Appendix E, Table 1 - Definition of terms relating to the magnitude of an impact

Magnitude of impact	Definition
High	**Geology** A large change from baseline conditions, that results in the large-scale loss or deterioration in condition of the geological feature, site or resource affected. The impact is typically of wide spatial extent, long term duration (i.e. up to 10 years) and low reversibility (Adverse). **Groundwater/Hydrogeology** A large change from baseline conditions in an aquifer unit, that results in severe deterioration of groundwater quality, groundwater levels, groundwater flow and/or resource utility, for example: • a deterioration in overall WFD status for a groundwater body • rendering the groundwater in an aquifer unit non-potable through the introduction of hazardous substances into groundwater, failure against prescribed concentrations for pollutants (i.e statutory Drinking Water Standards), or reduction in resource availability • render existing groundwater sources of supply (borehole, well or spring) non-viable • cause a large impact on groundwater dependent watercourse in terms of flow, overall WFD status of the water body or failure against statutory Environmental Quality Standards* • cause statutory monitoring targets for ecological site to be failed*. These impacts are likely to be of wide spatial extent, of long term duration (i.e. up to 10 years) and of low reversibility (Adverse),
	Geology A large change from baseline conditions, that results in major improvement in the condition of the geological feature or site affected. The impact will be of wide extent and of long-term duration (Beneficial), **Groundwater/Hydrogeology** A large change from baseline conditions in an aquifer unit, that results in significant improvement in groundwater quality, groundwater levels, groundwater flow and/or resource utility, for example: • an improvement in the overall WFD status for a groundwater body • rendering a previously contaminated aquifer potable or increasing resource availability • rendering existing groundwater sources of supply viable • cause a large beneficial impact on a groundwater dependent receptor (e.g. watercourse in terms of flow, or water quality, or WFD status; achieving statutory monitoring targets for ecological site)*. These impacts are likely to be of wide spatial extent and of long term duration (Beneficial).
Medium	**Geology** A moderate change from baseline conditions, that results in the loss or deterioration in condition of part of the geological feature, site or resource affected. The impact is typically of local to wide spatial extent, medium duration (i.e. up to five years) and of low reversibility (Adverse), **Groundwater/Hydrogeology** A moderate change from baseline conditions in an aquifer unit, that results in the deterioration of groundwater quality, groundwater levels, groundwater flow and/or resource utility, for example: • a deterioration in WFD criteria for certain parameters, although the overall WFD status may not change • a deterioration in groundwater quality in an aquifer and/or possible failure against certain prescribed concentrations (i.e statutory Drinking Water Standards)

	• deterioration in quality, quantity, or reliability of groundwater source of supply (borehole, well or spring) • cause a moderate impact on groundwater dependent watercourse in terms of flows, or WFD status or failure relative to statutory Environmental Quality Standards* • cause statutory monitoring targets for ecological site to be failed*. These impacts are likely to be of local to wide spatial extent, or of medium duration (i.e. up to five years) and/or of low reversibility (Adverse).
	Geology A moderate change from baseline conditions, that results in improvement in the condition of part of the geological feature or site affected. The impact is typically of local to wide spatial extent, medium duration and of low reversibility (Beneficial). **Groundwater/Hydrogeology** A moderate change from baseline conditions in an aquifer unit, that results in the improvement in groundwater quality, groundwater levels, groundwater flow and/or resource utility. These impacts are likely to be of local to wide spatial extent, of medium duration (Beneficial).
Low	**Geology** Some measurable change from baseline conditions, that results in a small deterioration in condition of part of the geological feature, site or resource affected. The impact is typically of limited spatial extent and may be of short duration (i.e. up to two years) and/or reversible (Adverse) **Groundwater/Hydrogeology** Some measurable change from baseline condition, that results in a small deterioration of groundwater quality, groundwater levels, groundwater flow and/or resource utility but does not change its regulatory status (e.g. overall WFD status) or utility of resource given. The impacts are small, likely to be of limited spatial extent, or of short duration (i.e. up to two years) and/or reversible (Adverse).
	Geology Some measurable change from baseline conditions, that results in a small improvement in condition of part of the geological feature, site or resource affected. The impact is typically of limited spatial extent and may be of short duration and/or reversible (Beneficial) **Groundwater/Hydrogeology** Some measurable change from baseline condition, that results in a small improvement of groundwater quality, groundwater levels, groundwater flow and/or resource utility. This may result in measurable effects on groundwater dependent receptors. These impacts are likely to be of limited spatial extent, or short duration and/or reversible (Beneficial).
Negligible	**Geology** A small measurable change from baseline conditions of short duration (i.e. up to one year), but **no material change** to the status or condition of the geological feature, site or resource affected (Adverse or Beneficial.) **Groundwater/Hydrogeology** A small measurable change from baseline condition of short duration (i.e. up to one year), but no change in the status of groundwater quality, quantity or flow within the aquifer unit affected or its utility (adverse or beneficial), A small measurable change from baseline condition of short duration (i.e. up to one year), but no change in the status of groundwater dependent receptor affected (e.g. river, stream, borehole, well, spring or wetland) (Adverse or Beneficial) and their utility.
No change	**Geology and Groundwater/Hydrogeology** No change from baseline conditions. No measurable impact either adverse or beneficial.

Appendix E, Table 2 - Definition of terms relating to the sensitivity of the receptor.

Sensitivity	Definition
Very High	Very high importance and rarity, international scale and very limited potential for substitution. **Geology** UNESCO World Heritage Sites, UNESCO Global Geoparks and GCR where citations indicate features of international importance. Geology meeting international designation citation criteria which is not designated as such **Groundwater/Hydrogeology** Principal aquifer providing a nationally important water resource and/or supporting a groundwater dependant site protected under international/EC legislation. Groundwater within an inner source protection zone (SPZ1) **Contamination** Human health: very high sensitivity land use such as residential or allotments.
High	High importance and rarity, national scale and limited potential for substitution **Geology** Geological site of national importance (e.g. GCR or SSSI or National Nature Reserves (NNR)). Geology meeting national designation citation criteria which is not designated as such. **Groundwater/Hydrogeology** Principal aquifer providing locally important water resource and/or supporting a groundwater dependent site of national importance or a river ecosystem. Groundwater supports a Groundwater Dependent Terrestrial Ecosystem defined for the WFD Groundwater within an outer source protection zone (SPZ2) **Contamination** Human health: high sensitivity land use such as public open space
Medium	High or medium importance and rarity, regional scale, limited potential for substitution **Geology** Geological site of regional importance (e.g. RIGS, LNR). Geology meeting regional designation citation criteria which is not designated as such **Groundwater/Hydrogeology** Secondary aquifer unit providing a locally important water resource and/or groundwater dependent sites of local importance. Groundwater within the total catchment source protection zone (SPZ3) **Contamination** Human health: medium sensitivity land use such as commercial or industrial
Low	Low or medium importance and rarity, local scale **Geology** Non-designated geological features of local interest (e.g. non designated geological exposure, former quarry's/mining sites). **Groundwater/Hydrogeology** Secondary aquifer unit of providing water resource of limited local importance with little connection to surface water **Contamination** Human health: low sensitivity land use such as highways and rail
Negligible	Very low importance and rarity, local scale **Geology** No geological exposures, little/no local interest. **Groundwater/Hydrogeology** Unproductive strata **Contamination** human health: undeveloped surplus land/no sensitive land use proposed