

**APPROPRIATE ASSESSMENT OF A PROPOSAL LIKELY TO HAVE A SIGNIFICANT EFFECT
ON A EUROPEAN SITE**

CONSERVATION (NATURAL HABITATS & C.) REGULATIONS, 2010



PART A: The Proposal

1. Type of permission: N/A	2. Consents and ROMP references: N/A	3. National Grid reference:
4. Map of Application site with Permission reference(s) Map Attached Yes	4. Brief description of consents and options P/2019/0275 Construction Of General Purpose Agricultural Building For Housing Livestock, Fodder and Storage at Wood View, Fenns Wood, SY13 3PD	
6. European site name(s):	Fenn`s, Whixall, Bettisfield, Wem and Cadney Mosses Special Area of Conservation (SAC)	
7. List of interest features: Annex I habitats that are a primary reason for selection of this site 7110 Active raised bogs Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site 7120 Degraded raised bogs still capable of natural regeneration Ramsar criterion 1 : The site comprises a diverse range of habitats from open water to raised bog. Ramsar criterion 2 : Supports a number of rare species of plants associated with wetlands, including the nationally scarce cowbane <i>Cicuta virosa</i> and, elongated sedge <i>Carex elongata</i> . Also present are the nationally scarce bryophytes <i>Dicranum bergeri</i> and <i>Sphagnum pulchrum</i> . Ramsar criterion 3 : Also supports an assemblage of invertebrates including several rare species. There are 16 species of British Red Data Book insect listed for this site including the following endangered species: the moth <i>Glyphipteryx lathamella</i> , the caddisfly <i>Hagenella clathrata</i> and the sawfly <i>Trichiosoma vitellinae</i> .		

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CONSERVATION (NATURAL HABITATS & C.) (Continued)

PART B: Identification of effects being considered and relevant features affected			
Significant effect being considered (attribute affected)	Affected qualifying feature(s)	Favourable condition target(s) for relevant feature(s) based on conservation objectives set for SPA/ Ramsar	Contribution of attribute(s) to site integrity (ecological structure and functioning of site)
<u>F2 Water Quality</u> <u>Nutrient Enrichment</u> Nutrient-enriched and also polluted water has been channelled to run within the peat body because culverts have been cut through the hills that once contained the Moss allowing the marginal water levels to be lowered. This has had the effect of allowing marginal fen, swamp and carr woodland to be converted to agriculture. It also has the effect of causing the peat to decay and of increasing the spread of swamp, fen and carr species out onto the mire expanse.	Active raised bogs Degraded raised bogs still capable of natural regeneration	Upper limit: Lower limit: buffer zones on mineral ground against the edge of the peat need to be established. And Diversion of the ditches containing nutrient-enriched water back to around the edge of the site	

<u>F4 Erosion.</u> Visitor access to mire habitats must be controlled to limit damage to sensitive mire plants by trampling, as this can disrupt bryophyte hydrology and lead to erosion. The peat profile is also damaged by livestock poaching.	Active raised bogs Degraded raised bogs still capable of natural regeneration	Upper limit: No damage to peat caused by vehicles/pedestrians or stock.	
<u>F6 Agriculture</u> The peat profile may be damaged by stock poaching Addition of nutrients causes disintegration of the peat. This happens when manure or fertilizers or lime are added. Drainage necessary for agriculture, can make the peat surface subside, making the field surface wetter as it approaches the local water table leads to the need for expensive pumping systems or the deepening of ditches	Active raised bogs Degraded raised bogs still capable of natural regeneration	Upper limit: Control grazing sufficient to remove poaching as an issue. Lower limit: Not required Upper limit: Ensure low input - sympathetic management on bog periphery & divert enriched waters around the edge of the bog. Lower limit: Not required Upper limit: On agricultural land within the site, distance from field surface to base of drain no deeper than 30cm. Lower limit: But If drain likely to impact on bog vegetation then: Upper limit: Water table above 10cm of peat surface for more than 70% of the year. Lower limit: Water table below 10cm of peat surface for more than 70% of the year.	

<u>F8 Development</u> Development for housing, industrial, agricultural and other reasons can have a direct impact on the site through loss of habitat. It can also have indirect impacts through land use changes needed to allow the development to take place, such as, land drainage and changes to the drainage pattern and through possible increasing levels of pollutants affecting the site.	Active raised bogs Degraded raised bogs still capable of natural regeneration	Upper limit: Lower limit: Inappropriate development should not be allowed & provisions to ensure developments that are allowed do not compromise the nature conservation interests of the site or hinder their positive management.	
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<u>F12 Atmospheric deposition</u> <u>Acid Deposition</u> Deposition: 1.83 keq/ha/yr Exceedance: 1.73 keq/ha/yr Impacts: decomposition rate, sulphate reduction, nitrate uptake, organic acid production, damages the bog vegetation, increases acid leeching of cell membranes in sphagnum thus increasing evapotranspiration and reducing photosynthesis, mobilizes Al³⁺ (aluminium) causing toxicity to plants, reduce Potassium availability to plants. <u>N Deposition</u> Deposition: 21.6 kg N/ha/year Exceedance Ranges: Raised and blanket bogs [16.6] to [11.6] kg N/ha/year Impacts: by shifting the balance from bog mosses to grasses resulting a increased CO₂ emission	Active raised bogs Degraded raised bogs still capable of natural regeneration	Upper limit: Lower limit: Critical Load: 0.10 keq/ha/yr Upper limit: Lower limit: Critical Load Range: Raised and blanket bogs: 5-10 kg N/ha/year	
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CONSERVATION (NATURAL HABITATS & C.) (Continued)

PART C: Assessment				
Significant effect being considered (attribute affected)	Adverse Effect of proposal alone on attribute and/or feature and in relation to conservation objective for the feature.	Adverse Effect of proposal in combination with other plans or projects, on attribute and /or feature	Adverse effect on the integrity of the site? : Long term/ short term Yes/ Uncertain No	What mitigation could prevent an adverse effect on the integrity of the site?

<u>F2 Water Quality</u> (Nutrient Enrichment) There is a considerable risk of nutrient enrichment to Annex I priority habitats which are the reason for the sites selection and are highly susceptible to damage through enrichment. This could be through either a surface drain or through movement within the peat body and hydrological connectivity with soils.	Serious impact on plant communities and degradation of the peat body through biological breakdown.	Existing stock levels appear to above what is permitted and appropriate for a site within a peatland SAC. Leading to the site already being in unfavourable condition. Up to date background levels of background nutrients are unknown	Long term	The supporting ecological information states that construction would take place with a Construction Environmental Management Plan (CEMP). It also states that the effluent from cleaning and disinfecting the livestock building and yard will be prevented from entering the watercourse by a number of measures. These include: • Swilling of the building and yard to be aimed to the east, to enter the agricultural grassland to the east. No swilling will take place aimed to the west. • Manure will be stockpiled on hardstanding at the eastern edge of the site and will be used to spread onto the agricultural land to the east or taken off-site. • Planting is proposed between the new livestock building and the watercourse, including trees and a hedgerow. This will act as a buffer. Any run-off from heavy rain will be soaked away by the planting. There is no information to support that pollution would not occur through either the soils or even the ditch should this mitigation be conditioned. Not site investigation has taken place, geological mapping is often at a very coarse scale. Planting is also not necessarily appropriate, given the nature of the SAC.
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<u>F4 Erosion.</u> Erosion of soils caused by poaching and vehicle movements over a wetland site.	Erosion or compaction of vegetation by grazing and vehicle use around proposed buildings	Some soil erosion present on site and around existing buildings.	Long-term	No mitigation proposed
<u>F6 Agriculture</u> (Poaching, nutrient enrichment, drainage)	Nutrient enrichment as described above, damaging vegetation through eutrophication and peat through acid erosion. Moving machinery to the building in winter leading to soil erosion and compaction.	Damage visible from other buildings on site and increase in hardstanding area.	Long-term	Mitigation proposed as above does not take into account movement of water through the soil, and damage by machinery movement associated with the buildings.
<u>F8 Development</u> Development leads to a direct loss of supporting habitat, and indirectly can facilitate further habitat loss indirectly such as vehicle movements, increasing stocking levels, grazing at inappropriate times of year.	Direct loss of associated habitat and indirect damage through agricultural practices	There have been a number of buildings constructed on site in recent years. An enforcement notice (subject to appeal and prosecution) requires the removal of both the poly tunnel and static caravan. Some existing building were also replaced (the LPA has chosen not to take enforcement action on these as they cover roughly the same area as those which existed pre 2016). The area of hardstanding for vehicle storage has increased as has general agricultural paraphernalia.	Long-term	No mitigation has been proposed. Off site mitigation would not be appropriate in this situation given the significance of the special site and the rarity of habitat.

<u>F12 Atmospheric deposition</u> Impacts on plant communities from nitrogen deposition. Manure and fodder storage a likely contributing source.	Change in vegetation types towards more grasses.	Existing levels are thought to be within range tolerated by the primary habitat type, though I can find no recent monitoring data to confirm this.	Long-term	Mitigation is impossible. Although contribution from agriculture on such a small site is likely minor.
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PART D: Wrexham County Borough Council's Conclusion

CAN IT BE ASCERTAINED THAT THE PLAN OR PROJECT WILL NOT ADVERSELY EFFECT THE INTEGRITY OF THE EUROPEAN SITE(S)?

Direct Effect

It can not be ascertained with confidence that the proposal will not adversely effect the integrity of the site. Although an ecological report has been submitted it does not address the fundamental concerns with this application being the introduction of nutrients into the peat body. There are no investigations that show the absence of hydrological connections between this site and the wider peat body. Further investigations are required both below the surface and more basically on the ditch and surface run-off from the site.

Indirect Effect

Granting this consent will likely lead to further damage to this part of the SAC formally an important connecting and supporting habitat. The site has been physically altered since 2016 when an increase in agricultural intensification and domestication appears to have taken place. The ecological report needs to make reference to appropriate agricultural management, manure management, stocking times, densities, breeds and supplementary feeding required on site. There remains unconsented structures on site together with a variety of machinery, hardstanding and paraphernalia. Any further application needs to demonstrate mitigation and betterment to the existing and deteriorating situation which is without doubt impacting adversely on the special site.

In Combination Effects

In combination effects from other structures on site have not been fully considered. Other projects on adjacent sites have not been identified.

Conclusion

Additional information is required which demonstrates no potential impact on the wider peat body and limit damage and degradation of this part of the SAC.

Name of Assessing Officer:
Emma Broad

Name of Supervising Officer:

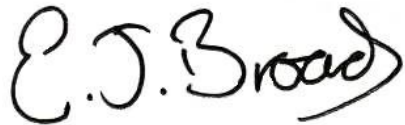
Job Title:
Ecology and Biodiversity Officer

Job Title:

Signed:

Date:

6/8/19



Signed:

Date:

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CONSERVATION (NATURAL HABITATS & C.) (Continued)

PART E: Consultation with NRW on Part D	
Natural Resource Wales comment on conclusion:	
Name of NRW Officer:	Job Title: Regional Species & Biodiversity Officer
Signed:	Date: