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Your reference

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Appendix

IN.A.2003.133.

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2/07/2003

Subject: Some remarks on the Birdlife report: Windfarms and Birds.

Dear Madam, dear Mister,

The Institute of Nature Conservation (IN) - a Scientific Institute of the Flemish Community in Belgium – wishes to congratulate Birdlife for writing the Report “Windfarms and Birds” on behalf of the Bern Convention (BirdLife International 2002). The review is well written, and certainly the part on the environmental assessment criteria and site selection guidelines is very good, and will be very helpful in the future.

But for your information, we just want to make a few remarks about some paragraphs in the review.

1- We regret that our research in Belgium (Everaert et al. 2002) was only briefly mentioned (2.54. op page 17). We had hoped that the quite high number of collision victims per wind turbine would have been mentioned also, but this wasn't the case. This could have been done even in one or two sentences. The Birdlife partner in Belgium (Natuurpunt: contact, Peter Symens) still gave all the necessary information of our research in time to the editors of the Birdlife report. This information is also attached to this letter.

2- We have some important remarks on the text about the mortality in Tarifa, Spain (2.56. on page 17,18).

The conclusion of the research in Tarifa was well reproduced in the paragraph of the Birdlife review [“Whilst collision rates per wind turbine were low, the total number of birds involved, their protected status and the potential cumulative collision victims at other wind farms in the area, and in additional years, led to strong concerns of significant adverse impacts on populations of birds of conservation concern, notably the large long-lived species” (BirdLife International 2002)]. But there is more to the story.

Mortality studies at two wind farms in Tarifa, with combined searches for corpses and injured birds, were performed twice-weekly around a random sample of 87 (34 %) of the 256 turbines and weekly beneath power lines, during the year 15 Dec 1993 to 15 Dec

1994 (SEO / Birdlife 1995). Several experiments were implemented during this time to assess predation losses. Including corrections for predation removal (which was only applied to Common Kestrels), there were estimated to be 89 large and medium sized collision victims. The casualties include 14 protected species: 30 Griffon Vultures, 49 Common Kestrels (12 actually found), 3 Lesser Kestrels, 2 Short-toed Eagles, 2 Eagle Owls, 1 Black Kite, 1 unidentified raptor, and 1 Cattle Egret. Accidentally, the surveyors found also 17 small birds. Because the area wasn't surveyed for small birds, it wasn't possible to extrapolate these numbers.

The total number of collision victims mentioned in the summary of the report (SEO / Birdlife 1995) is strange and very questionable. The weighted extrapolation from 64 actually found bodies on 34% of the wind farm area, and 1 on 54% of the tension lines area, would yield 190 carcasses of large and medium sized birds for 100 % of the area (Duchamp 2003).

The surveyors justify their calculations by saying that extrapolation was only applied to Common Kestrels. They want the reader to accept that 1) although they only surveyed 34% of the territory, "generally twice a week", they would have spotted all carcasses other than those of Common Kestrels on 100% of the territory (256 turbines), and 2) although we know that foxes and stray dogs take away bird carcasses of all sizes, including heavy vultures, no scavenger removal factor has been applied to the Griffon Vultures, Short-toed Eagles, Black Kites, Eagle owls, "unidentified raptors" and egrets. We feel that the applied methodology needs to be evaluated again and adjusted where necessary.

We also read: "the survey was centered on the detection of medium to large size birds only" (SEO / Birdlife 1995). Yet, millions of small birds cross the Straits of Gibraltar twice a year, most of them at night, when wind turbines a lot harder to see and cross safely. Why wasn't their mortality surveyed ?

The Birdlife–Bern review report erroneously mentions that "there were estimated to be 106 collision victims, mostly of medium to large birds" (BirdLife International 2002). This was copied from the summary of the SEO/Birdlife report. The 106 dead birds estimate curiously includes the 17 small birds that were not surveyed but "happened to have been found" – and quite incorrectly counted on the basis. Even if these 17 small birds were the total number of actually found small birds, this number should have been extrapolated for 100 % of the area, and multiplied by a correction factor for predation and search efficiency. In fact, anybody who doesn't happen to have studied the Tarifa report throughout, and with a critical eye, will get the impression from the Birdlife–Bern report that 106 birds is all that 256 wind turbines kill yearly at a crucial location above the Straits of Gibraltar.

No studies of nocturnal migration in relation to wind power development are being done in the Tarifa area. In general, the region near the Straits of Gibraltar is known to be an international important corridor for nocturnal migration of passerines and other species travelling between Western Europe and Africa, based on radar and (to a lesser degree) moon-watch studies in past years. This nocturnal migration, and the daytime migration of non-soaring species, occurs on a broader front than does the daytime migration of soaring raptors and storks (National Wind Coordinating Committee 1995). During the day, migrating birds can become severely disturbed by wind farms. The occurrence of barrier effects has been proved (Albouy et al. 2001 ; Richarz 2002 ; BirdLife International 2002). During the night, things are not that clear, but for many species the collision risk is

certainly important, especially on locations with important migration routes like the area around Gibraltar. In the Netherlands 1 on 40 nocturnal migrating birds at rotor height collided with a wind turbine (Winkelman 1992b). This study was performed with the use of thermal image equipment. The Winkelman study (collision rate of 1/40) mentioned above is important, because most studies on collision victims are only performed by searching dead birds on the ground. This ground-method can be applied for large birds, but small birds (passerines) can hardly be found on the ground. In most cases, there isn't much left of a small bird which collided with the fast moving rotors of the wind turbines. Even a large rotor area of the modern wind turbines have a speed around 200 km/h. (Kaatz 2002).

3- We also have some remarks on the text about the mortality in Altamont, California (2.57. on page 18).

In 1994 alone, 348 raptor fatalities were reported to Alameda County (1998), 35 of which were Golden Eagles, and 194 Red-tailed Hawks, (119 American Kestrels were left out of the text). It has to be noted that this is not the result of a survey: just carcasses that 'happened to have been found' in 1994 !

On the basis of foot surveys conducted along the rows of turbines, Orloff and Flannery (1992) estimated that about 40 Golden Eagles and several hundred other raptors died in the WRA each year. During a six-year period (1994-1999), the general magnitude of that 'estimate' was reaffirmed by wind industry employees who, while servicing the turbines, 'happened upon' 21-42 dead Golden Eagles per year. In the summary of the report by Hunt (2002) we also read that "wind turbines kill 40-60 sub-adult and adult Golden Eagles each year". But in the main text of the same report we read that these numbers represent 'only a fraction' of the total fatalities present, considering the lack of surveys and the incidental nature of the reports. All of these considerations suggested that Orloff and Flannery's estimate of 40 Golden Eagle fatalities was conservative (Hunt 2002).

For all we know, one hundred young Golden Eagles may die each year at Altamont, and 600 other raptors. It is not proven, but then again we have 42 eagle carcasses and 313 dead hawks and falcons casually reported to the authorities in 1994 and other undisclosed years (Duchamp 2003). Then the summary of Hunt (2002) tries to demonstrate, through a bizarre mathematical model, that these numerous kills do not affect the overall population of Golden Eagles from one year to the next. Yet we read earlier in the summary: "Golden Eagles, being naturally slow to reproduce, are particularly sensitive to changes in adult and sub-adult survival rates".

In fact, what we have here is almost certainly a good example of the dreaded black-hole effect, where the entire California population of golden eagles is being thinned down by a large wind farm which happens to have been erected on a juvenile dispersion area, i.e. a rich hunting ground free of territorial adults. It is a fact well known to ornithologists that young eagles will travel hundreds of miles to find such an area. As for Red-tail Hawks, some of which migrate from Canada, the effect is felt even further. – But the report's objective is to study the population of breeding golden eagles within a circle of 30 km around the wind farm. Given the abundance of sub-adults and floaters concurring to the Altamont dispersion area from far away places, it is only natural that the immediate surrounding adult populations be replenished when an adult dies. But it is on far-away eagle populations that the thin-down effect of Altamont will bring to bear – precisely those that were not studied, non-breeding adults (Duchamp 2003). In a recent fact-sheet of the NWCC (National Wind Coordinating Committee 2002) that issue was also

mentioned, and it was argued that the real impact was still unclear and needs immediate attention.

The windpower industry claims that Altamont (and Tarifa) is an exception. But the opposite is more likely: any area cleared of dense vegetation is a potential hunting ground for raptors, and wind farms typically create such environments (Duchamp 2003). This thesis can be confirmed by the Lekuona study in Navarra, Spain.

4- In Spain there's currently a tumult about the conclusions of a field study commissioned by the Government of Navarra in northern Spain (Lekuona 2001). An English analysis of the Spanish report is presented by Duchamp (2003). The Winkelman method (factoring-in scavenger removal, searcher efficiency and other pertinent parameters) has been applied to the number of dead birds found during once-a-week visits to the sites, over the period March 2000 to March 2001, by a person employed by the government to walk the countryside and report infractions). A doctor in biology, Mr. J.M. Lekuona, supervised the survey, and spent 337 hours observing bird behaviour around the turbines. In a nutshell, it is estimated by Dr. Lekuona that in excess of 432 raptors, 671 bats, and 6.152 small birds were killed in that year-period by the 400 turbines (10 wind farms) surveyed (Euskal Herria Journal Navarra 2002 ; Duchamp 2003). The fatalities include 409 Griffon Vultures and 24 other protected raptors: Golden Eagles, Eagle Owls, Booted Eagles, Sparrow Hawks and Common Kestrels. Moreover, specimens of Lammergeyers, Bonelli's Eagles, Black Storks, etc. have been sighted in "situations of risk" flying close to the turbines. The figures do not include the deaths caused by electrocution and by collision with overhead cables, as the tension lines linking the wind farms to the national grid were not surveyed. The results of the study do raise strong concerns of significant impacts on populations of protected birds in Spain.

But there has been deception on both counts. First, the report was shelved, and the public was denied access: GURELUR, a Navarran association of ecologists, asked for a copy. But its right to be informed was violated: "to obtain the said report, GURELUR had to resort to a person outside Navarra, for the Department of the Environment denied it to us, in spite of asking several times through different channels, under the peculiar pretext that it was not finished". Then there was falsification of the key figures. Few people have the time to read through 147 pages of technical observations, tables, and graphs, let alone get into calculations of their own. Therefore a summary was made, and placed at the beginning. And this is where the most significant figure, that of the total estimated mortality, has been tampered with: "It has been estimated that the mortality per turbine/mo was 0,03 specimen" (line 10). Nothing more is said about fatalities as estimated by Dr. Lekuona (Lekuona 2001 ; Euskal Herria Journal Navarre 2002 ; Duchamp 2003). How much of a falsification? – This much: $0,03 \times 368 \text{ turbines} = 11$ fatalities. And if the reader pays attention to the "/mo" at the end of the word turbine: $11 \times 12 = 132$ fatalities. In short, the summary reports 132 fatalities where there have been 7.150 or more (Duchamp 2003). Dr. Lekuona confirmed to Mr. Mark Duchamp that the summary was added by the government, and that it does not reflect reality. Here we see a perfect example of a promoter (government) who is free to modify the conclusions of the expert who wrote the report: legally, by contract, the promoter owns the information he is paying for. Dr. Lekuona himself, for instance, is not allowed to publish his findings. The report has been shelved, unpublished. It is a miracle that GURELUR got wind of it.

ENDNOTE

Although the above remarks are not that important for the mean message/purpose of the Birdlife report, we think that this information should be of high interest to you.

Furthermore we would like to inform you about a discussion group which we started, dealing with the issue of 'wind turbines and birds'. The group is still small, but we already have members from all over the world. The interesting critical analysis of Mark Duchamp (Duchamp 2003) is also discussed in a few messages. Mr. Duchamp is known to play it hard, but he makes some important points.

The website address of the discussion group is

http://groups.yahoo.com/group/wind_turbines_birds/

Please feel free to post this website address to other researchers in the field.

Sincerely yours,

Joris Everaert
Scientific Attaché - biologist.
Project: Effects of wind turbines on habitat-suitability
concerning bird-populations, long term monitoring
and counselling.

Prof. Dr. Eckhart Kuijken
General Director

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