

Appendix 7

Ecology

Proposal

The Environment Statement assesses the potential for the project to effect sensitive habitats and species of wildlife value. It does this by firstly establishing which habitats and species of value are present within the zone of influence of the Project. An assessment is then undertaken to determine whether there are any pathways of impact upon the valued habitats and species. The assessment has established which habitats and species of value are present in the zone of influence of the proposal and then considered whether there are any pathways of impact on the valued habits and species. The assessment identifies that the majority of habitat located within and surrounding the Exploration Site at Roseacre Wood comprises improved grassland heavily grazed by dairy cattle and is of low ecological value.

The nearest wooded area, Roseacre Wood is located approximately 250m to the north east of the Exploration Site. The wood was identified as being heavily disturbed and managed largely for the purpose of rearing waterfowl and was considered of low ecological importance. Holmes Wood located 350m to the south west is also of relatively limited ecological value due to rearing game.

The ecological receptors, of nature conservation value, identified within the zone of influence of the main site as part of a Phase 1 Habitat Survey included; hedgerows, bats, breeding birds, nesting birds wintering birds, brown hare and great crested newts. The following were identified as having the potential to be significant at the local scale.

- Loss of habitat.
- Disturbance due to the loss of bat foraging habitat from the activities and equipment present at the well pad.
- Loss terrestrial habitat for great crested newts and potential direct effects on them
- Disturbance and loss of habitat from brown hare.
- Potential disturbance and displacement of migratory species of birds in the vicinity of the array points.

A range of mitigation measures and compensation measures are proposed to be adopted to ensure that the Project would not result in a significant effect on ecological features. These measures include the following:

- Replace hedgerow, trees and habitats,
- Measures to reduce the magnitude of lighting impacts on feeding bats
- Locate seismometer array points away from land unused by overwintering birds.
- Clearance of vegetation to occur outside of bird breeding season or after confirmation that there are no breeding birds using the vegetation.

- Implement noise attenuation measures to minimise disturbance to sensitive species of wildlife.

Policy

EU Habitats Directive

National Planning Policy Framework (NPPF)

Paragraphs 109-112	Conserving and Enhancing the Natural Environment
Paragraphs 118-125	Conserve and Enhance Biodiversity

National Planning Policy Guidance (NPPG)

Natural Environment	Protect biodiversity
Noise	Manage noise impacts

Joint Lancashire Minerals and Waste Development Framework Core Strategy Development Plan documents (LMWDF)

Policy CS1	Safeguarding Lancashire's Mineral Resources
Policy CS5	Achieving Sustainable Minerals Production

Joint Lancashire Minerals and Waste Local Plan – Site Allocation and Development Management Policies – Part One (LMWLP)

Policy NPPF 1	Presumption in favour of sustainable development
Policy DM2	Development Management

Fylde Borough Local Plan

Policy EP12	Conservation of Trees and Woodland
Policy EP15	European Nature Conservation Sites
Policy EP16	National Nature Reserves
Policy EP17	Biological Heritage Sites
Policy EP23	Pollution of Surface Water
Policy EP24	Pollution of Ground Water
Policy EP26	Air Pollution
Policy EP27	Noise Pollution
Policy EP28	Light Pollution

Summary of Consultee comments and Representations

Roseacre, Wharles and Treales Parish Council: Object to the proposal for a number of reasons including the following issues relating to ecology:

- Protected species within area not included in ecology surveys.
- Some impacts cannot be mitigated against for example Barn Owls.
- Insufficient information to make necessary evaluation and recommendations for mitigation
- Other surveys taken place outside recommended times of year.
- No consideration of wintering birds in the ES statement.
- A full Habitats Regulations Assessment needs to be undertaken to understand the impacts on the European protected sites.

Royal Society for the Protection of Birds (RSPB): Express concern about the lack of data and it would be difficult to conclude that there would definitely not be an impact on the three SPAs (Ribble & Alt Estuaries, Martin Mere and Morecambe Bay) through impacts on functionally-linked land due to this lack of data. Winter bird surveys for the area would elucidate the issue.

The RSPB believe that "the regulatory regime for fracking is not fit for purpose, that such a new and untested technology in the UK should be approached with far more caution and that the case has not been made for encouraging a large scale fracking industry within our legally binding climate change limits."

Natural England: No objection- An initial objection was made due to the need for further information to be supplied to the planning authority to check the likelihood for significant effects in accordance with the Habitats Regulations. Further information was required to address impacts on air quality, Special Protection Area (SPA) birds, land use and cumulative effects.

Following the receipt of additional information from the applicant, Natural England concluded that the specific issues they had raised had been addressed and therefore withdrew their objection.

Lancashire County Council Ecology: Initially advised, the proposals have the potential for impacts on biodiversity, including European protected species (great crested newts, bats) and their habitat, species protected by domestic legislation (nesting birds), wintering birds (qualifying features of European designated sites), and Habitats and Species of Principal Importance in England (section 41 NERC Act 2006) (woodland, hedgerows, ponds; several protected species, and additionally brown hare, common toad).

In order that the proposals constitute sustainable development for the purposes of the NPPF, mitigation and compensation for impacts on biodiversity will need to be secured as part of any planning approval.

Prior to determination the applicant should be required to submit the results of eDNA surveys for great crested newts (water bodies 10, 11, 12), together with proposals that clearly demonstrate either avoidance of impacts on great crested newts and their habitat or that the proposals would be licensable.

Planning conditions and/or Section 106 agreements are recommended to address the following matters:

Mitigation measures for wintering birds (as set out in the report '*Environmental Statement. Shadow Habitats Regulations Assessment – Screening*' (ARUP, October 2014), and as approved by Natural England, will be implemented in full.

The approved mitigation proposals for great crested newts will be implemented in full (either as part of a licensed scheme, or non-licensed avoidance measures).

A Biodiversity Mitigation Strategy is required to address impacts upon protected and priority species (amphibians, bats, nesting and wintering birds, badgers, reptiles, water vole, brown hare) and their habitat during construction and operation of the development.

The Strategy should also demonstrate that Species Listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) will not be spread. The Strategy should include details of the establishment, aftercare and management of habitats to be retained and enhanced, or created, as part of these proposals to demonstrate that impacts on habitats will be fully compensated.

Habitat compensation proposals (creation, enhancement and management) fall outside the redline boundary, and it will therefore need to be ensured that appropriate mechanisms are in place to secure compensation.

The applicant submitted further information to address these points including an indicative mitigation strategy and further information in the form of the missing survey results. However, the information requested with regard to Great Crested Newts to demonstrate that the licensing tests would be addressed has not been submitted, and this would need to be satisfied beforehand in the event of a decision to grant permission.

Lancashire Wildlife Trust: The ES does not take into account fungi or lichens, the bird surveys were carried out over one season only and may not represent a true reflection of the impact of the development over time. Concern that the ES and site survey does not include road side verges, wildlife corridors etc. in accordance with British Standards Institute Code of Practice Biodiversity Code of Practice for planning and development. Concern is raised over the competence of the author of the ES. The application does not meet the aims of the NPPF in particular paragraphs 17, 109 and 165 of the NPPF. Concern is expressed at the lack of bio security measures to manage the risk of spreading pathogens and non-native invasive species. An appropriate landscape/ ecological management plan has not been submitted and there is the need for a legal agreement to safeguard such arrangements. A construction environmental Management Plan (CEMP) is required. The site has the potential to provide net gains in a number of areas of biodiversity. There is general concern about the regulatory framework associated with Fracking.

Woodland Trust: The application site includes a section of woodland called Roseacre Wood, although the site does not appear on Natural England's Ancient

Woodland inventory it does appear on maps dating back to 1847. Due to the significant chance that the site is ancient woodland the Woodland Trust objects to this proposal.

Council for the Protection of Rural England: Lancashire County Council should approve the application only if a number of significant conditions are imposed to prevent adverse impacts on the countryside landscapes, habitats, wildlife and local communities in the area of impact by shale gas operations

Friends of the Earth: Object to the proposal for a number of reasons including the following issues relating to ecology:

- Potential adverse impacts on the migratory path for wintering birds utilising the Morecambe Bay and Ribble Estuary Ramsar/ SPA sites.
- Agricultural drainage ditches surrounding the site discharge north-westwards to the Wyre Estuary via Lords Brook.
- Impacts on internationally designated sites, Morecambe Bay SPA and Ramsar, Wyre Estuary SSSI, Newton Marsh SSSI.
- Medlar Ditch and Wesham Marsh Biological Heritage Sites have not been considered in relation to site operations and potential disturbance.
- The development would result in the loss of 0.06ha of Roseacre Wood, UK BAP habitat lowland deciduous woodland. New woodland planting will not compensate for the loss of mature woodland with habitat value.
- Impacts on protected and notable species including bats, otters, brown hare, great crested newts and nesting birds.
- Impacts on SPA qualifying bird species, wintering and breeding birds.
- Impacts on the functional link with the Ribble and Alt Estuaries SPA/Ramsar, require that a full Habitat Regulation Assessment must be carried out.
- Impacts of the flare (noise, heat, emissions) and 24hour lighting on wildlife. There will be 14 instances of significant impacts including disturbance and loss of habitat for bats, brown hare, nesting birds and great crested newts, with limited mitigation measures proposed. Conditions are inadequate as the applicant will disregard them as per experience at Beconsall site

Roseacre Awareness Group (RAG): Object to the proposal for a number of reasons including the following issues relating to ecology:

- Potential impacts on protected species, some of which have not been surveyed or surveys have limitations and missing data. Need a full habitats survey.
- No information on impacts on Holmes Wood, Carr Wood, Nigget Wood and Medlar Brook and impacts on Roseacre Wood, a possible ancient woodland
- Ecological organisations have not been consulted and Lancashire Wildlife Trust has raised numerous objections.
- Contrary to Policies DM2, EP15, EP19 and NPPF
- Hedgerows should be protected and not removed to install passing places
- Provided a review by consultants 'Sensible Ecological Solutions. The reports make representation that surveys are incomplete/out of date; field south of the

site are not surveyed; the disturbance to specially protected species has not be assessed

Other representations

The following is a summary of the representations received that relate to ecology:

- Contrary to Policies EP15 and EP16 as the proposal will affect a European Site and SSSI site.
- Poses an adverse threat to wildlife and wildlife sites and watercourses including, including Ribble Estuary and Morecambe Bay RAMSAR sites, SSSI, Wyre Estuary SSSI, Marton Mere SSSI, Medlar Meadows, Medlar Woods and Medlar Ditch BHS sites, River Wyre, Thistleton Brook and Wyre Estuary Country Park.
- Object to access road at Roseacre Wood, the oldest wood in the parish. To remove trees from this wood would be environmental vandalism.
- Hedgerows will be ripped out to widen roads and canopy of TPO trees at Ladies Row could be affected by passing HGVs.
- Negative impacts on protected species including bats, brown hare, barn owls, great crested newts and birds.
- Adverse effect on wildlife throughout the day on local ecology / biodiversity.
- Fracking - huge adverse effect / harmful impact on wildlife, flora and fauna.
- Impacts from noise, lighting, air pollution (toxic fumes), surface water pollution into field drainage ditches onto wildlife including bird wildlife sites and habitats, resident bird populations, wintering wildfowl, barn owls, pink footed geese and ducks.
- Impact on pink footed geese and other bird species at Holmes Wood.
- RSPB do not support fracking.
- Impacts on fishing lakes and local pits with a variety of fish.
- Ecological surveys are incomplete and without them the Biodiversity Mitigation Strategy will be based on incomplete information.

Assessment

Initially, the County Council's Ecologist raised a number of concerns about the need for more surveys for great crested newts together with proposals that clearly demonstrate either avoidance of impacts on great crested newts and their habitat or that the proposals would be licensable. Further, there would be the need for a Biodiversity Mitigation Strategy to address the impact of the construction and operation of the site on protected and priority species.

The applicant submitted an indicative mitigation strategy and further information in the form of the missing survey results for the additional ponds which confirmed the presence of great crested newts in a further pond and states that the mitigation would be a combination of licensed and non-licensed avoidance measures. However, the information requested to demonstrate that the licensing tests would be addressed has not been submitted. This would need to be addressed before the grant of planning permission.

Natural England submitted an initial objection due to the need for further information to be supplied to the planning authority to check the likelihood for significant effects in accordance with the Habitats Regulations. Additional information submitted by the applicant included a Shadow Habitat Regulations Assessment-Screening and the inclusion of built in mitigation measures. On that basis Natural England confirmed "that a significant effect on the Ribble and Alt Estuary Special Protection Area (SPA)/ Ramsar, and Morecambe Bay SPA/ Ramsar can be excluded, either alone or in combination with other plans or projects". Natural England concluded that the specific issues they had raised had been addressed and therefore withdrew their objection.

Wintering Birds

As mentioned above the applicant submitted a Shadow Habitat Regulation Assessment (HRA) and Natural England agreed with its conclusions and that the built in mitigation would be adequate to enable a conclusion of no likely significant effect to be reached. The County Council are similarly of the opinion that sufficient information, and built in mitigation, has now been submitted to demonstrate no likely significant effect.

Barn Owls

FOE have raised a number of concerns and state that barn owls and nesting birds are European protected species. However, they are not, but they are protected by domestic legislation. It is further considered that there is no evidence to suggest the habitat in this area provides high quality foraging habitat for barn owls. It is considered that there is no predicted loss of barn owl foraging habitat.

Breeding Birds

Concern has been expressed that the cumulative impacts on breeding birds have not been properly assessed. The array sites are small discrete structures and whilst there may be many of them, collectively they do not result in the loss of a significant amount of breeding bird habitat. During operation, infrequent visits to monitoring stations during the bird nesting season would not be expected to result in an offence. It is further considered that the biodiversity strategy would enhance habitats for a range of breeding birds.

Bats

Other concerns include the impact of the proposal on bats. There are no significant issues that need to be addressed pre-determination, but mitigation during construction and replacement habitat/ habitat creation should be secured as part of any permission. Whilst there are no roosts at the main site the loss of hedgerow and woodland edge (foraging habitat); light pollution of foraging and commuting habitat and heat from the flare stack may alter insect abundance and distribution. Hedgerow creation and enhancement, replacement woodland planting, lighting mitigation, and monitoring of bat activity during operation of the site has been put forward as part of the Biodiversity Mitigation Strategy (BMS) but which needs to be secured through a planning condition. With regard to the array sites 8 of these are

near trees but are micro-sited to maintain 15m to trees. Therefore, trees need to be adequately protected from damage during array installation.

Excess noise and vibration during installation of arrays is relatively time-limited. However, risks could be further minimised through securing precautionary measures, such as pre-installation survey of trees at those 8 array sites (to confirm absence of bats in advance), a watching brief during installation, or installation of those particular arrays at a time when bats are less likely to be present. Such mitigation could be dealt with as part of a legal agreement requiring a Biodiversity Mitigation Strategy to be implemented.

Great crested newts

The submitted great crested newt mitigation strategy (ARUP, May 2015. *Great Crested Newt Mitigation Strategy. Roseacre Wood, Lancashire*) has been reviewed.

Access track upgrade/ hedgerow removal in proximity to a great crested newt breeding pond

The mitigation strategy does now demonstrate that the proposals would address the third licensing test (maintenance of the population at favourable conservation status) given in the Conservation of Habitats and Species Regulations 2010 (as amended).

Roseacre Wood

Concerns have been raised about the impact of the development on part of Roseacre Wood which is an Ancient Woodland. Natural England has confirmed that Roseacre Wood is not on the ancient woodland inventory.

The Lancashire Wildlife Trust has raised a number of concerns and questions.

A concern has been raised that the applicant did not assess lower plants (e.g. fungi). The initial assessment and subsequent surveys did not assess the habitat as significant and did not trigger the need for lower plant surveys. The site is largely characterised as improved agricultural grassland.

The Trust is concerned that requirements of policies 17, 109 and 165 of the NPPF NPPF, require there to be an enhancement of biodiversity instead of a net loss of biodiversity. The applicant says the mitigation measures presented within the ES would be included within the BMS. The detailed commitments to habitat creation and management to be included in the BMS would be developed with reference to the views of the County Council.

The Trust is concerned, about the lack of bio security measures to manage the risk of spreading pathogens and non-native invasive species. The applicant has advised that these measures would be addressed in the BMS.

The Trust is concerned that an appropriate landscape and/or ecological management plan has not been submitted and approved. The BMS and

Environmental Operating Standard would ensure that all habitat creation and management activities would be implemented, monitored and maintained.

Conclusion

The ecological receptors, of nature conservation value, identified within the zone of influence of the main site as part of a Phase 1 Habitat Survey included; hedgerows, bats, breeding birds, nesting birds wintering birds, brown hare and great crested newts. The following were identified as having the potential to be significant at the local scale.

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- Locate seismometer array points away from land used by overwintering birds.
- Clearance of vegetation to occur outside of bird breeding season or after confirmation that there are no breeding birds using the vegetation.
- Implement noise attenuation measures to minimise disturbance to sensitive species of wildlife.

It is accepted that imposition of conditions controlling the implementation of the proposed mitigation measures would ensure that there would be no unacceptable impact upon biodiversity as a result of the proposal and therefore the proposal would not be contrary to the policies of the development plan.