

Phase 2 Habitat Survey A detailed specialist survey or phytosociological (plant community) study of a habitat within a site.

It may utilise analysis of sample vegetation plots (quadrats) following the UK National Vegetation Classification.

Pile/ Piling A heavy stake or post made out of timber, steel, reinforced concrete or pre-tensioned concrete, driven into the

ground to support foundations.

Planning Advice Note

(PAN)

Supporting document to National Planning Policy Guidelines, which disseminates good practice and provides

more specific design advice of a practical nature.

Plantation woodland Woodland of any age that obviously originated from planting.

Poaching Term used in river habitat survey (RHS) to mean the erosion of a watercourse bank by livestock.

Podzol A typically free-draining acid soil that develops under aerobic conditions in temperate to cold moist climates

under coniferous or heath vegetation.

Point bars Deposits of alluvium found on the inside bank of a meander, they form when alluvium is eroded from the

outside bend (cut bank) and deposited on the inside bend of a meander.

Point pollution A point source of pollution is a single identifiable localised source of air, water, thermal, noise or light pollution.

Polycyclic aromatic Any of a class of carcinogenic organic molecules that consist of three or more benzene rings and are

hydrocarbon (PAH) commonly produced by fossil fuel combustion.

Potential Impact The impact on an aspect of the environment that may occur in the absence of mitigation.

Prime agricultural land Agricultural land of Land Capability for Agriculture (LCA) classes 1, 2 and 3.1.

Priority habitat Those which have been identified as being most threatened and requiring actions under the UK Biodiversity

Action Plan.

Priority species Those which have been identified as being most threatened and requiring actions under the UK Biodiversity

Action Plan.

Proposed Scheme The scheme design as reported in Chapter 5 of the ES, and used as the basis for environmental assessment

and reporting.

Quadrat A sample area of known size enclosed within a square frame, inside of which a community of plants/ animals is

analysed.

Qualitative Concerned only with the nature of the organism/ substance being investigated.

Quantitative Concerned with the number, as well as nature of the organism/ substance being investigated.

Ramsar sites Internationally important wetland identified for conservation under the RAMSAR Convention 1971.

Ranker Soils predominant in mountain or hilly terrain or on glacially eroded rocky terrain with underlying solid or

fragmented non-calcareous rocks within 30cm depth

Receptor In this context, an element that is susceptible to being affected (either directly or indirectly) by the proposed

scheme. Examples include habitats, species, people, properties, landscape, archaeological remains etc.

Red Data List The IUCN Red List of Threatened Species™ provides taxonomic, conservation status and distribution

information on plants and animals that have been globally evaluated using the IUCN Red List Categories and Criteria. Designed to determine the relative risk of extinction, and to catalogue and highlight those plants and animals that are facing a higher risk of global extinction (i.e. those listed as Critically Endangered, Endangered

and Vulnerable).

Red list species Bird species in severe population decline. Or globally threatened.

Refuge/ refuges Any structure that provides animals temporarily with a place they can retreat to and feel secure.

This can be rock or log piles, dense scrub or mammal burrows

Residual impact Residual impact means the environmental impact after the provision of mitigation measures, if any.

Rhizome A horizontally creeping underground stem which bears roots and leaves and usually persists from season to

season

Riffle A shallow section of a river/stream where the water is fast-flowing over a gravel/ cobble substrate.

Right of way

A public right of way is a defined route which has been used by the general public for at least 20 years and

which links two public places (usually public roads).

Riparian habitat Natural home for plants and animals occurring in a thin strip of land bordering a stream or river.



The area of habitat that is under the influence of the water body. It includes the transitional area between the Riparian zone

water and land, and also extends further back than just the water edges.

River basin

characterisation

The process of identifying the type, and all significant pressures on every water body.

River Basin District The area of land and sea, made up of one or more river basins, together with the associated groundwater and

coastal waters, identified by the Water Framework Directive as the main unit for the management of river

River Basin Management

Plan (RBMP)

A plan setting out actions required within a river basin to achieve set environmental quality objectives, reviewed

on a six yearly basis.

River Habitat Survey

(RHS)

Ruderal

A survey to assess the physical structure of freshwater streams and rivers, providing a broad assessment of

habitat quality.

River Terrace Deposits Sediment deposited by a river in a step-like landform.

Rockhead The surface representing the top of the solid geological strata, i.e. below any drift deposits.

Roost Any resting site used by bats including maternity roosts which are used by females and their young,

hibernacula which are used during winter hibernation and transitional roosts which may be used at any time.

Rank or tussocky grassland. May have been drained, grazed, mown or treated with manure but not so Rough grassland

improved by fertiliser or herbicides as to have altered the sward composition greatly.

Associated with unenclosed uplands, lowlands with poor access or wet areas, and road verges.

Rough pasture Rough pasture is non-intensive grazing pasture, commonly found on poor soils, especially in hilly areas.

A plant that colonizes disturbed ground. They are often weeds that have a high nutrient requirement and/ or

are intolerant of competition.

Run Fast flowing, silent water flow. Standing waves at surface are unbroken.

Runoff Water that flows over the ground surface to the drainage system. This occurs if the ground is impermeable or if

permeable ground is saturated.

Salmonid Pertaining or belonging to the family Salmonidae (salmon, trout and charr).

Scat Animal faeces.

Scheduled Monument

(SM)

A monument which has been scheduled by the Scottish Ministers as being of national importance under the

terms of the 'Ancient Monuments and Archaeological Areas Act 1979'.

Scottish Planning Policy

(SPP)

A statement of Scottish Government policy on nationally important land use.

Scour A depression or hole left when sediment is washed away from the bottom of a river.

Scrub Vegetation dominated by locally native shrubs, usually less than 5m tall.

Sediment Material carried in particles by water or wind and deposited on the land surface or seabed.

Sedimentation The deposition or accumulation of sediment.

Semi-improved grassland Grassland that has been modified by fertilizers, drainage or intensive grazing. Contain less species diversity

than unimproved grasslands.

Semi-natural Ancient

Woodland

Areas that appear as wooded on 1860 maps but not maps from 1750 i.e. woodland that appeared between

these two dates.

Semi-natural habitat

Habitat which has been altered by altered by land management.

Semi-natural woodland

Woodland that does not obviously originate from planting. The distribution of species will generally reflect the variations in the site and the soil. Planted trees must account for less than 30% of the canopy composition.

Sett The burrow system of badgers comprising a series of underground tunnels and chambers.

There are several categories of sett including a main sett, annexe sett, subsidiary sett and outlier sett.

Severance The separation of communities from facilities and services used within their community.

Alternatively, in relation to agricultural land, the division of land into separate areas, potentially affecting access

or availability for agricultural use.

Side bar See Point Bar.

Sinuous A river with many curves/ bends (meanders).

A secure area close to the construction site white provides full site services including storage for equipment, Site compound

materials and fuel, offices and amenity areas.

Site of Importance to Nature Conservation

(SINC)

Non-statutory designation which seeks to protect areas of high wildlife value at a local level.



Sites of Special Scientific

Interest (SSSI)

Designated areas of national importance (UK). The aim of the SSSI network is to maintain an adequate

representation of all natural and semi-natural habitats and native species in the UK.

The site network is protected under the provisions of Sections 28 and 19 of the Wildlife and Countryside Act

1981 as well as the Amendment Act 1985 and the Environmental Protection Act 1990.

A deep hole used for drainage, where rainwater and other waste water drains directly into the ground, without Soakaway

connection to mains drainage or sewerage pipes.

Soligenous Where water movements are predominantly lateral. Produced by inflow of surface water or rise of groundwater

and not completely by locally precipitated water.

Soutterain Curving, underground passageway built many years ago, which are usually lined with stone.

Their use is not known but it is thought that they were either used for storage of valuable commodities or for

ritual purposes.

Spawning The process of egg release into the water by aquatic animals.

Special Area of Conservation (SAC) An area designated under the EC Habitats Directive to ensure that rare, endangered or vulnerable habitats or species of community interest are either maintained at or restored to a favourable conservation status.

Special Protection Area

Species Action Plan

(SPA)

An area designated under the Wild Birds Directive (Directive 74/409/EEC) to protect important bird habitats.

UK Biodiversity Action Plans detailing information on the conservation status of 382 species and the actions

necessary to achieve the action plan targets.

Specific impact A forceful consequence or strong effect to something particular or unique.

Spraint Otter faeces.

Stakeholder A person or group that has an investment, share or interest in something.

Formal written enactment of a legislative authority that governs a country, city, or county. Typically, statutes Statute

command or prohibit something, or declare policy. Statute is often used to distinguish law made by legislative

The process by which information about the environmental effects of proposed plans, policies and programmes

bodies from case law and the regulations issued by Government agencies.

Strategic Environmental

Assessment (SEA)

are evaluated.

Strategic Transport Project

Review (STPR)

A two year review of the Scottish transport network undertaken by Transport Scotland.

It identified and prioritised road, rail and other interventions of national significance, which will be taken forward

to improve the network. Through selecting which transport projects of national significance should be

progressed, the STPR also affects regional and local transport networks.

Sub-lethal Not causing death directly but has cumulative deleterious effects.

Superficial Deposits The youngest geological deposits formed during the most recent period of geological time, the Quaternary,

which extends back 1.8 million years.

Susceptibility The ability to accommodate change without adverse effect.

Sustainable Drainage Systems (SUDS)

A sequence of management practices and control structures designed to drain surface water in a more

sustainable fashion than some conventional techniques.

Swamp An area of wet spongy land that often supports some trees and vegetation but is too wet for cultivation.

Taxa Plural of taxon.

Taxon A taxonomic group of any rank.

Taxonomy The branch of science (biological) concerned with classification.

Terrestrial The environment above the mean high water spring

Threshold The minimum intensity or value of a signal etc that will produce a response or specified effect.

Turbid High concentrations of suspended sediment and particulates in the water column.

Tussocky grassland Grassland which have no, or only a very sparse, tree and shrub layer, and a ground layer dominated by

tussock-forming (clump of) grasses.

Vascular plants Higher plants, including flowering plants, conifers and ferns. They are characterised by the possession of

specialized tissues (vascular tissue) for the translocation of substances around the plant.

Velocity A measure of the speed and direction of an object.

Vernacular Refers to a type of architecture which is indigenous to a specific time or place.

Viaduct A bridge that carries a road, railroad etc. over a valley.

Vibro-piling A method of driving a pile into the ground using rapid repeated oscillations of the pile.

Visual envelope Illustrates the extent of potential visibility to or from a specific area. Vulnerable groups In environmental assessment, generally children, elderly and disabled.



Water Framework

Directive (WFD)

European environmental legislation (2000/60/EC) relating to inland surface waters, estuarine and coastal waters and groundwater. Fundamental objective to maintain "high status" of waters where it exists, preventing

waters and groundwater. Fundamental objective to maintain "high status" of waters where it exists, preventing any deterioration in the existing status of waters and achieving at least "good status" in relation to all waters by

2015.

Water quality The chemical and biological status of various parameters within the water column and their interactions, for

example dissolved oxygen, indicator metals such as dissolved copper, or suspended solids (the movement of

which is determined by hydrological process and forms geomorphological landforms).

Wildfowl Any wild bird such as ducks, geese or swans.

Wildlife and Countryside Act 1981 (WCA) Principal mechanism for wildlife protection in the UK. Referred to as WCA.

Working corridor Strip of land either side of a proposed development.

Zone of influence An area along a proposed development over which potential effects extend.



Abbreviations

μg microgram

AA Appropriate Assessment
AADT Annual Average Daily Traffic

ABS Abstraction (Groundwater Abstraction and Private Water Supply Reference IDs)

AEP Annual Exceedance Probability
AESI Adverse Effects on Site Integrity

AGLAO Association of Local Government Archaeological Officers UK

AMJV Atkins-Mouchel Joint Venture
AOD Above Ordnance Datum

APIS Air Pollution Information System
AQMA Air Quality Management Area

AQO Air Quality Objectives

AQPI Air Quality Pollution Inventory

AQS Air Quality Strategy
ARN Affected road network
ASC Average Speed Cameras
AWI Ancient Woodland Inventory

B&B Bed and Breakfast **BAP Biodiversity Action Plan BCT Bat Conservation Trust BDL** Beauly-Denny Line BFI Base Flow Index bgl below ground level **BGS** British Geological Survey BHS **British Horse Society** BLM Biotic Ligand Model

BMWP Biological Monitoring Working Party

BoQ Bill of Quantities

BRE Building Research Establishment

BRP Bat Roost Potential
BS British Standard

BTO British Trust for Ornithology

CaCO3 Calcium carbonate

CAR Water Environment (Controlled Activities) (Scotland) Regulations 2005

CAWL Core Area of Wild Land

CBD Convention on Biological Diversity
CBI Confederation of British Industry

CD&E Construction, Demolition and Excavation

CEL:LfN Cost Effective Landscapes: Learning from Nature
CEMP Construction Environmental Management Plan

CFJV CH2M HILL Fairhurst Joint Venture

ch chainage

CIEEM Chartered Institute for Ecology and Environmental Management

CIEH Chartered Institute of Environmental Health



ClfA Chartered Institute for Archaeologists

CIRIA Construction Industry Research and Information Association
CL:AIRE Contaminated Land: Applications in Real Environments

CMS Carbon Management System
CNAP Cairngorms Nature Action Plan
CNP Cairngorms National Park

CNPA Cairngorms National Park Authority

CNPLDP Cairngorms National Park Local Development Plan

CO₂ Carbon Dioxide

CoPA Control of Pollution Act (1974)

COSHH Control of Substances Hazardous to Health Regulations

CP Crossing Point

CPO Compulsory Purchase Order
CRC Carbon Reduction Commitment
CROW Catalogue of Rights of Way
CRTN Calculation of Road Traffic Noise

CSM Conceptual Site Model

CTC Cycle Touring Club (Scotland)

Cu Copper

D&B Design and Build

D2AP Dual Carriageway All Purpose

dB Decibel

DCBS Detailed Catchment Baseline Survey

DEFRA Department for Environment, Food and Rural Affairs

DfRE Designing for Resource Efficiency

DM Do-Minimum

DMP Dust Management Plan

DMRB Design Manual for Roads and Bridges

DS Do-Something

DSFB District Salmon Fisheries Board

DTM Digital Terrain Model
DVC Deer Vehicle Collision

DWPA Drinking Water Protected Area

EA Environment Agency
EC European Commission
ECoW Ecological Clerk of Works
EFT Emissions Factor Toolkit

EH English Heritage

EHO Environmental Health Officer
EIA Environmental Impact Assessment

EMC Event Mean Concentrations

EMP Environmental Management Plan

EMSC Event Mean Sediment Concentrations

END Environmental Noise Directive
EnvCoW Environmental Clerk of Works
EPA Environmental Protection Act (1990)



EPS European Protected Species
EQS Environmental Quality Standards

ES Environmental Statement
ER Environmental Report

ESG Environmental Steering Group ETS Emissions Trading Scheme

EU European Union

GCN

FEH Flood Estimation Handbook
FRA Flood Risk Assessment
FWPM Freshwater Pearl Mussel
GAC Generic Assessment Criteria
GBR General Binding Rules

GCR Geological Conservation Review

Great Crested Newt

GES Good Ecological Status

GHG Greenhouse gas
GI Ground Investigations

GIS Geographic Information System

GLVIA Guidance on Landscape and Visual Impact Assessment

GLVIA2 Guidelines for Landscape and Visual Impact Assessment 2nd Edition (2002)
GLVIA3 Guidelines for Landscape and Visual Impact Assessment 3rd Edition (2013)

GPS Global Positioning System
GPZ Groundwater Protection Zones

GSV Gas Screening Value

GWDTE Groundwater Dependent Terrestrial Ecosystems

GWMR General Wade's Military Road

ha hectare

HA Highways Agency (now Highways England)

HALP Highland Area Local Plan
HAP Habitat Action Plan

HAWRAT Highways Agency's Water Risk Assessment Tool

HDV Heavy Duty Vehicle
HE Historic England

HES Historic Environment Scotland

HGV Heavy Goods Vehicle

HITRANS Highland and Islands Transport Partnership

HLA Historic Landscape Assessment
HLT Historic Landscape Type
HML Highland Main Line (railway)
HMWB Heavily Modified Waterbodies

hr hour

HRA Habitat Regulations Appraisal
HSE Health and Safety Executive
HSI Habitat Suitability Index

IAN Interim Advice Note

IAQM Institute of Air Quality Management



ICE Inventory of Carbon and Energy

IEEM Institute of Ecology and Environmental Management
IEMA Institute of Environmental Management and Assessment

IfA Institute for Archaeologists
IIP Infrastructure Investment Plan
INNS Invasive Non-Native Species

IPPC Intergovernmental Panel on Climate Change
IUCN International Union for the Conservation of Nature
IWAAC Inland Waterways Amenity Advisory Council

JHI James Hutton Institute

JLA Journey Length Assessment

JNCC Joint Nature Conservation Committee

JTC Junction Turning Count

JUK Jacobs UK kg kilogram km kilometres

kph Vehicle speed, kilometres per hour

I litre

LA Local Authority

LAQM Local Air Quality Management
LBAP Local Biodiversity Action Plan

LCA Land Capability for Agriculture (Community & Private Assets chapter)

LCA Landscape Character Area (Landscape & Visual chapters)

LCT Landscape Character Type
LDP Local Development Plan
LDV Light Duty Vehicles
LGS Local Geodiversity Site

LLCA Local Landscape Character Area

LMA Land Made Available

LNR Local Nature Reserve

LNS Low Noise Surface

LSE Likely Significant Effect

LNSR Low Noise Surface Road

LPA Local Planning Authority

LQM Land Quality Management

LTT Long-term trend

LVIA Landscape and Visual Impact Assessment

LWS Local Wildlife Site

m metre

m bgl metres below ground level m3/s Cubic metres per second

MACS Mobility and Access Community for Scotland

mBGL metres Below Ground Level

mg milligram

MLURI Macaulay Land Use Research Institute

MMP Materials Management Plan



MoU Magnitude of Uncertainty
MPA Mineral Planning Areas
MSW Municipal Solid Waste

MTRIPS Major Transport Infrastructure Projects (Transport Scotland)

MW Major Watercourse

NAQS National Air Quality Strategy
NBN National Biodiversity Network
NCN National Cycle Network

NCN7 National Cycle Network Route 7

NCR National Cycle Route

NCSA Nature Conservation (Scotland) Act 2004

NGR National Grid Reference

NISR Noise Insulation (Scotland) Regulations

NMU Non-Motorised Users
NNR National Nature Reserve

NO Nitric Oxide

NO2 Nitrogen Dioxide

NOx Oxides of Nitrogen

NPF National Planning Framework
NPF2 National Planning Framework 2
NPF3 National Planning Framework 3
NPPG National Planning Policy Guidelines

NRP Non-Residential Property

NRTF National Road Traffic Forecasts

NSA National Scenic Area

NTS National Transport Strategy

NVC National Vegetation Classification

OC Operating Company (Trunk Road)

OHMP Outline Habitat Management Plan

OS Ordnance Survey

OPMP

OSPP Outline Species Protection Plan
PAH Polycyclic Aromatic Hydrocarbons

Outline Peat Management Plan

PALP Perth Area Local Plan
PAN Planning Advice Note

PAS Publicly Available Specification
PCM Pollution Control Mapping
PEL Probable Effect Level

PES Preliminary Engineering Support

PFD People Friendly Design
PKC Perth and Kinross Council

PKHT Perth and Kinross Heritage Trust

PKLPD Perth and Kinross Local Development Plan

PL Pollutant Linkage
PM Particulate Matter

PM10 Particulate Matter (less than 10 microns)



PMP Peat Management Plan

PNEC Probable Non-Effect Concentration
PPG Pollution Prevention Guidelines

ppm parts per million
PPV Peak Particle Velocity
PWL Sound Power Level
PWS Private Water Supply

q50 Flow that is expected to be exceeded 50% of the time (m3/s) q95 Flow that is expected to be exceeded 95% of the time (m3/s)

QA Quality Assurance

QMED Median annual maximum flood flow (m3/s) (the same as the flow with a 2yr return period)

RAP Route Action Plan

RBMP River Basin Management Plan

RCAHMS Royal Commission on Ancient and Historical Monuments of Scotland

RIGS Regionally Important Geological Sites
RISS Route Improvement Strategy Study

RoD Record of Determination

ROW Right of Way

RP Residential property
RPA Root Protection Area

RSPB Royal Society for the Protection of Birds

RST Runoff Specific Threshold RTS Regional Transport Strategy

SAAR Standard Average Annual Rainfall (mm)

SAC Special Area of Conservation
SBL Scottish Biodiversity List

ScARF Scottish Archaeological Research Framework

SCI Sites of Community Importance
SCM Site Condition Monitoring
SDP Strategic Development Plan

SEA Strategic Environmental Assessment
SEPA Scottish Environment Protection Agency

SFB Spey Fishery Board

SFRA Strategic Flood Risk Assessment
SHEP Scottish Historic Environment Policy
SINC Site of Importance to Nature Conservation

SLQ Special Landscape Qualities
SM Scheduled Monument
SNH Scottish Natural Heritage
SOM Soil Organic Matter
SPA Special Protection Area
SPL Sound Pressure Level
SPP Scottish Planning Policy

SPPN Scottish Procurement Policy Note
S-P-R Source-Pathway-Receptor protocol

SSD Stopping Sight Distance



SSE Scottish and Southern Energy
SSSI Site of Special Scientific Interest
STAG Scottish Transport Appraisal Guidance
STPR Strategic Transport Projects Review

STW Sewage Treatment Works
SuDS Sustainable Drainage Systems
SWMP Site Waste Management Plan

t tonnes

TACTRANS Tayside and Central Scotland Transport Partnership

TAN Technical Advice Note
TEL Threshold Effects Levels
THC The Highland Council

TMfS Transport Model for Scotland

TN Target Note

TO Trunk Road Operating Company
ToSI Threshold of Significant Impact
TPH Total Petroleum Hydrocarbons

TRS Trophic Ranking Score
TS Transport Scotland

tZVI Theoretical Zone of Visual Influence

UK United Kingdom

UKBAP UK Biodiversity Action Plan
VCMP View Corridor Management Plan

W Minor watercourse

WANE Wildlife and Natural Environment (Scotland) Act 2011

WCA Wildlife and Countryside Act 1981

WEWS Water Environment and Water Services (Scotland) Act 2003

WFD Water Framework Directive
WHO World Health Organization

WRAP Waste and Resources Action Programme

WS2+1 Wide single 2+1

(sections of roads with two lanes of travel in one direction and a single lane of traffic in the opposite direction).

Zn Zinc

Zol Zone of Influence
ZVI Zone of Visual Influence

ZWP Zero Waste Plan











