

Lewis Wind Farm: Rebuttal of the 2005 and 2007 Lindsay Observations on Habitats and Ecological Assessment

**Technical Rebuttal Report to Lewis Wind Power
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Dr T Dargie CEnv MIEEM

**Boreas Ecology
Loch Fleet View Skelbo Street Dornoch Highland IV25 3QQ**

EXECUTIVE SUMMARY

1. This report is a complete rebuttal of wild and exaggerated criticism made against parts of the Lewis Wind Farm Environmental Statement (LWF ES) by the Royal Society for the Protection of Birds (RSPB) and a peatlands consultant, Mr. Richard Lindsay. Mr. Lindsay is Head of Wildlife Conservation in the University of East London. He was formerly the leading peatland specialist in the Nature Conservancy Council and then Scottish Natural Heritage.
2. Criticism was first made regarding the LWF ES submitted by Lewis Wind Power (LWP) in November 2004. Similar exaggerated criticism has also been made in relation to a modified submission made in late 2006, the LWP 2006 Addendum.
3. Lindsay criticism is directed mainly at LWF ES work on habitats and ecohydrology, produced by Dr. Tom Dargie of Boreas Ecology. The Lindsay work was first published as a report, available on the RSPB website since May 2005. This is supplemented by additional Lindsay criticism in Appendix 1 of a 2007 RSPB Letter of Objection in response to the 2006 Addendum. This is also available on the RSPB website. Both Lindsay documents represent expert opinion submitted as objection evidence by RSPB to Scottish Ministers.
4. The 2005 observations of Mr. Lindsay include predicted effects upon peatland habitats extending for hundreds of metres away from the development and a conclusion that the indirect habitat impacts of the proposed 234 turbine wind farm might be up to 30 times greater than predicted in the LWF ES. Further charges of substantial underestimate of impacts are made in Appendix 1 of the RSPB 2007 Objection. There are many other strong Lindsay disagreements with the LWF ES on habitats and ecohydrology.
5. On the basis of careful scrutiny, Lewis Wind Power's habitat consultant, Dr. T. Dargie of Boreas Ecology, does not accept the assertions, analysis and conclusions made by Mr. Lindsay. Instead, the quality of the Lindsay reports is considered inadequate as a critical study. The work is so poor that it should not be regarded as a substantive *bona fide* expert review. Instead, it is not fit for purpose. This rebuttal demonstrates the quality of Mr. Lindsay's work. It has been produced by Dr. Dargie as a defence of his own professional reputation.

6. The Boreas Ecology approach to debunking the censure in Lindsay documents is evidence-based. This approach shows that Mr. Lindsay's critical reviews contain at least 118 serious flaws. Each flaw represents a Lindsay claim, data or example which fails a validity test when set against the target of Lindsay criticism (ES methods, data or interpretation). The tally of flaws excludes all minor errors in Lindsay documents.
7. Judgement on the validity of Lindsay and ES - Addendum material is usually made by reference to other information. That includes other habitat surveys of the Lewis Peatlands (e.g. major survey work supervised by Mr. Lindsay), independent expert opinion, published work on peatland hydrology and vegetation, confirmatory hydrological research by Boreas, satellite remote sensing of Lewis habitats, as well as checks on guidance and adopted documents published by the Joint Nature Conservation Committee (JNCC) and the Ramsar Convention. In each test as full a set as possible of relevant independent material has been assembled, to enable sound judgement. A few checks simply require comparison of a Lindsay statement and ES-Addendum wording in terms of meaning or emphasis.
8. The outcome of these tests of validity for the Lindsay documents is stark. Not one substantive criticism is made which dismisses or seriously questions ES work on habitats and ecohydrology. Instead, his documents are shown to be made up of incorrect statements, faked quotations, flawed methods, misrepresentations of the work and views of others, and consistently exaggerated claims on impact.
9. Detailed re-examination of Lewis Wind Farm ES data validates the ES interpretation that the main habitat types form a continuum from wet to dry vegetation types, with dry types predominant. Boreas Ecology work includes statistical analysis to confirm that continuum. Graphical comparison of data from Lewis vegetation surveys of different age (1976-80, 1987-89, 2002) suggest that the northern Lewis peatlands are becoming drier and possibly more nutrient-rich, with considerable change occurring in the last 25 years.
10. These changes seem to represent a 'dry shift' in the surface conditions of the northern Lewis Peatlands. This is a phenomenon known from palaeoecological studies, involving a rapid whole-system switch from a wet to dry bog surface in only a few decades. A converse, 'wet shift', is also known in such studies. No other British equivalent, in current times, is documented. This could therefore represent environmental change which is of some significance.
11. The change involved is proposed and described as a Lewis Drying Hypothesis by Boreas Ecology. This is validated in terms of evidence for increasingly dry ground using both vegetation survey (1976-80, 1987-89, 2001-2003) and satellite remote sensing results (1977, 1992 and 2003 images). Results suggest that >600 hectares per year of wet peatland is changing to dry peatland types.
12. A 2003 satellite image classification map of the distribution of wet and dry peatland is produced, showing that dry peatland is now dominant in the northern and central Lewis Peatlands.
13. The 2005 analysis by Mr. Lindsay, suggesting that wet ground is much more extensive than stated in the ES, is invalid. Mr. Lindsay exaggerates the area of wet blanket bog published in the ES two- to three-fold on false premises. Boreas interpretation of vegetation trends agrees with survey results from the Lewis Peatlands in a major Nature Conservancy Council 1987-89 field survey. Mr. Lindsay acted as Nominated Officer for that survey. That report is never mentioned by Mr. Lindsay in his RSPB documents.

14. Independent expert opinion by leading vegetation surveyors (Ben and Alison Averis) confirms that Lewis Wind Farm vegetation samples do contain dry peatland types, the opposite of Lindsay assertions. Dry peatland vegetation types are also confirmed by these experts for Shetland and other Lewis vegetation surveys. One survey containing these types is the NCC 1987-89 work supervised by Mr. Lindsay.
15. The 2007 analysis by Mr. Lindsay proposes recent widespread peatland regeneration after thousands of years of erosion. This is shown to be a mix of error and unsubstantiated conjecture.
16. Mr. Lindsay employs an incorrect hydrological model of blanket bog ground conditions that would be affected by the Lewis Wind Farm proposal.
17. In estimating indirect impacts on habitats, a critical 50 metre value published in 1972 is misrepresented as a 200 metre distance by Mr. Lindsay, increasing that then to 250 metres.
18. This is part of a Lindsay procedure to exaggerate the area likely to be affected by indirect habitat loss by about 14-fold. Combined with his 2-3 fold exaggeration of the area of wet ground based on vegetation types, this enables Mr. Lindsay and the RSPB to claim in 2005 a 30+-fold underestimate of effect in the Lewis Wind Farm ES.
19. Further large exaggerations are made in 2007, but Mr. Lindsay has dropped the 2-3 fold wet ground exaggeration without explanation.
20. Mr. Lindsay falsely infers a high risk of extensive damage from drainage, deep excavation and road construction. The risk is instead low and this view is supported by the scientific literature (including RSPB work in the Flow Country), existing ditch and track impacts in the Lewis Peatlands, experience of building wind farms, and hydrological research undertaken in a wind farm under construction on blanket bog.
21. If these rebuttal findings are considered correct, they show that the Lindsay case is based only on assertion and conjecture, usually with little or no scientific backing. Nothing put forward seriously questions ES and Addendum material on habitats and ecohydrology, including repeated assertions on the need to apply a formal hydromorphological approach. The material used by Mr. Lindsay seems only a systematic attempt to discredit ES work on habitats and ecohydrology, no matter how sound that was.
22. Accordingly, these Lindsay documents should be formally dismissed by Scottish Ministers. Furthermore, Mr. Lindsay and RSPB should be censured for producing objection material of no substance for consideration by Scottish Ministers. Lindsay material was presented as expert opinion and RSPB staff undertook internal peer review before submitting Lindsay evidence to Scottish Ministers. High professional standards and scientific integrity must be shown by RSPB, which aspires to quasi-statutory status in the Scottish environmental planning process and receives large sums of public money for its conservation work.