

Below is the content of the sworn Affidavit of Paul Lynch as submitted into evidence for the Judicial review of the GDD case 301908. It raises an expert opinion of the deficiency in the surveys of the Quiet Zone and other lands surrounding Baldoyle BAY SPA / SAC and in relation to the use of birds of the vegetative stony banks and sea cliffs which are SCIs of Ireland's EYE SAC.

Draft /AFFIDAVIT OF PAUL LYNCH

I, **PAUL LYNCH**, of [Address], ornithologist, aged 18 years and upwards, MAKE OATH and say as follows:

1. I make this Affidavit on behalf of the Applicant in these proceedings and with her full knowledge and consent. So much of this affidavit as relates to my own acts and deeds is true and so much of it as relates to the acts of any and every other person, I believe to be true.
2. This Affidavit is made in response to matters raised in the Affidavit of James McCrory, ecologist, sworn on behalf of Irish Water DAC. This Affidavit does not address every averment made by Mr McCrory. Any of his averments not replied to here should not be taken as admission of same.
3. I beg to refer to a booklet of correspondence in this matter which I have marked with the letters "JL 1" and signed my name prior to the swearing hereof.
4. I have been the Chairman of the Fingal Branch Birdwatch Ireland since 2016 and have been an active birdwatcher for decades, participating in annual Birdwatch Ireland surveys and arranging bird watching field trips for members. My contributions as an Irish Wetland Bird Survey (I-WeBS) surveyor have been recorded in annual IWeBS reports every year since 1995. I was a Lapwing breeding survey contributing surveyor from 2014 to 2019 and acted as Warden for the Little Tern breeding project in Portrane in conjunction with Fingal County. I completed a bird survey on lands around Balbriggan for Fingal County Council earlier this year.
5. I participate in the I-WeBS counts at the Rogerstown estuary and we carry out 9 surveys between September and March each year. We count the estuary itself and adjoining fields where possible. The estuary is divided into sections and a group of typically 6 to 8 counters co-ordinate the counts in each section. Because these sections are of manageable size, each section can be counted in a couple of hours. Depending on the section the counts may be carried out from one vantage point (where the whole section can be viewed) or by walking the boundary (for example along a long section of the estuary edge and, where the whole section cannot be seen, from one point). We typically start about an hour before high tide as at this time the birds tend to congregate into groups, forced up by the incoming tide into known roost areas. Some birds such as the Brent Goose will move into adjoining fields to graze. Low tide counts have been carried out by us, but we have found the high tide count to be the optimum time. If we were to start surveying a new area, we would include low tide counts as well in case some species are present at that time but may not have suitable roosting



or feeding locations at high tide and therefore move further afield. In our Birdwatch surveys of Rogerstown estuary, we have also noticed that over the years, birds that used to roost on Rush and Portrane beaches (mainly waders) very rarely do now due to the increased disturbance by people exercising and dog walkers. If birds are constantly being disturbed, they will be more stressed and less likely to put on the weight needed for the migration north in the Spring.

6. Mr McCrory refers in paragraph 45 of his affidavit to the planned location of a temporary construction compound, known as Construction Compound 9, to be constructed within an area designated as a 'quiet zone' the purpose of which he avers is "to cater for Brent geese and wader species". He confirms that the 'quiet zone' was identified in the Portmarnock South Local Area Plan (July 2013), adopted by Fingal County Council, and is located to the south of the area identified in the Local Area Plan for residential development. The deponent avers that the 'quiet zone' will consist of grassland pasture enclosed by a fence and hedge to prevent disturbance during the winter migratory bird season.
7. For ease of reference, the Portmarnock South Local Area Plan may be found exhibited to the first affidavit of Sabrina Joyce Kemper at TAB 18.
8. At paragraph 46 of his affidavit, Mr McCrory denies that the location of Construction Compound 9 in the 'quiet zone' will result in the deliberate disturbance of the Bar-tailed Godwit, which is an Annex I species and one of the named special conservation interests of Baldoye Bay SPA. I am advised and believe that the terminology 'deliberate disturbance' has a legal meaning which will be the subject of legal submissions made on behalf of the Applicant.
9. The European Commission issued in February 2007 the document 'Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. I beg to refer to a copy of said document exhibited here at **TAB 1** of the booklet of exhibits.
10. Paragraph 39 of the European Commission guidance document states the following in relation to deliberate disturbance prohibited under Article 12 of the Habitats Directive:

"For instance, any disturbing activity that affects the survival chances, the breeding success or the reproductive ability of a protected species or leads to a reduction in the occupied area should be regarded as a "disturbance" in terms of Article 12."  
[underlining added]

11. The concept of 'temporary' disturbance is referred to in the Conservation Objectives Supporting Document for the Baldoye Bay SPA (NPWS 2012) section 5.4.5:

"Any activity that causes disturbance can lead to the displacement of waterbirds. The significance of the impact that results from even a short-term displacement should not be underestimated."



I beg to refer to a copy of said Conservation Objectives Supporting Document exhibited at **TAB 2** of the booklet of exhibits.

12. In the abovementioned Conservation Objectives Supporting Document the NPWS set out a list of 9 factors to be considered when determining the significance of a disturbance event upon waterbirds including *inter alia* the availability of compensatory habitat. In my opinion these 9 factors that should have been considered by An Bord Pleanála when determining the effects of the loss of designated 'quiet zone' area for the Baldoyle Bay SPA.
13. Mr McCrory avers at paragraph 48 of his affidavit that a wetland bird survey was undertaken during 2014/2015, 2015/2016 and 2017 to characterise the ornithological interests of Baldoyle Bay SPA and surrounding areas, "particularly with respect to spatial and temporal distribution of key SPA species". He states that surveys were carried out twice per month between December 2014 and May 2016 and an up to date survey campaign was restarted in 2017 with surveys being conducted twice per month between March 2017 and May 2017. He avers in relation to the Bar-tailed Godwit that data from 64 survey visits is displayed in Figure A10.1 of the Ornithology Technical Report at Appendix A of the NIS. For the assistance of the Court, the NIS is exhibited at TAB 20 of the first affidavit of Sabrina Joyce-Kemper.
14. Mr McCrory in his affidavit relies on this graphical representation of the survey results, to state that the Bar-tailed Godwit was not recorded within the footprint of the temporary Construction Compound 9 throughout the survey campaign. The working assumption appears to be that the quiet zone is no longer necessary because certain species of birds were not *recorded* using the lands in question during more recent bird surveys. I say and believe that the bird survey data presented to An Bord Pleanála cannot be relied upon as a means of disregarding designated quiet zones/foraging areas.
15. I have reviewed a document entitled '*An Bord Pleanála Oral Hearing Irish Water Greater Dublin Drainage Response to Inspector's Questions Biodiversity (Marine & Terrestrial Ornithology) – Simon Zisman*'. The circumstances of this document entering the public domain are to be addressed in the Supplemental Affidavit of Sabrina Joyce-Kemper. I have been told that the document in question was not made available to the general public until after the Oral Hearing. I beg to refer to a copy of said document including its accompanying table, weather records and maps exhibited at **TAB 3** of the booklet of exhibits.
16. The document authored by Simon Zisman provided raw data from terrestrial bird surveys, in response to a request by the Oral Hearing Inspector. The data is stated to be provided in the following format:
  - Appendix 1 - Key from Bibby et al (2000);
  - Appendix 2 – Winter 2015 (January and February);
  - Appendix 3 – Winter 2015 (November);
  - Appendix 4 – Winter 2017 (March);



- Appendix 5 – Winter 2017 (November);
- Appendix 6 – Summer 2015 (April and June); and
- Appendix 7 – Summer 2017 (May and June).

17. From the data presented, I can see that compound 9 (map 12 & 13) had at total of 12 (6 for each map) surveys carried out and of those only 7 (map 12 x 4, map 13 x 3) were at a suitable time of year to record Brent Goose or other wintering wildfowl and waders. There is no record of tide times. This might seem irrelevant at a site unaffected by tides, but Brent Goose and other wintering birds feed and roost in accordance with the tides and that affects when they use the likes of Baldoyle estuary for feeding and when they move elsewhere when the food source is covered by the incoming tide.
18. To make 4 and 3 winter visits respectively over 3 years (4 of which are early in the season) compared with 27 that were carried out at Rogerstown over the same period, seems vastly under-counted and would not represent a true reflection of the sites usage. Something as simple as a dog running through the area prior to the arrival of the counter would leave it devoid of birds. This also happens in Rogerstown where a dog or a kayaker at the wrong time will scare away a lot of the birds, but by carrying out more frequent surveys these anomalies get ironed out and the true picture can be seen over time.
19. When the data presented by Simon Zisman is broken down by section and season it can be seen that on average less than 3 surveys were carried out per section/season. This is inadequate to get an accurate picture of the species and numbers of birds using each site across the course of the year. In my opinion a minimum of 6 winter visits would be required.
20. In the paragraphs that follow I set out my observations on information contained in each of the appendices to the document that was provided by Simon Zisman in response to questions by the Inspector. I make these comments in response to the averments of Mr McCrory including paragraph 52 of his affidavit where he states "*the potential impact of Construction Compound 9 on Baldoyle Bay SPA was fully considered and assessed by the ecologists engaged by Irish Water and by the Board and its Inspector in conducting the Appropriate Assessment*".
21. My comments below relate to the surveys conducted in grids numbered 12, 13 on the 'raw data' survey sheets in so far as grids 12 and 13 relate to the quiet zone area. The document as presented online by Irish Water at the link <https://www.water.ie/planning-sites/greater-dublin-drainage/docs/statutory-documents/GDD-Response-to-Inspectors-Questions-Ornithology.pdf> appears to have been scanned at a low resolution and I say and believe that it is visually unclear for its purpose as public information. My interpretation in the following paragraphs is without prejudice to that impairment.
22. Appendix I of Mr Zisman's submission to the Oral Hearing is a 2-page extract from the book *Bird Census Techniques (2<sup>nd</sup> Edition)* by Colin Bibby, published in 2000. The extract



in question is a key of symbols to be used in mapping a bird count and is taken from Chapter 1 of that book. I say and believe that Chapter 4 of the same book describes the 'Line Transects' bird counting methodology which appears to have been the census methodology that the developer intended to adopt for measuring birds in terrestrial areas outside the estuary. I beg to refer to a copy of the said Chapter 4 of Colin Bibby's book, exhibited at **TAB 4** of the booklet of exhibits.

23. The biases that can be introduced when counting birds from transect routes mapped along the edges of fields are discussed by Colin Bibby *et al* on pages 66 and 86 of their book:

"There is a risk that bias is introduced as a result of selecting for easy access. On farmland, for instance, it is easier to walk the field margins. This will not give a good estimate of overall densities because most species either prefer or avoid hedges and this behaviour is in turn influenced by other factors such as farming practice and timing. In monitoring exercises it is also conceivable that between year *a* and year *b* the proportion of birds feeding near field edges can change. This may be due to a decline in the suitability of hedgerows as cover habitat to escape predators or an improvement in the availability of margins as a result of conservation schemes. In such cases, real changes in the abundance of species may be disguised by other factors."

...

"...with about 70% of the land in the UK in agricultural production, change in the suitability of field edge habitats to birds could be a major factor producing biased estimates of decline or increase in abundance over time."

24. Chapter 4 of Colin Bibby's book, when read in its entirety, confirms that conducting a bird census by walking a transect is far from an exact science. Based on my own experience, and on the basis of the numerous weaknesses and potential biases identified by Bibby *et al*, it is not possible to rely on such bird counts for the purpose of deciding, beyond reasonable scientific doubt, that lands are no longer relied upon by birds simply because they were not *recorded* there during such a bird count on given dates.
25. Overall, the effectiveness of this counting method depends greatly on the habitat type. In a small area with low vegetation, easily observed from the boundary, then it may be fine, but if it is a large area or if there is higher vegetation or other obstructions impairing visibility then species easily go unrecorded. Similarly, a field of partially grown cereal say, is unlikely to have many, if any species, but if it is a stubble field or contains scrub, bushes, trees, etc it can hold a host of species which can be difficult to detect without doing transects through the field.
26. For the surveys I've done in the past, map records would be backed up with a summary on a spreadsheet showing total numbers of species recorded per map, per visit. I also record on



the spreadsheet habitat type, i.e. hedgerow, arable land, scrub, etc., I believe that to be a critical omission here.

27. The Appendix 2 data (January and February 2015) in the Zisman report is presented in tabulated form only and is not associated with any maps showing the location of bird sightings and/ or the locations of transect paths from which the birds were monitored. In my opinion it would not have been possible for the Inspector to rely on data in the format presented in Appendix 2 to determine the effect of loss of 'quiet zone' area on waterbirds that utilise the adjoining SPA. Each visit should have both a map showing the location of bird sightings, the locations of transect paths and a tabulated summary.
28. The Appendix 3 data (November 2015) in the Zisman report indicates that grids 12 and 13, within which the 'quiet zone' is located, were surveyed on 26 November 2015, together with zones 5 and 10. The associated weather data records 'drizzle' all day, with 'rain showers' recorded at 13.30 and 'continuous rain' recorded from 14.30. The survey was abandoned at 14.30 due to rain. It is not apparent, from the information presented, what times of the day and under what weather conditions grids 12 and 13 were surveyed or if either grid was completed. No transect path is plotted on these maps, or for grid 5 which records data on the other side of the estuary in the proposed location for Compound 10. Furthermore, it is apparent from the Estuarine Bird Survey data for November 2015 (Appendix 2 of the NIS) that the adjoining estuary area was surveyed on different dates, i.e. 08 November 2015 and 19 November 2015 when the following bird numbers were among those recorded: Bar-tailed Godwit (273), Brent Goose (706), Golden Plover (680), Grey Plover (123), Ringed Plover (110), Shelduck (69), Lapwing (446), Oystercatcher (361).
29. In my opinion it would not have been possible for the Inspector to rely on data presented in Appendix 3 of the Zisman report to determine the effect of loss of 'quiet zone' area on waterbirds that utilise the adjoining SPA. There are simply too many unknowns.
30. The Appendix 4 data (March 2017) in the Zisman report records survey data in the area of the 'quiet zone' on a black and white aerial photograph which is marked with the number '7' in the top left-hand corner. The map is undated and there is no information to connect this map to its accompanying weather sheet. Accordingly, it is not possible to know from the information whether the bird count plotted on photograph 7 was recorded on 20 March 2017 or 21 March 2017 or 22 March 2017 or 23 March 2017 or 27 March 2017 or 30 March 2017, the dates on which the route was surveyed. No transect paths are plotted on the photographs. None of these dates is the same as the survey dates for the adjoining estuarine area in the SPA which according to Appendix 2 of the NIS was surveyed during March 2017 on 16<sup>th</sup> and 28<sup>th</sup> when the following bird numbers were among those recorded: Bar-tailed Godwit (36), Brent Goose (328), Golden Plover (850), Grey Plover (136), Ringed Plover (7), Shelduck (77), Lapwing (113), Oystercatcher (181).



31. Some maps are not dated, and the weather sheets don't have a map reference and therefore difficult to match them up. Each map should have a start and end time for that map alone and not a start and end covering multiple maps. Some maps don't have times recorded at all.
32. In my opinion therefore it would not have been possible for the Inspector to rely on data presented in Appendix 4 of the Zisman report to determine the effect of loss of 'quiet zone' area on waterbirds that utilise the adjoining SPA. Again, there are too many gaps in the information for it to be used for that purpose.
33. The Appendix 5 data (November 2017) in the Zisman report records survey data in the area that includes the 'quiet zone' on 24 November 2017 and 28 November 2017 (grids 12 and 13). Grid 4 was also surveyed on 24<sup>th</sup> and grid 5 on 28<sup>th</sup>. Gusts of up to Force 7 were recorded on 28<sup>th</sup>. It is not clear from the information as presented if the entirety of the Compound 9 area was surveyed on 28<sup>th</sup> or if it was surveyed over 24<sup>th</sup> and 28<sup>th</sup> or which weather data or survey time applies. No transect paths are mapped. The Grid 12 map appears to record 2 no. Bar-tailed Godwits (2BA) in flight towards the quiet zone. The Grid 13 map appears to record 1 no. Bar-tailed Godwit (BA) in flight towards the quiet zone. Neither of these dates coincides with the survey dates for the adjoining estuarine area in the SPA which according to Appendix 2 of the NIS was surveyed during November 2017 on 6<sup>th</sup> and 20<sup>th</sup> when the following bird numbers were among those recorded: Bar-tailed Godwit (276), Brent Goose (524), Golden Plover (1700), Grey Plover (113), Ringed Plover (173), Shelduck (61), Lapwing (231), Oystercatcher (221).
34. Again, each map should have a start and end time for that map alone and not a start and end covering multiple maps. In this case there are no time stamps and based on the dates we have no idea what was recorded on what dates.
35. In my opinion therefore it would not have been possible for the Inspector to rely on data presented in Appendix 5 of the Zisman report to determine the effect of loss of 'quiet zone' area on waterbirds that utilise the adjoining SPA. There are too many gaps in the information for it to be relied upon for that purpose.
36. The Appendix 6 data (April and June 2017) in the Zisman report records survey data in the area that includes the 'quiet zone' on 27 April 2017 and 11 June 2017 (grids 12 and 13 visited on both occasions). On both sets of maps transect routes are plotted in green. The transect paths appear to me to follow field boundaries. On the grid 13 map for 27 April 2017 is marked the following note: "\*NB\* 3 pair of lapwing in area holding and defending area". Grid 5 was also surveyed on each date. Neither of these dates coincides with the survey dates for the adjoining estuarine area in the SPA which according to Appendix 2 of the NIS was surveyed during April 2017 on 12<sup>th</sup> and 26<sup>th</sup> and during June 2017 on 12<sup>th</sup> and 28<sup>th</sup>. The following bird numbers were among those recorded in the SPA during April 2017: Bar-tailed Godwit (37), Brent Goose (270), Golden Plover (0), Grey Plover (0), Ringed Plover (75), Shelduck (85), Lapwing (37), Oystercatcher (171). The following bird numbers were among those recorded in June 2017: Bar-tailed Godwit (11), Brent Goose (0), Golden Plover (0), Grey Plover (0), Ringed Plover (42), Shelduck (29), Lapwing (10), Oystercatcher (95).



37. A small number of Lapwing are known to breed in the area. Based on the notes and behaviour recorded it is highly likely they are nesting in an open area in grid 13. They do not use hedgerow, instead nest on the ground where they have a good view all around. When a predator approaches, they fly off the nest and rely on the camouflage of the eggs to keep them hidden. If the predator gets too close to the nest, they will often feign a broken wing to lure it away.
38. In my opinion therefore it would not have been possible for the Inspector to rely on data presented in Appendix 6 of the Zisman report to determine the effect of loss of 'quiet zone' area on waterbirds that utilise the adjoining SPA including the Lapwing, which while not a named conservation interest for the Baldoyle Bay SAC is a bird protected under Article 12 of the Habitats Directive and a water bird that utilises the Baldoyle Bay SPA and therefore comes within the protections of the 'Wetland and Waterbirds' special conservation interest defined within S.I. 275 of 2010. There are too many lacunae in this bird count information for it to be relied upon for the purpose of removing the quiet zone from territory utilised by water birds connected to the adjoining SPA, even temporarily.
39. The Appendix 7 data (May and June 2017) in the Zisman report records survey data in the area that includes the 'quiet zone' on 19 May 2017 (grid 13) and 24 May 2017 (grid 12) and 7 June (grids 4,5, 12 and 13). No transect routes are plotted on the maps.
40. The grid 13 map plotted on 13 May 2017 has a note which states "\*NB\* 2 Lapwing holding territory". The grid 13 map plotted on 7 June has a note "\*NB Pair of lapwing holding territory and feigning injury"
41. The grid 12 map plotted on 24 May 2017 appears to record 4 no. Bar Tailed Godwits (4BA) flying in the direction of the quiet zone.
42. Again, it is my opinion that it would not have been possible for the Inspector to rely on data presented in Appendix 7 of the Zisman report to determine the effect of loss of 'quiet zone' area on waterbirds that utilise the adjoining SPA including the Lapwing.
43. According to the Estuarine Bird Data presented in Appendix 2 of the NIS, peak Lapwing within the SPA were recorded in the surveys of January 2016 (607 birds) and February 2018 (461). Peak Brent Goose numbers in the estuarine surveys were recorded in February 2016 (991). Peak Golden Plover numbers were recorded in February 2018 (3,300). Ringed Plover (234) were recorded in September 2015. No survey data appears to have been submitted to the decision maker for the 'quiet area' or the lands under Compounds 9 and 10 for these survey dates.
44. The international significance of Baldoyle Bay SPA has been acknowledged by Mr McCrory in his affidavit. The increased importance of the preservation of this habitat in the context of declining water bird populations in Ireland is emphasised in the data compiled by the NPWS



in its Irish Wetland Survey published in 2019. I beg to refer to a copy of said report exhibited at **TAB 5** of the booklet of exhibits.

45. I have reviewed the results of the Citizen Science Project conducted by the Applicant and exhibited with her supplementary affidavit. The lack of any records (as far as I can tell) of any Brent Goose, Curlew, Oystercatcher, Black-Tailed Godwit, etc in the Zisman raw data is alarming based on the results of the citizen science project which clearly shows that Brent Geese at least do use the area. In my opinion this proves that the surveys carried out on behalf of Irish Water were too limited in their scope and failed in their goal to record all the species using the area, something that more regular surveys should have achieved.
46. The effects of the proposed project on this internationally important habitat could not in my opinion have been properly assessed from the information that was placed before the decision maker which contains significant gaps.
47. In my opinion it cannot be concluded from this assessment that using part of the 'quiet zone' for the construction, use and eventual removal of a construction compound would not reduce the area occupied by waterbirds associated with the Baldoyle Bay SPA, including the Bar-tailed Godwit and the Brent Goose and other waterbirds known to utilise the adjoining wetland within the Baldoyle Bay SPA such as for example Lapwings.
48. Regarding an averment made by the Applicant in her first affidavit, I can confirm that the Cormorant (*Phalacrocorax carbo*), the Herring Gull (*Larus argentatus*), Kittiwake (*Rissa tridactyla*) are known to nest on cliff faces and are known to use vegetation and seaweed for building their nests while the Guillemot (*Uria aalge*) and Razorbill (*Alca torda*) are known to breed on cliffs without building a nest.