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SECTION 77 TOWN AND COUNTRY PLANNING ACT 1990 – REFERENCE OF APPLICATIONS TO THE SECRETARY OF STATE FOR COMMUNITIES AND LOCAL GOVERNMENT

TOWN AND COUNTRY PLANNING (INQUIRIES PROCEDURE) (ENGLAND) RULES 2000

REBUTTAL PROOF OF EVIDENCE OF DR. ROY ARMSTRONG B.Sc(Hons) Ph.D ORNITHOLOGY

In respect of:

Planning Application Reference:	Y06/1647/SH (New Terminal Building)
Planning Application Reference:	Y06/1648/SH (Runway Extension)

relating to land at London Ashford Airport, Lydd, Romney Marsh, Kent, TN29 9QL

LYDD
London Ashford Airport

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1. INTRODUCTION AND SUMMARY

1.1 I set out by way of assisting the Inquiry some points of rebuttal to the proofs of evidence of Mr Gomes, Dr Underhill-Day and Ms Jo Dear. This is not intended to be an exhaustive rebuttal and my rebuttal proof of evidence only deals with selected points where it is considered necessary or helpful to respond at this stage. Where a specific point has not been dealt with, this does not mean that these points are accepted and these other points will be addressed at the Inquiry.

1.2 In rebuttal to the Proof of Evidence of Mr Gomes, I highlight changes in the past at the RSPB Dungeness reserve and challenge the assertion that all management at the reserve has had a positive impact. In my view, there are four main reasons why I believe the conservation aspirations for the reserve may not be fully realised:

1.2.1 The impact of climate change on breeding birds;

1.2.2 The impact of climate change on wintering birds;

1.2.3 The impact of predators on breeding and wintering birds; and

1.2.4 The impact of feral geese on other species.

1.3 The Proof of Evidence of Dr Underhill-Day raises several points that I challenge. In my opinion, his interpretation of the literature available on the effects of disturbance on birds is simplistic and does not reflect the current view of the scientific community. In considering the impact of the proposed developments, I believe Dr Underhill-Day does not sufficiently take account of current conditions or the positive changes that will result.

2. RESPONSES TO MR GOMES' PROOF OF EVIDENCE (RSPB)

2.1 Mr Gomes plots the history of the RSPB's involvement at Dungeness. In this he states that the RSPB "first employed local…. "watchers" in 1905 to protect seabirds and scarce birds such as Kentish plover and stone curlew"[1]. The RSPB first acquired land in 1931 "to maintain habitat for the large seabird colonies, together with breeding wheatears and small numbers of stone curlews..."[2]. During the period of the RSPB's protection of the site, all of the original reasons (Kentish plover, stone curlew and large seabird colonies) for the RSPB's presence have been lost with the exception of breeding wheatears (a small songbird with a population of around 55,000 pairs in Britain). My reason for pointing this out is to demonstrate that factors beyond the control of managers often determine the success/failure of site-based initiatives. I believe that many of the stated aspirations for the reserve are unlikely to be achieved

[1] Paragraph 4.3
[2] Paragraph 4.4

as a result of factors outside of the control of the reserve manager. Further, I believe that there is tension between some of the management techniques being employed and the restoration of some of the original features of the reserve.

2.2 The impact of climate change on breeding birds

2.2.1 In a review of the likely impacts of climate change on European breeding species, the RSPB has produced an assessment of probable trends in "A Climatic Atlas of European Breeding Birds" (Huntley *et al*. 2007).

2.2.2 This study takes a "middle of the road" prediction for climate change and, using the relationships between ecological variables and the known current distribution of breeding species, models the likely distributions for all species in the last 30 years of the current century i.e. 59 years from now. The results have clear implications for the management of species of conservation significance, not only for breeding species, but also for species that breed in Northern Europe and winter in the UK. This includes many of the species of conservation significance found around the Airport (as identified in "Desk Study of Bird Populations of the Dungeness Peninsula", P. James (Appendix 11.2 to CD1.4 and CD1.17), with the addition of purple heron). The predicted impact on these species is presented in Table 1 below.

Table 1: Predicted potential population changes for selected species that currently occur in the vicinity of the Airport (from Huntley *et al.* 2007)

Species	Model fit	Prediction
Cormorant	fair	No longer breed in SE England
Bittern	good	UK "no longer suitable"
Purple Heron	good	Colonise England
Mute Swan	good	Range reductions in C and S England
Whooper Swan	very good	Simulated future potential distribution is shifted northwards and eastwards extending to Svalbard whilst retracting from Western Iceland and Southern parts of the boreal zone
Bewick's Swan	excellent	Notwithstanding the limitations of the model, the species European range is likely to be much reduced in extent and limited to far North-Eastern European Russia as a consequence of potential future climate change
White-fronted Goose	n/a	Distribution too limited to allow simulation
Greylag Goose	good	Lost from Southern England as a breeding species
Gadwall	fair	Lost from Kent large reductions in C and S England
Teal	very good	Little change
Wigeon	very good	Reduced breeding in England and South of range
Garganey	good	Distribution substantially reduced
Shoveler	good	Far fewer in Central Europe and UK

Pochard	good	Fewer breeding in UK but possible increases in Scandinavia could lead to increase in wintering birds
Tufted Duck	very good	Lost as breeding bird in SE England, range extending northwards
Goldeneye	very good	Distribution contracts from West and South of the range with spread Northwards
Smew	very good	much reduced in extent with most breeding localities being simulated as no longer suitable
Marsh Harrier	good	Large expansion of range in Southern UK
Hen Harrier	good	Predicted to breed throughout lowland England
Grey Partridge	very good	Slight reduction in range in England
Water Rail	good	Filling in of sparse distribution in England
Oystercatcher	good	Lost from Kent large reductions in C and S England and North Sea coasts
Little Ringed Plover	good	Range expansion North
Avocet	good	80% of current range in NW Europe will become "no longer suitable"
Lapwing	very good	Lost from Kent as breeding species
Sanderling	fair	Not relevant
Ruff	very good	Not relevant
Snipe	very good	No longer breed in SE England
Redshank	good	No longer breed in SE England
Black-headed Gull	good	Distribution becoming more sparse in southern UK
Common Gull	very good	No longer breed in SE England
Mediterranean Gull	poor but predicts W European range well	No longer breed in England
Herring Gull	good	No longer breed in SE England
Lesser Black-backed Gull	good	No longer breed in SE England
Sandwich Tern	fair	Large decreases along Southern North Sea coasts
Common Tern	good	No longer breed in Kent
Little tern	fair	No longer breed in Kent
Turtle Dove	very good	Large expansion of range in UK
Barn Owl	very good	No change
Long-eared Owl	very good	No change
Yellow Wagtail	good	Lost from C England - racial status unclear
Wheatear	good	Large reductions in SE England
Cetti's Warbler	excellent	Massive expansion of range in UK
Marsh Warbler	very good	No longer breed in SE England
Bearded Tit	good	No longer breed in Kent, although "potential loss of sites in Western Europe is probably exaggerated"
Tree Sparrow	very good	No change
Linnet	very good	No change
Reed Bunting	very good	Little change
Yellowhammer	excellent	Little change
Corn Bunting	very good	Little change

2.2.3 16 of the 50 species listed as of conservation significance are therefore expected to be lost to Kent as breeding species, these are:

(a) Little tern

(b) Cormorant

(c) Bittern

(d) Greylag goose

(e) Gadwall

(f) Tufted duck

(g) Oystercatcher

(h) Lapwing

(i) Snipe

(j) Redshank

(k) Common gull

(l) Mediterranean gull

(m) Lesser black-backed gull

(n) Common tern

(o) Marsh warbler

(p) Bearded tit

2.2.4 A further 8 species are expected to significantly decline in the South-East of England, these are:

(a) Mute swan

(b) Wigeon

(c) Garganey

(d) Shoveler

(e) Avocet

(f) Black-headed gull

(g) Sandwich tern

(h) Wheatear

2.2.5 Several other species are likely to decrease significantly as wintering birds as their source breeding populations move further North and East. These are particularly pronounced in Bewick's swan; "the species' European range is likely to be much reduced in extent and limited to far North-Eastern European Russia as a consequence of potential future climate change", and

smew “much reduced in extent with most breeding localities being simulated as no longer suitable” (Huntley *et al*. 2007). Avocet also looks likely to reduce, with around 80% of the current NW European range “no longer suitable”. The situation with sandwich tern is less clear as the model fit is only described as “fair”, but it would appear that there will be large losses in populations breeding along Southern North Sea coasts.

2.2.6 Climate change is not all negative and many species are forecast to colonise the UK or increase in range and/or population size. This includes some species that are currently restricted/rare and of special importance around the Airport, such as marsh harrier and purple heron.

2.2.7 Dungeness to Pett Level SPA has several interest features, mostly concerning waterbirds. The future importance of these features is likely to change significantly in the near future as a result of climate change and some features have already been lost, or have decreased. For example, all of the breeding species listed as interest features appear to no longer breed. The only species listed of interest “on passage” (aquatic warbler *Acrocephallus paludicola*), albeit a very secretive species, was only recorded twice in the last three years for which the county avifauna is available (2005-7) and neither of these records were in the Dungeness area.

2.3 The impact of climate change on wintering birds

2.3.1 The impact of the expected amelioration of winter conditions in Europe and elsewhere is likely to result in fewer birds relying on the UK for mild wintering grounds. As a result, range shifts in species will cause reductions in many wintering bird populations, including many species of waterfowl currently found on the Dungeness peninsula. This topic is covered in more detail in my initial proof.

2.4 The impact of predators on breeding and wintering birds

2.4.1 The creation of large areas of reedbeds has attracted a reedbed specialist species, the marsh harrier. This species began breeding on the reserve in 2007 and has increased in breeding numbers (4 nesting females) and wintering numbers (up to 13 individuals). The breeding population of this species is expanding rapidly in the UK both in range and in numbers (estimated at 387-423 females in 2007, Rare Birds Breeding Panel 2007). The Kent breeding population was estimated at 90-100 females in 2007 (Rare Birds Breeding Panel 2007) and is likely to have increased further since then. The harriers are considered a major attraction at the reserve and are the first attraction mentioned in paragraph 4.1 of Mr Gomes' Proof

"as the visitors can gain exceptional views of the resident birds including breeding marsh harriers...". However, the presence of marsh harriers on the reserve could potentially have a serious negative impact on conservation aspirations and on existing bird populations, including those of SPA significance.

2.4.2 The attempts to lure back breeding terns and small gulls to the reserve may be compromised by the presence of so many raptors. Terns are known to abandon breeding sites en masse and relocate to new sites, often some distance away. This is what appears to have happened at the reserve, with the breeding birds relocating to Rye Harbour and sites in France. Terns are long-lived seabirds that, in the course of a lifetime, should have many opportunities to breed. For this reason, they are highly sensitive to predators and likely to abandon nesting attempts/areas if there is a risk of being killed. Clearly it makes more evolutionary sense for these species to abandon sites where the risk of mortality is high, as any loss of a single breeding bout will be more than outweighed by potential future success. Predation at colonies is a real problem, with a wide range of potential predators including birds of prey, especially peregrine and kestrel.

2.4.3 The large population of harriers may well deter terns (and perhaps small gulls) from making any future nesting attempts at the reserve, if not causing total colony abandonment, regardless of commendable attempts to create ideal physical habitat. It is interesting that the numbers of terns at Blakeney in Norfolk have decreased at a time when numbers of marsh harriers breeding nearby have increased.

2.4.4 Marsh harriers are known to cause very high levels of disturbance to wintering wildfowl. Although harriers mostly feed on sick and injured wildfowl, the disturbance caused by hunting flights can be very significant, with up to 130 disturbances per day reported at some sites in Western France (Fritz *et al.* 2000). The authors found that "the number of disturbances was correlated to the number of ducks present" and considered "The activity of the harriers may therefore affect the behaviour of dabbling ducks, hence the quality of their wintering quarters". The conditions at the sites in this study were very similar to those on the reserve and it seems reasonable to assume the impact on wintering wildfowl would be the same.

2.5 The Impact of Feral geese on other species

2.5.1 One aspect of the RSPB's management of the reserve that I find questionable is their policy towards geese. Large populations of both

greylag (feral) and Canada (introduced) breed and winter on the reserve. These populations are of no conservation significance. In fact, it is highly likely that they compete with truly "wild" populations of wildfowl such as Bewick's swan and white-fronted goose. They may also compete with duck species, especially dabbling ducks. In view of the significance of the wide range of species that all contribute to the SPA's value I find it surprising that (so far as I am aware), no attempts to at least limit the population growth are employed.

2.5.2 In my experience, feral geese can also conflict with breeding populations of great crested newt by removing emergent and submerged plants that the newts rely on to lay their eggs.

2.6 **Conclusion**

2.6.1 In conclusion I cannot agree with Mr Gomes' statement that "I have also shown how the RSPB's long involvement with the reserve has benefited and improved its wildlife interest and, indeed will continue to do so in coming years"[3]. The site failed to meet any of its original objectives and, looks likely to fail to meet many of its current objectives. This is partly the result of factors that cannot be controlled at a site level i.e. climate change, but also includes management factors. The creation of reedbeds (a relatively simple habitat to re-create and one that would be well suited to large swathes of land in the UK away from Dungeness) could potentially compromise the site to breeding seabirds. It appears likely that it will inevitably reduce the value of the site to wintering and breeding wildfowl. The acceptance of large populations of feral geese further exacerbates the problem by introducing competition for genuinely wild wildfowl.

3. **RESPONSES TO DR UNDERHILL-DAY'S PROOF OF EVIDENCE (RSPB)**

3.1 Dr Underhill-Day claims to present many points that show that the proposed development would have a negative impact on the bird populations of the Dungeness Peninsula. From the points he seeks to make and the literature cited by him, it is clear that Dr Underhill-Day's understanding of disturbance is not under-pinned by the modern understanding of how disturbance works. Rather, it is based on the out-dated interpretation that "disturbance effects" are the same as "disturbance impacts", an approach that I have dealt with and comment upon in my Proof.

3.2 Dr Underhill-Day while an ornithologist, appears to have limited experience in aviation ornithology, including the impacts of air traffic on bird populations and policies dealing

[3] Paragraph 10.1

with bird strike risk. In this rebuttal I will deal with the former, whilst Mr Nigel Deacon covers the latter.

3.3 In my opinion, Dr Underhill-Day's proof overstates the current and likely future, importance of the Dungeness peninsula to birds.

3.4 **Interpretation of the likely impacts of aviation activities**

3.4.1 Dr Underhill-Day appears to consider that any additional noise at a site will have a negative impact on birds. As discussed in my original Proof of Evidence, this supposition is no longer warranted and, if it were followed to its conclusion, would lead to difficulties for conservation bodies keen on allowing public access to areas of conservation value. Dr Underhill-Day also appears to under-estimate the significance of existing conditions, both in terms of the potential for expansion under existing permissions, the duties for air safety that are already in place (control measures should already be aimed at maintaining as close to a bird-free airfield as is practical) and the very significant other sources of disturbance within the SPA e.g. large-scale shooting of gamebirds and windsurfing on SPA waterbodies. Dr Underhill-Day's evidence makes no mention of the positive aspects of the application, including no night-flying between 23:00 and 07:00, restrictions on helicopters and increased predictability of aircraft movements.

3.4.2 In paragraph 10.6, Dr Underhill-Day, rightly, highlights the importance of vocal communication in birds. Of the list of uses for vocal communication, he highlights two areas that are significant in assessing disturbance; the role of vocalisations in establishing territories/attracting mates and the importance of "alarm" calls in response to predators e.g. marsh harrier. Dr Underhill-Day lists examples of impacts of noise from road traffic in defence of his point (including examples of birds mitigating for this noise through e.g. increased song volume), but in doing so fails to recognise a significant difference between noise from road traffic and noise from aircraft. The former is continuous and will mask vocal communications most of the time. Aviation noise of the type in existence at the Airport and proposed, is very intermittent and, with long periods of relative quiet which allows plenty of time for vocal communication.

3.4.3 Dr Underhill-Day's evidence does not appear to appreciate the current conditions in place at the Airport. Existing operations at the Airport would allow the level of traffic to expand anyway and already allows potentially disturbing events such as airshows (with unpredictable flightpaths and short periods of intense disturbance). Such activities have occurred in the past

but appear to have had no or no material impact. For example, I am not aware of any approaches from the RSPB to the Airport to complain about levels of noise and even though it has been claimed to be potentially significant by Natural England, it was not considered sufficiently significant that either NE or the RSPB have performed suggested studies of the impact under current permissions and rights.

3.4.4 The bulk of the argument presented by the RSPB (and Natural England) against the Applications appears to rely on the assumption that the Applications would lead to increased levels of bird control in and around the Airport. Bird control management and the response to Dr Underhill-Day in this regard is covered in the Rebuttal Proof of Mr Nigel Deacon.

3.5 **Air safety policies and monitoring**

WeBS

3.5.1 Dr Underhill-Day rightly states that it is "important to understand the disadvantages of data collected for one purpose, which are then used for another."[4] However, he then however goes on to make a fundamental error in his use of the data.

3.5.2 WeBS data are monthly counts of waterfowl (and some other) species performed at high tides at all sites thought to be of significance to wintering waterfowl. They concentrate on counting birds at well-defined roost areas at high tide thereby ensuring that most of the birds using tidal areas will have been pushed into areas that are easily observed and surveyed. The survey is not exhaustive and some (usually lesser) sites are not regularly included in the scheme. The totals derived from this survey are therefore always somewhat incomplete; however, the scheme does allow population trends for each species to be assessed (the original purpose of the survey). The extent to which WeBS surveys will underestimate population levels of any species depends on two main factors. First, the extent of the coverage. Second, the efficacy of this technique for detecting each species. In view of the well-watched nature of this area (and presence of many birdwatching volunteers) and the suite of species present, I would expect coverage to be fairly extensive. As for the species, most would appear ideally suited for detection using the WeBS technique.

3.5.3 Dr Underhill-Day also states that because of the shortcomings of the technique that "WeBS counts should therefore be considered in all cases as

[4] Paragraph 6.1

minima…"[5]. However, he then goes on to misuse the data in a way that can only produce maxima and that, at best, can only report the minima counted accurately but at worst can produce a seven-fold overestimate of numbers of birds present.

3.5.4 In Table 3, Dr Underhill-Day uses "mean winter peak counts" for a number of sites and then adds the counts for each site to arrive at a total population level (which he cites as 32,622). This approach is statistically flawed. As is recognised in his Proof of Evidence and in the Proofs of Evidence of Mr Gomes and Ms Dear, many species move freely between the sites he lists. Taking the maxima for each month for each site is therefore inappropriate and the highest total for each species (for all sites) in a single month should be used instead. To demonstrate how this approach is flawed, consider the following example; a population of 100 mallard use an area with seven sites. If this population uses each site for one month only and then moves to the next site, the peak for each site will be 100 mallard. If these maxima are then combined (as per Dr Underhill-Day's method) the estimate for the wintering population will be 700 mallard, a sevenfold over-estimate. The totals cited for each species are therefore potentially under-recorded (if the WeBS method undercounts a species – a likely source of minor error) but this is likely to be massively outweighed by the serious over-recording error produced by combining totals. Examination of Table 3 reveals that the total for e.g. Wigeon could be over twice the actual numbers using the area.

3.5.5 The WeBS data cited by Dr Underhill-Day include counts for both feral (greylag goose and barnacle goose) and introduced (Canada goose and mute swan) species. In my opinion these species should not be included in the totals as they are of no conservation value and are likely to have a negative impact on native, natural fauna and flora.

3.6 Conclusion

3.6.1 I do not accept Dr Underhill's interpretation of the scientific literature available on the effects of disturbance on birds and believe it is simplistic and does not reflect the current view of the scientific community. I believe Dr Underhill-Day does not sufficiently recognise the current conditions or take into account the positive changes proposed. I also believe that he overestimates the importance of nearby sites and it is clear from the method used to calculate waterfowl population sizes that the approach he has taken is seriously flawed.

[5] Paragraph 6.32

4. RESPONSES TO MS DEAR'S PROOF OF EVIDENCE (NATURAL ENGLAND)

4.1 The Proof of Ms Dear accepts the arguments made by Drs Allan and Underhill-Day and then seeks to place them in the context of various legal mechanisms. Most of this is irrelevant as she seems simply to take the view that any disturbance is bad and will produce a negative impact. By extrapolating from a wide range of species in a wide range of scenarios she claims that Dr Underhill-Day has demonstrated that there will be negative impacts on individual bird populations. She neglects to mention any examples of studies where negative impacts demonstrably did not occur. She also discusses any potential impacts as though the Airport did not exist (Tables 3.1 and 3.2) as though aircraft movements will be a new phenomenon on the site. Likewise, in discussing bird control, she does not appear to realise that there is no reason why the proposed development would result in a requirement for increased levels of bird control (including netting of pools etc.). A more systematic review of the effects of disturbance on birds is presented in my Proof and this is supported by the species review in rebuttal to Dr Underhill-Day in this document.

4.2 The misuse of WeBS data pointed out in the rebuttal to Dr Underhill-Day seems to have been continued in Ms Dear's Proof, with mean peak monthly count being used to present WeBS data (paragraph 95). This is used in spite of the earlier assertion "although all of the water bodies support waterfowl, numbers at individual sites vary throughout the winter" (paragraph 89). As already discussed, this can lead to massive over-estimates of bird populations. Also in paragraph 95, Ms Dear makes several claims about the importance of the area to birds. She uses the SSSI qualifying criteria to assess the importance of the area. It would have been useful to see how this was calculated and which species she included for 2006 (and indeed why she chose that year). Several of the features she lists have been lost recently including breeding mediterranean gull, sandwich tern, common tern and little tern. The population of shoveler appears to have dropped below the threshold for international importance and is now only of national importance.

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