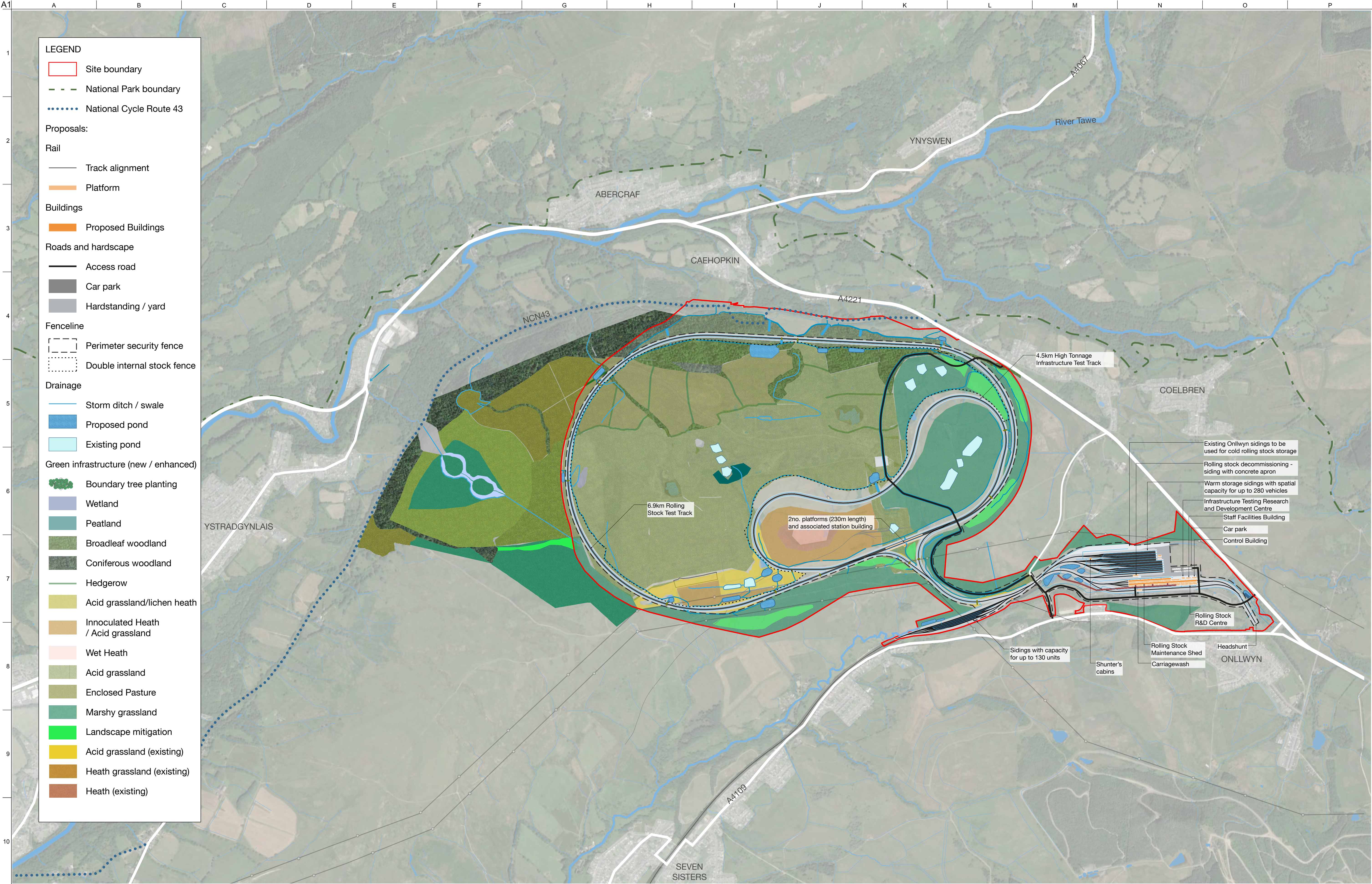




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Appendix 10

Future Baseline Description

Future Baseline Description

Information relating to the Site's ecological baseline was collected between 2018 and 2019, initially to inform the Ecological Impact Assessment of the Nant Helen Earthworks application (submitted by Celtic Energy in 2020). The GCRE project and accompanying ES Ecology Chapter (Chapter 7)¹ used information available on the Site's ecological baseline; however due to the project superseding the Nant Helen Earthworks application (which was relevant to the majority of the same area except for the Washery), it was considered appropriate to use a 'Future Baseline'; which considered changes that had occurred to the initial ecological baseline as a result of the consented Nant Helen Earthworks application.

The Future Baseline therefore assumed that habitats detailed in Nant Helen consented restoration plan (Appendix 4/ Figure 7.9 within the ES³, and which included habitats required as part of the Nant Helen Earthworks and Celtic Energy Nant Helen restoration applications) had been created, and newly established. It also assumed that some of these newly created habitats and retained habitats would be subject to some enhancements through long term management. In addition, the Future Baseline, assumed that habitats which were adjacent to the Nant Helen earthworks (including those within the Washery site), would be retained and unaffected, and therefore similar to the recorded 2018-2019 ecological baseline (which was used to inform the Nant Helen Earthworks application).

The figure in Appendix 8 (Figure 7.11 within the ES¹**Error! Bookmark not defined.**) illustrates the Future Baseline habitats relevant to the GCRE project (i.e. within the Zone of Influence), and Table 15 below describes the habitats and likely species present (and the assumptions made), in addition to the assumed status of habitats and species in nature conservation terms. It also details the protected sites present within the site boundary and within the wider Zone of Influence for the GCRE project.

Habitats of the Future Baseline created as part of the Nant Helen earthworks within the Nant Helen site, were assumed to comprise of acid grassland, enclosed pasture and broadleaved woodland, hedgerows, heathland, peatland-mire complex, wetland and lichen / fungi rich habitats. These habitats would be subject to long term management.

It was assumed that newly created habitats within the Nant Helen site, would be quickly established by mobile species. Where habitats were enhanced, such as marshy grassland, acid grassland / heathland and wetland, it was considered likely that in the long term these would support higher numbers of some species including notable species recorded within the area of the Site such as dingy skipper, as well as potentially small numbers of new species may also move into the Site such as marsh fritillary. However, at the time of GCRE commencing, it was considered unlikely that these habitats would have been enhanced sufficiently to support higher numbers / new species, and it was considered appropriate to assume the same species and population sizes are present within

these newly created habitats, as those in the existing baseline (including that marsh fritillary are absent from the GCRE site).

It was also assumed that the GCRE project site would support retained habitats unaffected by the Nant Helen Complementary earthworks (as detailed in the 2018-2019 baseline) which now occur within the GCRE project Zone of Influence. Within the Nant Helen part of the site this included adjacent habitats such as acid grassland, marshy grassland, heathland, wetlands, broadleaved and conifer woodland, and watercourses (Afon Dulais, Afon Llech, Afon Tawe, Afon Camnant and their tributaries). Some of these habitats would also be subject to long term management to enhance their ecological value.

Species within retained habitats within the Nant Helen site were anticipated to be the same as the 2018-2019 baseline since they would be protected during the Nant Helen earthworks.

The Washery site, located adjacent to the Nant Helen site, is included within the GCRE Project boundary, and would be unaffected by the Nant Helen earthworks. Within the Washery, habitats would therefore comprise namely marshy grassland, species rich grassland (neutral and acid), heathland, waterbodies, scrub, plantation and woodland, in addition to buildings, existing railway sidings and hardstanding. A tributary of the Afon Dulais would also occur partially within the Washery site (in the area of the sidings).

Habitats within the Washery would likely support common amphibians (common frog, common toad, smooth / palmate newt, reptiles (common lizard), breeding birds (skylark), linnet, grasshopper warbler, willow warbler, dunnock, lapwing, house sparrow, bullfinch and reed bunting, wintering birds (starling), house sparrow and mistle thrush, roosting bats (tree with low suitability and buildings with low to moderate suitability) and foraging bats (largely common pipistrelle and soprano pipistrelle, and noctule and myotis bats) – since these species have been recorded as part of the surveys originally undertaken to inform the Nant Helen Earthworks application. No evidence of badger, otter or notable mammals have been found in the Washery, and habitat present were considered to offer limited opportunities for these species. No suitable habitats for water vole or dormouse have been recorded.

In addition, protected sites, as detailed in existing baseline, would be retained and protected as part of the Nant Helen Earthworks, and therefore occur within the Zone of Influence of the GCRE Project. Details of statutory and non-statutory designated sites are detailed above in Section 1.9 (ecological baseline).

Table 12: This table details the assumptions made regarding the Future baseline's ecology and evaluation of future baseline ecology.

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
Protected Sites						
SACs	Coedydd Nedd a Mellte SAC, Cwm Cadlan SAC and Blaen cynon	International	Sites designated and protected under the Habitat Regulations 2019	The same SACs are located within the Zol for the GCRE project.	International	Sites designated and protected under the Habitat Regulations 2019. Protected by local and national planning policy.
SSSIs	Nant llech, Gors Llwyn Onllwyn, Caeau Ton-y-Fildre, Waun Ton-y-Spyddaden Rhos Hen-Glyn-Isaf, Mynydd Du, Ogof Ffynnon Ddu, Ogof Ffynnon Ddu - Pant Mawr, Nant y Rhos, Craig y Rhiwarth, Dyffrynoedd Nedd a Mellte a	National	Sites designated and protected under the Wildlife and Countryside Act 1981 (as amended)	The same twelve SSSIs occur within the Zol for the GCRE project.	National	Sites designated and protected under the Wildlife and Countryside Act 1981 (as amended). Protected by local and national planning policy.

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
	Moel Penderyn and Caeau Nant y Llechau					
SINCs	Gorsllwyn Meadows, Onllwyn Coal Washery, Dyffryn Cellwen, Intervalley Road, Banwen Pond, Adjacent to Gorsllywn, Aberhenwaun Uchaf, and Land behind Marigold Place	County	Protected by local and national planning policy	A total of eight SINCs are within the ZoI for the GCRE project, which includes an additional three not previously included in the Nant Helen Complementary Earthworks. This includes Banwen pond, Intervalley Road, and Adjacent to Gorsllywn SINCs.	County	Protected by local and national planning policy
Local Wildlife Trust Reserve		County	Protected by local and national	The Local Wildlife Trust reserve	County	Protected by local and national planning policy

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
			planning policy	previously in the Zol for the Nant Helen Complementary Earthworks, remains in the Zol for the GCRE project.		
Ancient woodland	One area within the Site boundary. Another area partially within the site boundary.	County	Protected by local and national planning policy	The same ancient woodland areas occur within the Zol for the GCRE project. As detailed in the Nant Helen ES Chapter, one of these areas (that is partially within the site boundary) has been shown to be an area previously	County	Protected by local and national planning policy

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
				mined and therefore comprises plantation on backfilled material rather than ancient woodland.		
Habitats						
Mosaic of habitats	Semi-improved acid grassland, neutral grassland, bracken, marshy grassland, dry heathland and acid grassland mosaic (including areas of unimproved acid grassland), improved grassland, short / ephemeral vegetation, dry heathland, poor semi-improved	County	Habitats present which qualify as UK BAP habitats, and Section 7 habitats. In addition, a number of LBAP habitats are also present. These habitats are protected by local and national planning policy.	The Future Baseline for the GCRE project excludes habitats from the existing baseline which occur within the footprint of the earthworks (namely purple moor grassland, heathland, woodland,	Newly planted woodland and acid grassland establishing on new earthworks and adjacent areas of Celtic energy restoration – County value . Newly created waterbodies and peatland – mire habitat – County Value .	Habitats recreated as part of the Nant Helen Complementary Earthworks project and Celtic Energy restoration, will be subject to management to maintain and enhance their value – all habitats should aim to qualify as Section 7 / UK BAP habitats and

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
	grassland, fen-mire, flushes, wet heathland, scrub, semi-natural broad-leaved woodland (including ancient woodland), mixed, conifer and broadleaved plantation, hedgerows (species poor), river and streams, standing water, swamp, dry and wet ditches. In addition, there are areas of quarry, bare ground, coal spoil, buildings, fences and areas of gravel and tarmac.		A number of these habitats are also considered to qualify the site as a SINCE, in accordance with published guidelines⁸. These include those habitats above (i.e. UK BAP and Section 7 habitats) in addition to heath, acid grassland mosaic (where unimproved grassland), flushes, ponds and conifer plantation (which are not	waterbodies, ditches and vegetated coal spoil) in addition to adjacent peatland – mire habitat which will be lost as a result of changes to hydrology. These habitats will be replaced by those shown in the Nant Helen Complementary Earthworks application restoration plan, and shown in the Future Baseline plan,	Retained habitats within the Nant Helen site including marshy grassland, acid grassland heathland, waterbodies and broadleaved woodland (including ancient woodland), which will be subject to management-County Value. Existing mosaic of species rich habitats within	as a mosaic qualify the site as a SINCE. It is acknowledged that some habitats namely peatland – mire and fungi rich habitats, will take longer to establish (between 20 – 30 years), however the mosaic of habitats created within the Site, providing they are created and managed in accordance with landscape and ecology recommendations, (and be sufficiently species rich)

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
			listed above as UKBAP/Section 7 habitats) due to being locally important habitats, or due to supporting important vascular plants. Examples of UK BAP/Section 7, SINC and LBAP habitats are however relatively small in extent or species poor examples. Of these habitats for example	Figure 7.9. Re-established habitats comprise acid grassland on slopes and embankments in addition to an area of woodland on the northern part of the earthworks embankment. There will also be the creation of new waterbodies within retained adjacent marshy grassland habitats and	the Washery – County Value. Overall Value = County Value	should still meet the criteria as habitats of conservation significance i.e. Section 7 / UK BAP and or SINC habitats. The retained habitats within the Nant Helen site such as broadleaved woodland (including ancient woodland, waterbodies, acid grassland, marshy grassland and heathland) will continue to be of County value, being Section 7 / UK BAP habitats and

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
			marshy grassland occurs across the site but is species poor due to agricultural improvement and unsympathetic grazing regimes; the only species-rich examples of this habitat occur to the east of the Site in the washery. There are still examples of good quality habitats of conservation significance	the relocation of peatland – mire habitat (north from its existing location). These habitats will also be subject to long term management. Newly created habitats as part of Celtic Energy’s site restoration are also shown on the Nant Helen restoration plan and include acid grassland, grazed pasture, hedgerows,		qualifying these areas as a SINCC. Additionally, these retained habitats will be subject to management measures which will enhance their value in the longer term. Washery habitats, which will not be directly affected by the Nant Helen earthworks, will be the same value as the existing baseline i.e. Section 7 / UK BAP, and will therefore be of County value.

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
			importance however within the Site, and which is reflected by the presence of notable plant species (and fungi, and invertebrates), and the high number of different habitats which occur together, albeit some of lower habitat quality, indicates that the Site (excluding areas subject to disturbances	woodland planting and waterbodies. The Future Baseline for GCRE also incorporates all habitats within the Washery Site, which were not included within the Nant Helen Complementary Earthworks application red line boundary and will therefore be protected from any potential disturbances during the		

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
			from current mining activities) would qualify as SINCE under the 'Mosaic habitat' criteria. As such, it is considered that the Site is of County value for its habitats. It is noted however that some habitats particularly areas of quarry, bare ground, coal spoil, buildings, fences and areas of gravel	earthworks. The washery site supports a mosaic of marshy grassland, species rich grassland, waterbodies, heathland, scrub and trees. The Future baseline plan also shows these habitats, and they are described in detail in the existing baseline information.		