
**FURTHER COMMENTS ON THE PLANNING
APPLICATIONS (Y06/1647/SH AND Y06/1648/SH)
AND SUPPLEMENTARY ENVIRONMENTAL
INFORMATION FOR LYDD AIRPORT**

prepared by

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1 INTRODUCTION

These comments consider supplementary environmental information supplied by the developer to the planning authorities and assess whether the impact on invertebrates by this development was assessed appropriately. It should be read in conjunction with our comments from April 2007. An appropriate EcIA (Ecological Impact Assessment) has to take the magnitude of the development and the importance of the site regarding nature conservation in a national and international context into account. Furthermore, the sensitivity of the habitats and species to disturbance or changes of biotic and abiotic factors needs to be considered and historic data has to be included.

As shown in our comments in April 2007, Dungeness is of international importance for invertebrates. Some of the designations of the protected sites affected by this development include invertebrates, while others include them in their general description. There are several habitats on Dungeness which support invertebrates of conservation concern. The vegetated shingle is the best known, but there is also an interesting faunal component associated with wetlands and dry grassland. These habitats are all represented within the proposed development, as well as ephemeral vegetation, scrub, swamp, margins of standing water, marshy grassland, semi-improved and unimproved, but managed grassland and bare shingle. An appropriate assessment of the impact of the proposed development on invertebrates need to survey all of these habitats using several methods and include at least four visits during the season.

2 COMMENTS IN DETAIL

2.1. INVERTEBRATE SURVEYS OF DRAINAGE DITCHES AND RUNWAY EXTENSION FOOTPRINT, OCTOBER 2007

This survey was conducted for three different groups, namely for aquatic invertebrates, for Medicinal leech and for terrestrial invertebrates by Andy Godfrey in drainage ditches on the footprint of the proposed runway extension and along a transect along part of the proposed runway extension. The invertebrate surveyor who conducted the work, Andrew Godfrey, is a valued colleague and we have every confidence in his competence. The material obtained for aquatic invertebrates was sampled by appropriate methods, but the report states that only part of the specimens were identified. The July samples, which were contaminated with Duckweed that makes their identification more time consuming, were not identified. Most of the sweep netting samples were not identified at all. This remaining material as well as the material left unidentified from his previous survey, particularly the samples from the Malaise traps and the water traps, need to be identified and the results incorporated into the report. This work is an essential part of the assessment of the impact of the planned proposal on the invertebrate fauna of the area. During the scoping phase English Nature requested the inclusion of Malaise Trap sampling in the Invertebrate survey. However, this request has not been actioned as the samples were not identified. The majority of invertebrates cannot be identified in the field and need to be sampled and subsequently identified. These identifications are time-consuming and from both reports it appears as if the specialist had insufficient time to complete this work. Furthermore, we regard sweep netting samples taken in mid July and from only a very small area as completely insufficient to assess the impact on terrestrial invertebrates. Thus we refer to our comments below and from April 2007 (ch. 5).

2.2. RECOMMENDATIONS FROM APRIL 2007

In our comments in April 2007 we had included recommendations (ch. 9 of these comments), which we regarded as essential to appropriately assess the impact of the proposed development

on invertebrates. We have repeated these recommendations below and comment below each of them if they have been followed by the developer.

- **Supply specialist surveyor with full brief**

According to IEEM (Institute of Ecology and Environmental Management) guidelines for Environmental Statements the specialist surveyor must be supplied with a full brief of the planned development. This is essential for identifying the extent of the survey area and the groups of invertebrates that need to be sampled. It will also assist with the assessment of the planned project. According to the Invertebrate Survey report by A. Godfrey a full brief was not given to him (see Appendix, Section 10.2 F, Summary and Introduction). Therefore, the survey was inadequate and should be repeated. He should also be informed of historic data to assist the adequate assessment of the impact on the invertebrate fauna present on site. This data was not provided.

Comment: The survey report submitted by A. Godfrey in October 2007 does not state that he has been informed of the total extent, including the magnitude, of the development. Furthermore, this later survey was restricted by the developer on aquatic invertebrates and medicinal leech in the ditches included in the development footprint. Hence, Andy was obviously not consulted on the extent of the invertebrate survey and historic data including data from surveys included in the EIA in December 2006 were not supplied to him. Therefore, although this latter survey was conducted appropriately for the two groups mentioned above, we still regard the invertebrate survey as inappropriate and therefore invalid to assess the impact.

- **Identify remaining material**

English Nature required the inclusion of two Malaise traps in the survey. This material and also large amounts of the remaining material were not identified at all (see summary of survey report by A. Godfrey – included in both planning applications). This material must be identified before attempting to assess the impact of the planned development on invertebrates.

Comment: This was not done.

- **Survey wider range of habitats**

All habitats important for invertebrates on and preferably around the airport, but affected by an increased nitrogen deposition, need to be surveyed for invertebrates. These habitats include bare and vegetated shingle, unimproved / semi-improved grassland, sandy areas, scrub, marshy areas, wetlands including all interconnected ditches and ponds. This list is not exhaustive and the specialist surveyor should be consulted on this.

Comment: This was not done except for the ditches in the development footprint for aquatic invertebrates and Medicinal Leech. As the margins of such ditches are an important habitat for terrestrial invertebrates as well, this group should have been included in the survey. Also, all ditches interconnected with these ditches could be harmed by the development and need to be surveyed for aquatic and terrestrial invertebrates and Medicinal leech. Furthermore, the surveyor had not been supplied with all historic data for these ditches including findings during the surveys for Great Crested Newts, which found Medicinal Leech in ditches nos. 5 and 7 (5.2.8 of our comments from April 2007). These ditches were surveyed again by A. Godfrey, but he did not find Medicinal Leech. If these are present in low numbers it is possible that they can be missed. However, as these were found during another survey for this EIA they need to be taken into account as being present in these drains.

- **Survey wider area of airport**

The invertebrate survey was only conducted over a very small area affected by the proposed development. In order to assess the impact of the proposed projects including the increase in nitrogen deposition on the invertebrates, at least the area of the airport, but preferably a wider area needs to be surveyed.

Comment: We still regard this as not done as only part of the extension of the runway and only for aquatic invertebrates and Medicinal Leech was included in the additional survey, but all other areas probably affected by the development have still not been surveyed.

- **Survey wider area of ponds and ditches for medicinal leech, *Hirudo medicinalis***

The most important habitats for medicinal leech are ditches with a large amount of vegetation, but also ponds. Therefore, all ditches and ponds that might be affected by the development (including increased nitrogen deposition) need to be surveyed to assess the impact on this species. One of the major threats to this species is eutrophication of their habitat, i.e. ponds or ditches. This species is included in the IUCN list of species of conservation concern; hence it has an international status. Furthermore, it is classified as Vulnerable in the UK, listed under Appendix III of the Bern Convention, Appendix II of the Convention on International Trade in Endangered Species (CITES), Annex V of the Habitats Directive, and protected in the UK under Schedule 5 of the Wildlife and Countryside Act, as amended.

Comment: We still regard this as not done appropriately as only part of the extension of the runway was included in the additional survey for Medicinal leech. All other ditches, including interconnected ditches, and most ponds probably affected by the development have still not been surveyed.

- **Invertebrate survey earlier in the year**

The invertebrate survey missed the peak occurrence times of many species of conservation concern known from the area. Thus a complete survey of all important habitats for invertebrates needs to be carried out earlier in the year. Ideally, the survey should be carried out in mid May, early June, late June / early July and early to mid September. This might need to be adjusted by one or two weeks depending on season.

Comment: This has still not been done as we regard sweep netting for terrestrial invertebrates along one transect of part of the runway extension in mid July as absolutely insufficient. Furthermore, most of the material collected during this survey was not identified.

- **Moth survey**

Many rare moth species are known from the area affected by the development, including one species only known from Dungeness. It is therefore essential that at least four moth surveys are carried out during the season, starting in late April / early May, continuing in early June, followed by late June and mid to end September. These surveys were not conducted before due to problems with access to the airport site at night. However, access at night was possible for surveys of Great Crested Newts. This moth survey should consist of at least two components, one night trapping with MV traps, but also a focussed survey of the foodplants of the rare species which have or might be found on the site, looking for characteristic signs of damage. Many of these foodplants are known from the site but the moth species associated with them have not been found there.

Comment: This has not been done.

- **Input of pollutants**

The input of pollutants, including nitrogen and lighting, needs to be assessed to determine the extent of its effect on the flora and hence the invertebrates dependent on these plants. Also, the possibility of increase in vegetation and thus decrease in open, unshaded areas for thermophilic (warmth loving) invertebrates needs to be assessed.

Comment: This has not been done.

- **Supply further detail of mitigation measures**

The mitigation measures suggested for invertebrates are inadequate. More detailed proposals for all species of principal importance, including those found in the more comprehensive surveys, should be supplied. Mitigation for the Brown Carder Bee, which will be affected by the planned cutting of the runway verges, is a priority, as is mitigation for the Medicinal Leech.

Comment: This has not been done. The new mitigation measures suggested no longer include some mitigation measures that had been in the mitigation measures supplied with the EIA in December 2006, e.g. Bee Banks. Furthermore, the mitigation measures supplied are not part of the planning application (statement in the supplementary information) and therefore invalid. Mitigation measures need to include concrete commitments including detailed plans etc according to the IEM guidelines (ch. 6 of our comments from April 2007). The ES should have contained concrete measures for mitigation that commit the developers to specific actions within a timescale.

The IEM guidelines (IEM, 2006: Guidelines for ecological impact assessment in the United Kingdom (approved version 26. June 2006)) are clear that mitigation measures should be included in an ES as a commitment by the developer before development is approved, stating 'A shopping list of 'proposed mitigation' at the end of an EcIA is of very little value as it requires the competent authority to enter into discussion with the proponent to agree what will be implemented. An EcIA is effectively meaningless if it provides an assessment of the significance of the residual impacts of a scheme based on the proposed mitigation measures being implemented even though these measures have not been agreed by the developer'. Thus the competent authority needs to be aware of what the developer commits to and not what he proposes to do: the extent of the mitigation measures in detail including plans etc, the costs and a timescale, and also whether future monitoring (including funding) to assess the efficacy of mitigation is included.

No specific mitigation measures for Medicinal Leech are included in the ES and the populations have not been properly assessed (see 5.2.8 of our comments from April 2007 and above). Based on a comprehensive survey and subsequent detailed assessment of impacts, detailed mitigation measures must be proposed for this species of international conservation concern. This needs to include commitment from the developer.

No mitigation measures for invertebrates are included in the ES despite many species of conservation concern and BAP species known from the site. The comments above apply.

- **Reassess impact on invertebrates**

Once the above points have been met, the assessment of the impact needs to be reassessed as detailed in 5.2.9 above.

Comment: This has not been done.

3 CONCLUSIONS

Lydd Airport is located directly beside the large area of shingle in Dungeness, 'one of the most important shingle sites in Europe' (Doody, J.P. 2003. Guidance for the management of coastal vegetated shingle, English Nature http://www.english-nature.org.uk/livingwiththesea/project_details/good_practice_guide/shingleCRR/ShingleGuide/home.htm), 'where the geomorphology, plants, invertebrates and birds are all of international importance' (English Nature 1997). 421 species of invertebrates of conservation concern have been recorded from Dungeness. The total number of species, 2834 (based on Morris, R.K.A. & Parsons, M.G. 1991. *An inventory of the invertebrate fauna of the shingle beaches at Dungeness (Kent), Rye Harbour (E. Sussex) and Orford Ness (Suffolk)*. Contract Survey No. 135. Nature Conservancy Council, Peterborough.), the number of species of conservation concern and the number of BAP species are all exceptionally high. This means that the invertebrate interest of the site is at least of national importance, but most likely of international importance. The latter is supported by the presence of internationally important species on site, e.g. the medicinal leech and the leafhopper *Aphrodes duffieldi*. Furthermore, the area supports several endemic species or subspecies, i.e. species that occur worldwide only here - *Aphrodes duffieldi* and subspecies of the pygmy footman moth *Eilema pygmaeola pallifrons* and grass egg moth *Lasiocampa trifolii flava*. This is one of the best sites in the UK for invertebrates and according to literature of international importance (Philp, E.G. & McLean, I.F.G. In: Ferry, B. & Waters, S. 1985. Dungeness. Ecology and conservation. *Focus on nature conservation*. 12 Nature Conservancy Council, Peterborough.).

There are also data specifically for Lydd Airport, which have not been included in the invertebrate reports. Morris & Parsons (Morris, R.K.A. & Parsons, M.G. 1992. *A survey of invertebrate communities on the shingle of Dungeness, Rye Harbour and Orford Ness*. JNCC Report No. 77.) provide a list of 320 species from Lydd Airport Pits, shown on the map (p. 116) as the area east of the main runway. This data was almost entirely collected in 1989, some in 1990. It includes 1 RDB 1, 2 RDB 2, 5 Notable a, 16 Notable/Notable b and 62 local species. Although this data is some 15 years older than the recent work, it should have been identified during the scoping survey and used to focus the extent and scale of the invertebrate survey.

Dungeness is known to support a large number of BAP species and the airport alone includes several BAP habitats. Conservation objectives for many of these are set out in their individual Species or Habitat Action Plans and need to be considered when assessing the impact of this development. However, many of these species are invertebrates and this highlights the need for a comprehensive survey of the area affected by the development for this important group (see our comments from April 2007).

In our opinion the whole invertebrate survey in 2006 was based on the wrong assumptions and is therefore invalid, while the survey in 2007 was far too restricted in areas, habitats and species groups covered and has to be regarded as completely insufficient. A decision should not be made without a comprehensive survey being conducted, i.e. with at least four visits during the season, starting in mid May, using all the trapping methods already employed, identifying **all** samples, a minimum of four moth trapping sessions during the season and separate surveys for Medicinal Leeches in all ditches on site or connected with it and all other water bodies. These surveys need to include aquatic and terrestrial invertebrates alike. It is important that all habitat types known to support rare and / or protected species in the area are surveyed, but also that light pollution and changes in flora due to increased nitrogen inputs are taken into account (see section 9). Furthermore, the results of the old surveys need to be re-assessed, taking the new and larger list of BAP species into account.

Without the data of comprehensive invertebrate surveys as described above, the precautionary approach recommended by the IEEM needs to be used, i.e. an impact of high magnitude on the invertebrates including the presence of protected species needs to be assumed.

Furthermore, it is necessary that all ditches connected on site or connected with the site and other water bodies affected by the development are surveyed for Medicinal Leeches, a species of international conservation importance and a protected species. The ditch system is essentially one of interconnected ditches, so drastic changes and increased inputs, but also contamination with pollutants, i.e. antifreeze (which is highly toxic to invertebrates), into one part of the system (the airport drainage) could affect ditches on adjacent properties, leading to severe damage over a wider area than the airport footprint. This damage might lead to populations of rare species becoming extinct. Thus a consultation with all land-owners and statutory bodies has to be conducted and an agreement on sympathetic management has to be reached before the planning permission is granted and we see no evidence from the ES for the runway extension that this has been completed.

We believe that the proposed development (including further expansions of passenger numbers) will have a negative significant impact on the large number of rare and scarce and the endemic (found only here in the UK or in the world) invertebrates found in the area. This is already supported by the findings of the non-sufficient surveys for part of this group in 2006 and 2007. Given the extreme sensitivity and importance for Nature Conservation of the Dungeness / Romney Marsh system and taking our comments into account, we consider that the precautionary principle should be applied and the application rejected.

4 RECOMMENDATIONS

In our opinion the whole invertebrate survey in 2005 was based on the wrong assumptions and is therefore invalid, while the survey in 2007 was far too restricted in areas, habitats and species groups covered and has to be regarded as completely insufficient. A decision should not be made without a comprehensive survey for aquatic and terrestrial invertebrates alike being conducted. This needs to include the following:

- At least four visits during the season, starting in mid May and using all the trapping methods already employed
- Identifying **all** samples including the large amount of unidentified material from the two surveys already conducted, which includes all Malaise trap samples from 2005
- A minimum of four moth trapping sessions during the season – these were to be included in the 2005 survey but could not be conducted due to access problems (see App. 10.2 F of the ES)
- Surveys for Medicinal Leeches in all ditches on site or connected with it and all other water bodies – these were conducted only in a rather small area. As the development is likely to affect a larger area due to ditches being connected to the ones surveyed these need to be included. The ditch system is essentially one of interconnected ditches, so drastic changes and increased inputs, but also contamination with pollutants, i.e. antifreeze (which is highly toxic to invertebrates), into one part of the system (the airport drainage) could affect ditches on adjacent properties, leading to severe damage over a wider area than the airport footprint.
- Due to the impact on interconnected ditches a consultation with all land-owners and statutory bodies has to be conducted and an agreement on sympathetic management has to be reached before the planning permission is granted and we see no evidence from the ES for the runway extension that this has been completed.

- All habitat types known to support rare and / or protected species in the area need to be surveyed for aquatic and terrestrial invertebrates alike– these need to include vegetated shingle, wetlands, dry grassland, ephemeral vegetation, scrub, swamp, margins of standing water, marshy grassland, semi-improved and unimproved, but managed grassland and bare shingle.
- Historic data needs to be taken into account, i.e. data from previous surveys. This data must include old records from Lydd Airport from the literature, but also from other surveys, e.g. the findings of Medicinal Leech during the Great Crested Newt Survey in ditches in which they were missed in the 2007 survey.
- Light pollution needs to be taken into account when determining the area impacted on by the development
- Changes in flora due to increased nitrogen inputs must be considered as these have a severe impact on invertebrates
- A larger area needs to be surveyed for invertebrates when the comments above are considered
- The results of the old surveys need to be re-assessed, taking the new and larger list of BAP species into account.
- Mitigation measures need to be included in the ES including a commitment by the developer. ‘An EcIA is effectively meaningless if it provides an assessment of the significance of the residual impacts of a scheme based on the proposed mitigation measures being implemented even though these measures have not been agreed by the developer’(IEEM, 2006: Guidelines for ecological impact assessment in the United Kingdom (approved version 26. June 2006). Thus the competent authority needs to be aware of what the developer commits to and not what he proposes to do: the extent of the mitigation measures in detail including plans etc, the costs and a timescale, and also whether future monitoring (including funding) to assess the efficacy of mitigation is included.