Natural England Evidence Statement Regarding Kittiwake Count Data Used to Classify the Flamborough Head & Bempton Cliffs SPA

This briefing note provides evidence relating to the 1987 count of breeding seabirds at Flamborough Head and Bempton Cliffs. The 1987 count of breeding black-legged kittiwake (*Rissa tridactyla*) at Flamborough Head and Bempton Cliffs underpins both the original SPA designation for Flamborough and Bempton Cliffs SPA and also the baseline population size and Supplementary Advice on Conservation Objectives for the kittiwake feature at Flamborough and Filey Coast SPA (Natural England 2014). It is also an important part of the evidence base that Natural England uses when advising on potential impacts on the kittiwake feature of the SPA e.g. from offshore windfarm developments.

Natural England's position on the validity of the 1987 count of breeding kittiwake at Flamborough Head and Bempton Cliffs has been challenged on several occasions in recent years. This document sets out Natural England's position regarding the 1987 count data and the evidence base that supports this position and its continued use.

Background

The site is located on the Yorkshire coast between Bridlington and Scarborough. The original Flamborough Head and Bempton Cliffs SPA (FHBC SPA) was classified in 1993, and broadly aligned with the existing Flamborough Head SSSI, running from Speeton in the north to South Landing in the south, but excluding a short stretch between Black Cliff and Reighton Gap in the north and the stretch between South Landing and Bridlington in the south (see Figure 1). The Flamborough and Filey Coast SPA (FFC SPA) was classified in 2018 and encompasses the original SPA as well as a section of coastline covering the peninsula of Filey Brigg and the coast extending north-westwards to Cunstone Nab. The Flamborough and Filey Coast SPA also includes a marine section adjacent to the coastal strip.

First edition 3 November 2020

www.gov.uk/natural-england

NATURAL ENGLAND

Whole colony counts of kittiwake breeding at Flamborough Head and Bempton Cliffs have been undertaken at intervals since the 1950's. Several of these counts were formally undertaken as part of national seabird censuses: Operation Seafarer (1969-70); Seabird Colony Register (SCR) Census (1985-88), Seabird 2000 (1998-2002) and Seabirds Count (2015-present). Other counts were undertaken as part of single species surveys (e.g. the British Trust For Ornithology (BTO) Kittiwake Survey in 1979), or as part of the monitoring work at the colony by the Royal Society for the Protection of Birds (RSPB) and Natural England (e.g. Madge 1975; Babcock *et al.* 2016; Aitken *et al.* 2017).

The validity of the counts undertaken between 1979 and 1987 has been questioned in Coulson (2011) and Coulson (2017), on the basis that they suggest a doubling and then halving of the colony numbers of kittiwake between 1969 and 2000.

The 1987 Flamborough Head and Bempton Cliffs count in particular represents an important data-point for the colony, as it is the count that underpins the designation of the original Flamborough Head and Bempton Cliffs SPA in 1993, with the SPA citation including the 1987 counts for kittiwake, common guillemot (*Uria aalge*), razorbill (*Alca torda*) and Atlantic puffin (*Fratercula arctica*) (Appendix 1). The 1987 count also informs the baseline population size for kittiwake at the more recently designated Flamborough and Filey Coast SPA which encompasses the original SPA (**2018 FFC SPA citation**, Appendix 2).

Counts undertaken between Cayton Bay and Filey[1] that fall outside of the original Flamborough Head and Bempton Cliffs SPA site boundary are outside the scope of this paper.

The 1979 kittiwake count

The 1979 count was undertaken as part of the British Trust for Ornithology (BTO) national kittiwake survey, organised and run by John Coulson as a BTO volunteer (see Appendix 3, **BTO 1979**; Coulson 1983). The survey was a repeat of a 1959 BTO survey, also organised by Coulson, (**BTO 1959**; Coulson 1963) that aimed to cover all kittiwake colonies in Great Britain and Ireland (although complete coverage was not achieved in either 1959 or 1979).

The 1979 survey achieved almost complete coverage in England, Wales and the Isle of Man, but areas counted in Ireland and northern Scotland could only be considered samples (**BTO 1979**; Coulson 1983). The survey followed the same survey methodology for kittiwake as the 1959 BTO survey and the Operation Seafarer national census in 1969, with Apparently Occupied Nests (AON) counted at colonies in June and July (**BTO 1979**).

83,000 nests (AON) were counted at the Bempton and Flamborough colony in 1979, a large increase from the 1969 Operation Seafarer count of 30,800 pairs (Cramp *et al.* 1974; **BTO 1979**; Coulson 1983; Lloyd *et al.* 1991).

[1] SMP count units Filey 1, Filey 2, Filey 3 are not within original Flamborough Head and Bempton Cliffs SPA but are within the boundary of the Flamborough and Filey Coast SPA which was designated in 2018 and which encompasses the boundary of the original SPA. There are no data on kittiwake numbers at Filey for 1979 or 1987.

Unfortunately, no raw data from the 1979 survey are held in the BTO archives, and the data and correspondence relating to the survey were lost many years ago, as were the electronic files when Durham University's computer systems were upgraded. The only record of the counts are as reported in Coulson (1983) and the BTO survey record (**BTO 1979**).

The 1979 count data are not held in the Seabird Monitoring Programme database that is maintained by the Joint Nature Conservation Committee (JNCC) (**SMP**).

Seabird Colony Register (SCR) Census 1985-88

This national survey sought complete coverage for all seabird species for the whole coastline of Britain and Ireland, and was undertaken between 1985 and 1988 (the majority of counts being in 1985-87) with the results reported in Lloyd *et al.* (1991). The survey was organised by the Seabird Group and Nature Conservancy Council, and standardised methods, instructions to counters, and three recording forms (**Ten km Square Summary**, **Colony Register Form** and **Data Sheets**) were used. The instructions for kittiwake counts stated that counts should be of apparently occupied nests (AON), and that counts should be undertaken during the late incubation to early nestling period, early to mid-June (Lloyd *et al.* 1991).

Count in 1986

A count, covering all seabird species, was undertaken at Bempton Cliffs (between Speeton Cliff and Gull Nook, Grid References: TA153750 to TA222727) in 1986. The **Data Sheet** form, which was used to record the actual count data, indicates that the date of the kittiwake counts in 1986 was early June (Appendix 4). The **Data Sheet** also indicates that in 1986 no accurate count of kittiwake was made, and that only an estimate of between 50,000 and 70,000 pairs was recorded. The unit for this estimate is stated as "2" which is "Apparently Occupied Nest" and the breeding status is recorded as "16" which is "Nest + young". On the reverse of the form it indicates that kittiwake were "*Not counted, or really assessed in '86: Figure is from previous colony estimates*".

The **Colony Register Form**, completed in August 1986, contains background information about the colony, and specific information relating to the 1986 count. Under the heading "Counting Problems", the form states: "*Large parts of colony visible only from boat….Unprotected counter can see about 40-60% of cliff from top….Also sheer numbers of kittiwake….*".

There are no data for Bempton Cliffs or Flamborough Head from the 1986 SCR record in the Seabird Monitoring Programme database, or in the Seabird Colony Register Dataset (**SCR Census Data**; **SMP Database**).

Count in 1987

As a result of the clear inadequacy of the 1986 SCR counts for Bempton Cliffs and Flamborough Head, the colony census was repeated in 1987 (Phillips 1987).

There are two **Ten Km Square Summary** forms that cover the colony as counted in 1987. These include maps that indicate that the area surveyed in 1987 included the Bempton RSPB reserve, North Cliff, South Landing and Speeton Cliffs (Appendices 4 & 5).

The actual counts obtained in 1987 are recorded on four separate **Data Sheets**: one for Bempton Reserve, one for North Cliff, one for South Landing and one for Speeton Cliffs (Appendices 4 & 5).

Clearly defined colony boundaries with Ordnance Survey National Grid References and maps are provided on the relevant recording forms (Appendices 4 & 5).

The number of kittiwake counted in each area are summarised in Table 1.

Further information about the 1987 counts for the Bempton RSPB Reserve part of the colony (75,000 AON) is provided in the Bempton Cliffs Annual Report 1987 (Phillips 1987; see also Appendix 6).

Section 2.3 of the report addresses a number of concerns raised about validity of the 1986 count and the methodology used for the 1987 counts:

- Validity of the 1986 count – paragraph one states that the 1986 counts conducted for the SCR "*were less than adequate*" and hence there was a requirement to carry out another survey in 1987;

- Count method: reliance on land-based counts – paragraph two states counts in 1987 were undertaken from both cliff and boat. This is not clear from the SCR recording forms for 1987, which indicate on the Data Sheets that counts were "From Land". However, paragraph four of Phillips (1987) provides further information, stating that five boat based surveys were undertaken – two focusing on gannet and the other three surveys concentrated on the remaining species. Phillips (1987) goes on to state that the kittiwake counts derived from the boat surveys were considered acceptable, but "*yielded up to 20% lower figures than the clifftop counts. This was taken into consideration when estimating the number on the sections of the cliff which could not be counted from the clifftops*";

- Count method: accuracy and checking - the summary report also includes an explanation of how the counters attained and checked the accuracy of their counts in 1987 (see paragraphs three and four): a) counts of the same sections were undertaken from land by different observers to reach consensus; b) counts of some sections were undertaken from land and sea to derive a correction factor for those sections surveyed only from the sea (counts from boat are generally less accurate as they are not stable platforms) and c) estimates of accuracy given for the land-based and sea-based counts given these checks. The accuracy of the 75,000 AON for kittiwake is given as "*of the order of 10%*". This assessment was on the basis that "*The accuracy of the clifftop counts were of the order of 5%, but the boat based counts would have reduced this accuracy*". Unfortunately there is no breakdown of which sections were counted from land and which from sea – or which were estimated and of how such estimates were made;

- Count date – paragraph two states kittiwakes were counted from mid-June in 1987, the optimum time for counting kittiwakes[2];

- Count units – Phillips (1987) unequivocally states that 75,000 refers to the number of nests, not individuals.

Phillips (1987) states that the 75,000 AON are only for the RSPB reserve and that areas outside of this were being surveyed separately by others (see Appendix 6).

Status of 1987 count for use in advice and reporting by Natural England

The 1987 Seabird Colony Register (SCR) counts for Bempton Cliffs and Flamborough Head are collated within the Seabird Monitoring Programme (SMP) database, and represent the earliest count data available within the SMP database for the colony (noting that the 1986 count from South Landing is included as part of the 1987 count). The 1987 count for the Flamborough Head and Bempton Cliffs colony in the SMP database is 85,395 AON. This figure represents the sum of the counts in Table 1.

The Seabird Monitoring Programme (SMP) is an ongoing annual monitoring programme, established in 1986, covering 25 seabird species that regularly breed in Britain and Ireland. It aims to ensure that data on breeding numbers and breeding success of seabirds are collected to a common standard, to enable their conservation status to be assessed.

The SMP is led and co-ordinated by the Joint Nature Conservation Committee (JNCC) in partnership with 19 other organisations. Data are collated and held centrally within the Seabird Monitoring Programme database.

Data from the Seabird Monitoring Programme are used by UK government, Statutory Nature Conservation Bodies (SNCBs) and others to inform conservation assessments and actions, such as implementation of the EC Birds Directive (e.g. SPA designation and monitoring, Article 12 reporting), and to underpin indicators and assessments (e.g. OSPAR Convention reporting and EC Marine Strategy Framework Directive (MSFD) and UK Marine Strategy seabird indicators and Good Environmental Status assessments). They are also used to provide advice on the wider ecological effects of various human activities including commercial fishing, offshore infrastructure developments and the effects of climate change.

During the examination of the Hornsea One Offshore Windfarm in 2014, the Applicant disputed the validity of the 1979, 1986 and 1987 Bempton Cliffs and Flamborough Head counts (SMartWind 2014). Given that the 1987 count is held within the SMP database, JNCC provided a written statement

[2] While it is noted that the dates entered on the Ten km square summary and Colony Register forms relate to dates that are from August 1987, these are understood to be the dates that the data were transcribed onto the colony information forms and are not the dates of the actual counts, which are indicated as being in June, either against the actual count data on the Data Sheet form (for North Landing and Speeton Cliffs) or in the accompanying notes in the 1987 Bempton Cliffs Annual Report (for the Bempton Reserve counts) (Phillips 1987).

confirming that the 1987 SMP database count for Flamborough Head and Bempton Cliffs SPA was correct and should be used. This statement was submitted into the Hornsea Project One examination (Appendix 7).

Conclusions

On the basis of the evidence and information available on the 1979, 1986 and 1987 counts presented above, Natural England's position is that the 1987 count of 85,395 AON kittiwake at Bempton Cliffs and Flamborough Head is accurate and valid, and Natural England will use this figure as the basis of advice on the population status of kittiwake at the colony and at a regional and national level.

Natural England consider that the 1986 figure is an estimated value and therefore should not be used quantitatively in any assessments.

In the absence of the original count data or forms and /or details of the methods used, Natural England are unable to verify the accuracy of the 1979 count. This is an issue for all the counts at the colony prior to the SCR counts in 1986 and 1987, but this is not a reason to doubt these counts, and they are an important element in the history of kittiwake at the site, in England, the UK and Europe.

Natural England Evidence Information Notes are available to download from the Natural England Access to Evidence Catalogue **http://publications.naturalengland.org.uk/** For information on Natural England contact the Natural England Enquiry Service on 0300 060 3900 or e-mail **enquiries@naturalengland.org.uk**.

ISBN 978-1-78354-674-9

References

AITKEN, D., BABCOCK, M., BARRATT, A., CLARKSON, C. & PRETTYMAN, S. 2017. *Flamborough and Filey Coast pSPA Seabird Monitoring Programme. 2017 Report*. RSPB.

BABCOCK, M., AITKEN, D., KITE, K. & CLARKSON, K. 2016. *Flamborough and Filey Coast pSPA Seabird Monitoring Programme. 2016 Report*. RSPB.

COULSON, J. C. 1963. The status of the Kittiwake in the British Isles. *Bird Study*, 10(3), 147-179.

COULSON, J.C., 1983. The changing status of the kittiwake *Rissa tridactyla* in the British Isles, 1969-1979. *Bird Study* 30, 9-16.

COULSON, J.C., 2011. *The Kittiwake*. T. & A.D. Poyser, London.

COULSON, J.C., 2017. Productivity of the Black-legged kittiwake Rissa Tridactyla required to maintain numbers. *Bird Study* 64(1), 84-89.

CRAMP, S, BOURNE, W.R.P. & SAUNDERS, D. 1974. *The Seabirds of Britain and Ireland*. Collins. London.

EC Directive 2009/147/EC on the Conservation of Wild Birds Special Protection Area (SPA). Flamborough and Filey Coast SPA Citation (August 2018). **http://publications.naturalengland.org.uk/file/4690761199386624**

LLOYD, C., TASKER, M. L., & PARTRIDGE, K. 1991. *The Status of Seabirds in Britain and Ireland*. T. and A.D. Poyser, London.

MADGE, S. 1975. *Bempton Cliffs Annual Report 1975*. RSPB.

NATURAL ENGLAND. 2014. Directive 2009/147/EC on the Conservation of Wild Birds potential Special Protection Area (pSPA): Flamborough and Filey Coast pSPA citation, **http://publications.naturalengland.org.uk/file/5153687664066560**

PHILLIPS, P. 1987. *Bempton Cliffs Annual Report 1987*. (see also Appendix 6).

SMARTWIND. 2014. Hornsea Offshore Wind Farm Project One. *The Applicant's response to EO18, Appendix P to the Response submitted for Deadline IV*. Application Reference: EN010033. 22 April 2014.

Figure 1. Map showing location of site in relation to Seabird Monitoring Programme sites and SPA boundaries.

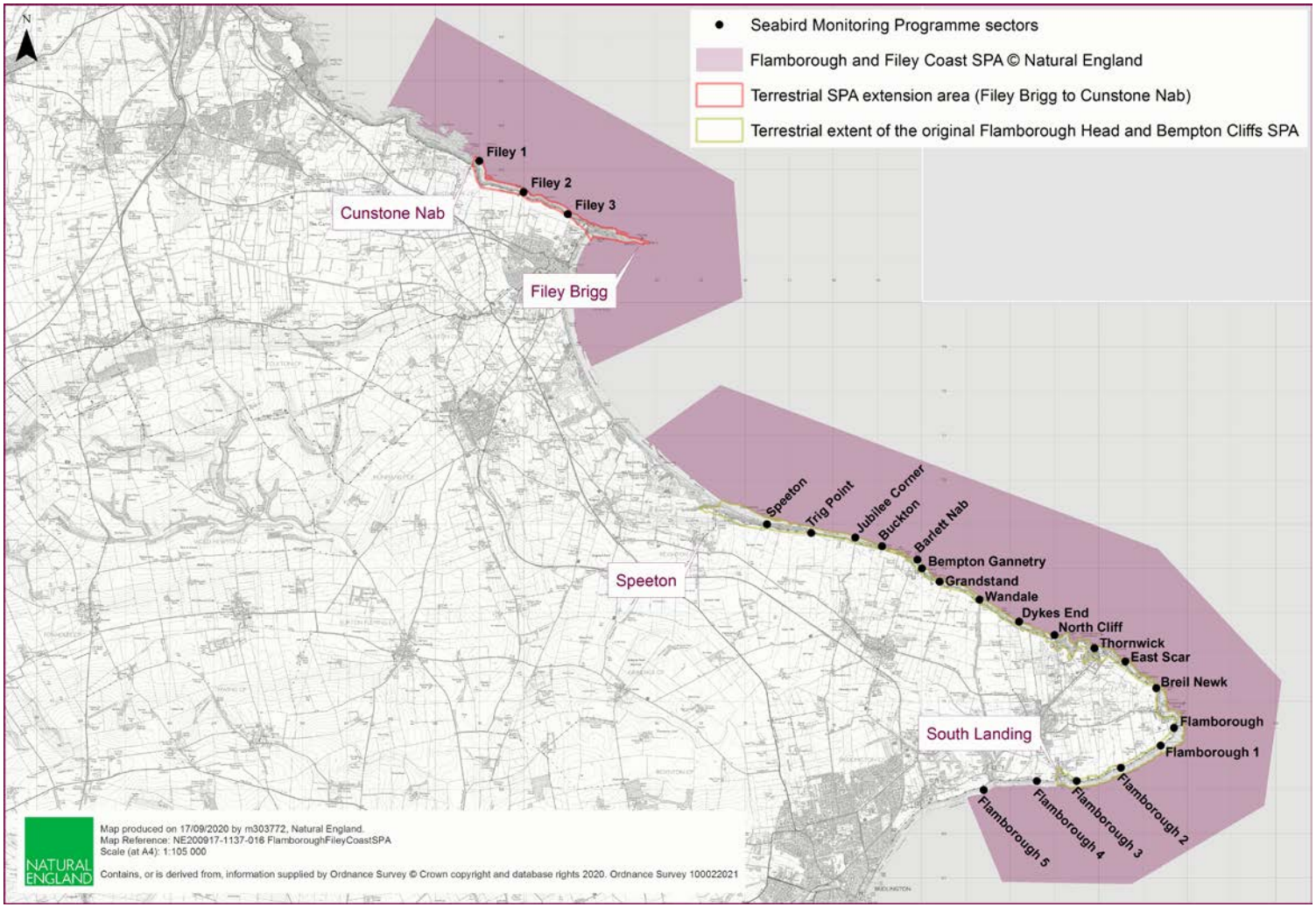
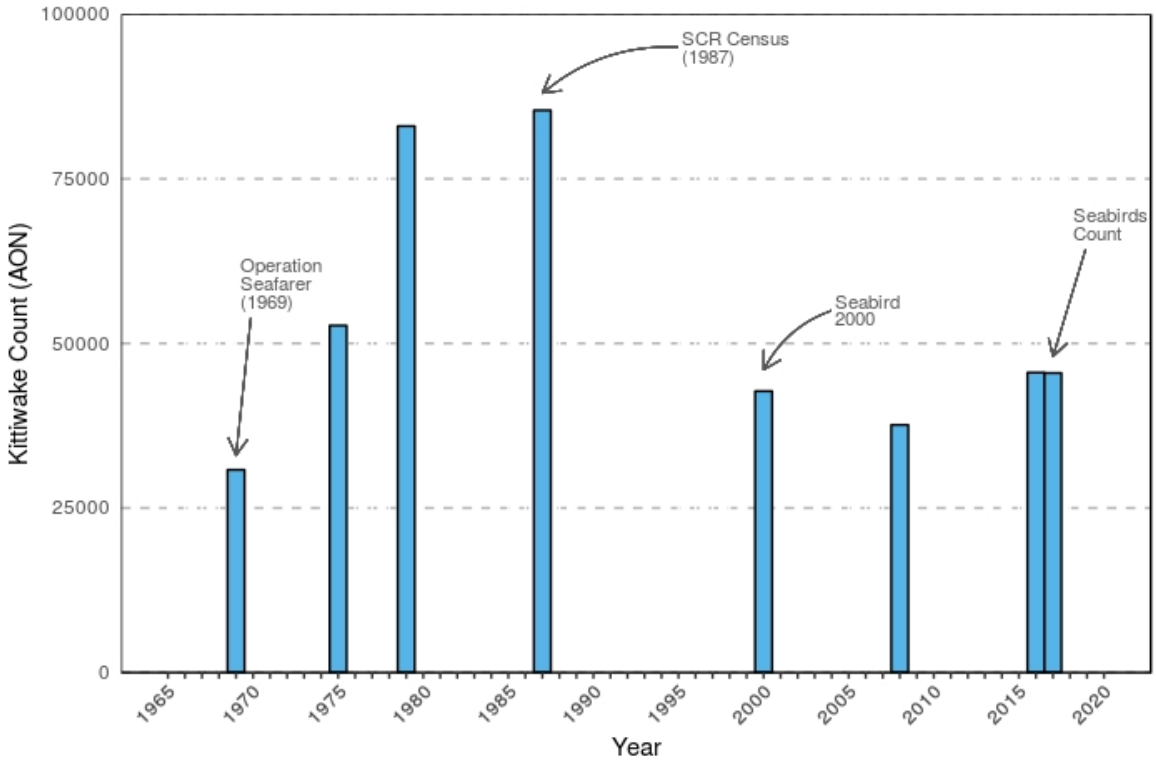


Figure 2. Whole colony counts of kittiwake (Apparently Occupied Nests - AON) recorded at Flamborough Head and Bempton Cliffs 1969-2017 with national census counts[3] indicated.



[3] 1969: Operation Seafarer; 1975: RSPB; 1979: BTO; 1987: SCR; 2000: Seabird Census; 2008, 2016, 2017: RSPB.

Table 1. Counts for kittiwake at Flamborough, Bempton and Speeton taken from the 1987 count forms

Site	Count (AON)	Date of Count	Notes
Bempton Reserve	75,000	No specific date recorded on Data Sheet form, although notes attached to form indicate that the rest of the Flamborough Headland colony was being counted by a member of the local Members Group and the date of these counts was in mid-June. Additionally Phillips (1987) indicates that the kittiwake count at Bempton Reserve was undertaken in mid-June (see main text).	Count is entered under "ACCURATE COUNT" column. "Unit" clearly marked as "2" = Apparently occupied nest. "Method" stated as "1" = From land. Breeding Status recorded as "13" = Occupied nest. Notes attached to the form indicate that 3 counters covered the site, and counts were repeated where the three values varied by more than 5% for a particular section.
North Cliff	8,368	15/06/87	Count is entered under "ACCURATE COUNT" column. "Unit" clearly marked as "2" = Apparently occupied nest. "Method" stated as "1" = From land. Breeding Status recorded as "13" = Occupied nest.
South Landing	300	A count from 2 colonies covered in 1986 is used for this section.	Note the 300 pairs figure is attributed to a count made in 1986 rather than being a new count for 1987, but is used to derive the 83,700 pairs figure used in the FHBC SPA citation.
Speeton Cliffs	1,727	07/06/87	Count is entered under "ACCURATE COUNT" column. "Unit" clearly marked as "2" = Apparently occupied nest. "Method" stated as "1" = From land. Breeding Status recorded as "13" = Occupied nest. The Colony Register form suggests count was undertaken from both below and above cliffs. These birds are erroneously omitted from the original total for the FHBC SPA citation.
TOTAL	**85,395**		This total relates to the original FHBC SPA boundary and does not include the Filey birds that are now included in the FFC SPA.

Note all these individual counts are also in the JNCC Seabird Colony Register dataset (SCR Census Data), and the Seabird Monitoring Programme database contains the figure of 85,395 pairs as the total (SMP Database)

Appendix 1. Citation for Flamborough Head and Bempton Cliff SPA (original SPA)

EC Directive 79/049 on the Conservation of Wild Birds: Special Protection Area

Flamborough Head and Bempton Cliffs (Humberside/North Yorkshire)

The Flamborough Head and Bempton Cliffs, proposed Special Protection Area is located on the Humberside and North Yorkshire coast, north of Bridlington. It is an area of geological and geomorphological importance with the cliffs providing nesting grounds for large colonies of seabirds of national and international importance. The area comprises chalk, softer sedimentary rocks and cliffs. At the top of the cliffs there is a narrow belt of steeply sloping chalk grassland which widens around the bays. There are also numerous flushed areas and trickles. The cliff line has been eroded to form impressive stacks and caves between North Cliff and Castlemere Hole. Bempton cliffs support an important gannetry, the only gannetry in England and the largest mainland colony in Britain.

The landward boundary of the proposed Special Protection Area follows that of the existing Flamborough Head SSSI, between Speeton Sands in the north west and South Landing in the south. The seaward boundary is the low mean water mark.

The site qualifies under Article 4.2 of the EC Birds Directive by regularly supporting an internationally important breeding population (counts taken in 1987) of 83,700 pairs of kittiwake *Rissa tridactyla* (4% of the western European population and 17% of the British population). It also supports nationally important populations of the following migratory seabirds: 32,300 individual guillemots *Uria algae*, (over 3% of the British population); 7,700 razorbill *Alca torda* (over 5% of the British population) and 7,000 puffins *Fratercula arctica* (1% of the British population).

Revised SPA citation
DMC October 1992

This citation / map relates to a site entered in the Register of European sites for Great Britain.
Register reference number UK 900 610
Date of registration 25 AUG 1998
Signed .....
on behalf of the Secretary of State for the Environment

Appendix 2. Citation for the Flamborough Head and Filey Coast SPA.

EC Directive 2009/147/EC on the Conservation of Wild Birds Special Protection Area (SPA)

Name: Flamborough and Filey Coast

Counties/Unitary Authorities: The coastal section of the SPA covers a slender strip of cliffs and hinterland along the coastline of the counties of North Yorkshire and the East Riding of Yorkshire between Bridlington and Scarborough. The marine portion of the site lies entirely in UK territorial waters adjacent to the aforementioned coastal strip.

Boundary of the SPA: The SPA is in two sections: the southern section extends north from South Landing around Flamborough Head to Speeton; the northern section covers the peninsula of Filey Brigg before extending north west to Cunstone Nab. The seaward boundary extends 2km throughout the two sections of the site into the marine environment, running parallel to the landward boundaries to include the adjacent coastal waters.

Size of SPA: The SPA covers an area of 7857.99 hectares.

Site description:

Flamborough and Filey Coast SPA is located on the Yorkshire coast between Bridlington and Scarborough. It includes the RSPB reserve at Bempton Cliffs, the Yorkshire Wildlife Trust Flamborough Cliffs nature reserve and the East Riding of Yorkshire Council Flamborough Head Local Nature Reserve. The cliffs of Flamborough Head rise to 135 metres and are composed of chalk and other sedimentary rocks. These soft cliffs have been eroded into a series of bays, arches, pinnacles and gullies with an extensive system of caves at sea-level. The cliffs from Filey Brigg to Cunstone Nab comprise a range of sedimentary rocks including shales and sandstones. The cliff top vegetation comprises maritime grassland vegetation growing alongside species more typical of chalk grassland. The intertidal area below the cliffs is predominantly rocky and part of a series of reefs that extend into the subtidal area. The adjacent sea out to 2 km off Flamborough Head as well as Filey Brigg to Cunstone Nab is characterised by reefs supporting kelp forest communities in the shallow subtidal and faunal turf communities below 2 metre water depths. The southern side of Filey Brigg shelves off gently from the rocks to the sandy bottom of Filey Bay.

Qualifying species: The site qualifies under article 4.2 of the Directive (2009/147/EC) by supporting over 1% of the biogeographical populations of four regularly occurring migratory species and a breeding seabird assemblage of European importance.

Species	Count (period)	% of subspecies or population (pairs)
Black-legged kittiwake *Rissa tridactyla*	44,520 pairs[1] 89,040 breeding adults[2] (2008-2011)	2% North Atlantic[3]

[1] Data from: Seabird Monitoring Programme (SMP) for original SPA (2008); RSPB counts for terrestrial extension (2009-2011), unpublished; black-legged kittiwakes are counted as "apparently occupied nests" (AONs); 1 AON equates to 1 breeding pair.
[2] Pairs multiplied by 2 to arrive at breeding adults; this rule applies to all species listed within the table.
[3] Data from: AEWA (2012); 6,600,000 Ind. translated to pairs by dividing by 3 and compared to pairs reported for the revised SPA to derive % population.

Northern gannet *Morus bassanus*	8,469 pairs[4] 16,938 breeding adults (2008-2012)	2.6% North Atlantic[5]
Common guillemot *Uria aalge*	41,607 pairs[6] 83,214 breeding adults (2008-2011)	15.6% (*Uria aalge albionis*)[7]
Razorbill *Alca torda*	10,570 pairs[8] 21,140 breeding adults (2008-2011)	2.3% (*Alca torda islandica*)[9]

	Count period	Average number of individuals
Seabird Assemblage	2008-2012	216,730

References:

AEWA – African-Eurasian Waterbird Agreement (2012): Report on the Conservation Status of Migratory Waterbirds in the Agreement Area. Fifth Edition. AEWA, Bonn.
Available here: http://www.unep-aewa.org/meetings/en/stc_meetings/stc7docs/info_docs_pdf/stc_inf_7_4_csr5.pdf

Aitken, D., Clarkson, K., Kendall, I., Wightman, S. (2012): Flamborough Head and Bempton Cliffs SPA Seabird Monitoring Programme. 2012 Report, Bempton.

Harris, M.P. (1989): Variation in the correction factor used for converting counts of individual Guillemots Uria aalge into breeding pairs. IBIS 131, pp. 85-93.
Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1474-919X.1989.tb02747.x/abstract

Status of the SPA:

1. Flamborough Head and Bempton Cliffs was classified as an SPA on 5 March 1993.
2. The site was extended and renamed Flamborough and Filey Coast SPA on 23rd August 2018

[4] Data from: SMP for original SPA (2008, 2009); RSPB counts for original SPA (2012), (Aitken et al. 2012); northern gannets are counted as AONs; 1 AON equates to 1 breeding pair.
[5] Data from: AEWA (2012); 967,000 Ind. translated to pairs by dividing by 3 and compared to pairs reported for the revised SPA to derive % population.
[6] Data from: SMP for original SPA (2008); RSPB counts for terrestrial extension (2009-2011), unpublished; common guillemots are counted as "individuals on land" (62,100 individuals on land (mean of counts 2008-2011)); individuals on land are multiplied by a correction factor of 0.67 (Harris 1989) to translate to breeding pairs.
[7] Data from: AEWA (2012); 800,000 Ind. translated to pairs by dividing by 3 and compared to pairs reported for the revised SPA to derive % population.
[8] Data from: SMP for original SPA (2008); RSPB counts for terrestrial extension (2009-2011), unpublished; razorbills are counted as "individuals on land" (15,776 individuals on land (mean of counts 2008-2011)); individuals on land are multiplied by a correction factor of 0.67 (Harris 1989) to translate to breeding pairs.
[9] Data from: AEWA (2012); 1,380,000 Ind. translated to pairs by dividing by 3 and compared to pairs reported for the revised SPA to derive % population.

This citation relates to a site entered in the Register of European Sites for Great Britain.
Register reference number: UK000610
Date of registration: 25 August 1998
Date amended: 23 August 2018

Signed: 

On behalf of the Secretary of State for Environment, Food and Rural Affairs

Appendix 3. Details of the 1979 kittiwake count as held by BTO

Kittiwake 1979

Title
Kittiwake 1979

Description and Summary of Results
A review of published records, which was accumulated with information for past years when the results from the survey in 1959 were analysed, showed that the Kittiwake *Rissa tridactyla* had started to increase quite substantially in numbers around the beginning of the 20th Century and that this was continuing through 1959 at about 3-4% per annum. A 1969 survey (carried out as part of 'Operation Seafarer') showed that this rate had continued. At first it was the expansion of existing colonies, but from 1920 some new ones were formed although there was little expansion into previously unoccupied areas. As a result and unlike some other species the increase was not that obvious without specific counts. Hence it was decided to have another look in 1979 and a survey was organised on the same lines as previously.
Coverage in England, Wales and the Isle of Man was nearly complete but areas counted in Ireland and much of northern Scotland could only be considered samples. In England, Wales and the Isle of Man the number of breeding pairs increased from about 57000 pairs in 1969 to about 113000 pairs in 1979, an increase of about 98% (and this had followed a 57% increase between 1959 and 1969). Almost all the increase occurred at the very large colony on the cliffs between Bempton and Flamborough in North Humberside (30800 nests in 1969 to 83000 in 1979). This colony is difficult to census, but there had clearly been a large increase which had probably started with the cessation of extensive egg collecting. Kittiwakes breeding elsewhere in England, Wales and the Isle of Man increased by 14% overall during the 1969-1979 decade, or just over 1% per annum, although many colonies actually decreased in size on the south and west coasts. Between 1969 and 1979 twelve new colonies were formed, but six of them disappeared again during the period and five colonies extant in 1969 also disappeared, giving a net gain of only one colony (total 63). Five regions showed population decreases, ranging from -3% to -56% (Kent to N Devon, S Wales and Lundy, N Wales to the Solway including Isle of Man, west coast Scotland and S coast of Ireland) with the large colonies on Ailsa Craig and St Kilda showing decreases of 80% and 61% respectively; and three others (east coast of Scotland, east coast of England excluding the Bempton area, and the east coast of Ireland) showed significant decreases in the rate of population change although numbers increased overall. Essentially, Kittiwake numbers decreased in SW England, throughout Wales, at St. Bees Head in Cumbria (the only Kittiwake colony in NW England), in SW Scotland and in southern Ireland. In Orkney and Shetland some colonies increased and others decreased. The decline did not occur simultaneously everywhere, but the majority of those for which there were data showed an appreciable decrease in the 1973-1975 period with some later showing a minor recovery.

Methods of Data Capture
The methods used in 1979 were essentially the same as used in the previous surveys of 1959 and 1969. The census was based on counting the numbers of nests in June or July. Some non-breeding Kittiwakes build incomplete, platform nests and such were excluded. Observers were encouraged to count colonies in sections and this was often useful to identify the consistency or otherwise of any change in numbers throughout the colony, and they were also encouraged to count each section more than once to confirm accuracy. Counts were made of whole colonies and new colonies were recorded.
For the analysis data for St Kilda (Western Isles) and east Caithness (Highland Region) were taken from recent published sources.

Purpose of Data Capture
The aim was to count the number of breeding pairs at all colonies around the coasts of Britain and Ireland and the constituent smaller islands.

Geographic Coverage
All colonies in Britain and Ireland.

Temporal Coverage
The breeding season of 1979.

Other Interested parties
The survey was organised and run by John Coulson as a volunteer although doing it as part of his long term research studies on Kittiwakes.

Organiser(s)
John Coulson

Current Staff Contact
archives@bto.org

Publications
The report of the survey is:
Coulson, J.C. 1983. The changing status of the Kittiwake (*Rissa tridactyla*) in the British Isles, 1969-1979. *Bird Study* 30: 9-16.
The survey was also noticed in *BTO News* numbers 97, 100 and 111.

Available from NBN?
No.

Computer data -- location
None.

Computer data -- outline contents
N/A.

Computer data -- description of contents
N/A.

Information held in BTO Archives
None. The data and correspondence were lost many years ago, as were the computer files when Durham University's computer systems were upgraded.

Notes on Access and Use

Other information

Notes on Survey Design

Specific Issues for Analysis

Appendix 4. SCR Count forms for 1986 and 1987 for Bempton Cliffs and Flamborough Head

SEABIRD COLONY REGISTER

Colony register form

Office use

Cliff start	TA	153	750
Cliff end	TA	222	727
Col. centre	TA	210	735

COLONY NAME BEMPTON CLIFFS.

LOCATION

DESCRIPTION OF LOCATION

[TA 153750 START AT SPEETON CLIFFS
TA 222727 FINISH AT GULL NOOK.]

COMPILER'S NAME & ADDRESS if different from 10 km summary

[redacted]

SPEETON – BEMPTON CLIFFS, NORTHERN SIDE OF FLAMBOROUGH HEADLAND.

CONSERVATION STATUS SSSI. RSPB RESERVE. HERITAGE COAST.

DATE OF COMPILATION 20 AUGUST 86

COLONY DESCRIPTION

CLIFFS RANGE FROM 280'–425': CHALK OVERLAIN WITH BOULDER CLAY. CLIFFS FACE MOSTLY NNE/NE ALTHOUGH MANY FACES ON HEADLANDS WHICH FACE SE. OR NW. SHEER CLIFF, EXCEPT IN SPEETON WHERE MORE BROKEN CLIFF EXISTS. GRASSY SLOPES ET

LANDING/ACCESS/OWNERSHIP

MOST OF CLIFFS ARE AN RSPB RESERVE. RSPB CENTRE — GULL NOOK IS OWNED BY RSPB. AGREEMENTS COVER ⅓ OF THE NW SECTION. PRIVATE OWNERSHIP (SEVERAL) COVERS THE REST. CLIFF-TOP PATH RUNS FROM REIGHTON – THORNWICK + BEYOND. VIEWING PLATFORMS/BARRIERS ON BEST VIEWING AREAS.

ORNITHOLOGICAL HISTORY

SEABIRD COLONY HERE FOR CENTURIES. SUBJECT TO EXTENSIVE WANTON SHOOTING AND INTENSIVE EGG-COLLECTING IN THE PAST. GANNETS ESTABLISHED FIRST SITES IN THE 1920's.

BREEDING SEABIRDS & STATUS *

MOST IMPORTANT SEABIRD COLONY ON THE EAST COAST UPTO FIRTH OF FORTH. ONLY MAINLAND GANNETRY; MOST VISITED COLONY – SOME 50,000+ PEOPLE IN 4 MONTHS.
EIGHT SPECIES OF BREEDING SEABIRD: OTHERS RECORDED OFFSHORE.
LARGE KITTIWAKE COLONY. IMPORTANT TOO FOR AUKS.

COUNTING PROBLEMS LARGE PARTS OF COLONY VISIBLE ONLY FROM BOAT. CLIFF EDGE OFTEN DANGEROUS AND LOOSE: SLUMPING OF CLIFF TOP CLAY AND ROCK FALLS ARE COMMON. UNPROTECTED COUNTER CAN SEE ABOUT 40–60% OF CLIFF FROM TOP. PUFFINS/SHAGS

OTHER NOTES PARTICULARLY TRICKY (CAVE + CREVICE NESTERS) ALSO SHEER NUMBERS OF KITTIWAKE AND FINDING FULMAR SITES AMONGST THEM. ONLY ⅓ GANNET SITES EASILY VISIBLE FROM CLIFF.
• REGULAR STUDY PLOTS HAVE BEEN COUNTED ANNUALLY BY WARDENS

BIBLIOGRAPHY • GANNETRY COUNT EVERY YEAR.

ANNUAL REPORTS OF RSPB WARDENS. (CONTACT RSPB)

Since 1969: Increase: Fulmar, Gannet, Shag, [Kittiwake] no 1986 count, 3 auks. Decrease: Herring Gull

SEABIRD COLONY REGISTER

1 5
1 2 1 6

10 15
T A 2 1 0 7 3 5 8 6 FOR OFFICE USE

20
3 5 1 3 1 1

Data Sheet [redacted]

Name: [illegible]

Year: 1986

Give address on back of sheet if different from Colony Register Form

Colony Name: BEMPTON CLIFFS
TA153750 – 222727

Notes: Use back of sheet PTO

County/District: NORTH HUMBERSIDE

FILL IN HERE

SPECIES			DATES OF COUNTS	ACCURATE COUNT +	RANGE OF ESTIMATE min.	max.	Unit	Method	Br. Status		
Fulmar	022	-16	EARLY AUGUST	218	650	800	2	½	16		725
Manx shearwater	046										
Storm petrel	052										
Leach's petrel	055										
Gannet	071	007	FOUR COUNTS IN JULY	650	625	720	2	2	16		675
Cormorant	072										
Shag	080	007	TWO COUNTS IN JULY	47 36			1	2	12		
Arctic skua	567										
Great skua	569										
Black-headed gull	582										
Common gull	590										
Lesser black-back	591										
Herring gull	592	006	MID JUNE	264	600 336	800 536	2	½	16		700
Great black-back	600										
Kittiwake	602	006	EARLY JUNE	P	50000	70000	2		16		60000
Sandwich tern	611										
Roseate tern	614										
Common tern	615										
Arctic tern	616										
Little tern	624										
Guillemot	634	006	JUNE	13700	24000 10300	26000 12300	1	½	14		25000
Razorbill	636	006	JUNE	3416	4750 3334	5750 2334	1	½	14		5250
Black guillemot	638			1	100						
Puffin	654	007	LATE JULY	P	3500	5000	1		14		4250

FILL IN HERE

UNIT
1 = Individual bird on land
2 = Apparently occupied nest
3 = Apparently occupied territory

COUNTING METHOD
1 = From land 4 = Land photo
2 = From sea 5 = Sea photo
3 = From air 6 = Air photo
7 = Others, give details in Notes.

BREEDING STATUS
01 = Bird in habitat
02 = Singing in habitat
03 = Pair in habitat
04 = Territory
05 = Display
06 = Nest site
07 = Anxious parent
08 = Incubation
09 = Nest building
10 = Distraction
11 = Used nest
12 = Fledged young
13 = Occupied nest
14 = Food for young
15 = Nest + eggs
16 = Nest + young.

FULMAR. COUNT OF 218 ACTUAL CHICKS ON LEDGES. 650–800 PAIRS IS AN ESTIMATE FROM CLIFF-FACE COUNTS IN JUNE.

CHICKS COUNTED 5–15 AUGUST.
ALMOST DEFINATELY AN UNDER-ESTIMATE (V. DIFFICULT TO SEE CHICKS FROM BOAT)
COUNTING DONE FROM CLIFF TOP + BOAT.

GANNET DATES OF COUNTS. 4th, 6th, 21st JULY 8th AUGUST.

650 BREEDING PAIRS IS AN AVERAGE FIGURE; THESE ARE SITES WHERE BIRDS LOOKED TO BE BREEDING: A CHICK COUNT ON 8th AUGUST OF 580 WAS DEFINATELY AN UNDERESTIMATE DUE TO UNSUITABLE COUNTING CONDITIONS. HIGHEST COUNT 720 LOWEST COUNT 625

SHAG.

COUNTED FROM BOAT ON GANNET COUNTS.
MAX COUNT OF 47 INDIVIDUALS INCLUDED 11 OBVIOUS JUVENILE BIRDS.

HERRING GULL

SEVERAL COUNTING DATES, AS SOME SECTIONS COUNTED SOME DAYS APART FROM OTHERS.
BOTH LAND/BOAT COUNTS WERE USED. MANY SITES (OCCUPIED SITES ONLY) WERE OUT OF VIEW OF CLIFF-TOP, HENCE DISCREPANCY BETWEEN COUNT/ESTIMATE.

KITTIWAKE

NOT COUNTED, NOR REALLY ASSESSED IN '86: FIGURE IS FROM PREVIOUS COLONY ESTIMATES.

GUILLEMOT

COMBINATION OF CLIFF-TOP AND BOAT COUNTS ESTIMATES. FAIRLY ACCURATE COUNT OF INDIVIDUALS.
ONLY BIRDS VERY OBVIOUSLY NOT OCCUPYING LEDGES SUITABLE FOR BREEDING WERE EXCLUDED.
MOST COUNTS DONE 0850–1200 HRS, EARLY JUNE – LATE.

RAZORBILLS

AGAIN, CLIFF TOP COUNTS, AND BOAT ESTIMATES. DUE TO NESTING HABITAT PROBABLE SLIGHT UNDERESTIMATE: MANY HIDDEN FROM A BOAT-BASED OBSERVER INDIVIDUAL BIRDS COUNTED, EARLY – LATE JUNE, AGAIN, 0850–1200 HRS.

PUFFINS

NOT ATTEMPTED TO COUNT SITES (IMPRACTICAL AT BEMPTON, WHERE MOST BIRDS NEST IN CLIFF-CRACKS + CREVICES) NOR ACTUAL BIRDS, ALTHOUGH A QUICK ESTIMATE, OF THEIR PEAK NUMBERS WAS DONE. AT THEIR MOST NUMEROUS, THEY SEEM TO OUT-NUMBER RAZORBILLS ON THE CLIFF.

2.1: 831 could 340 135

SEABIRD COLONY REGISTER

TEN KM SQUARE SUMMARY Square no. T A 2 7

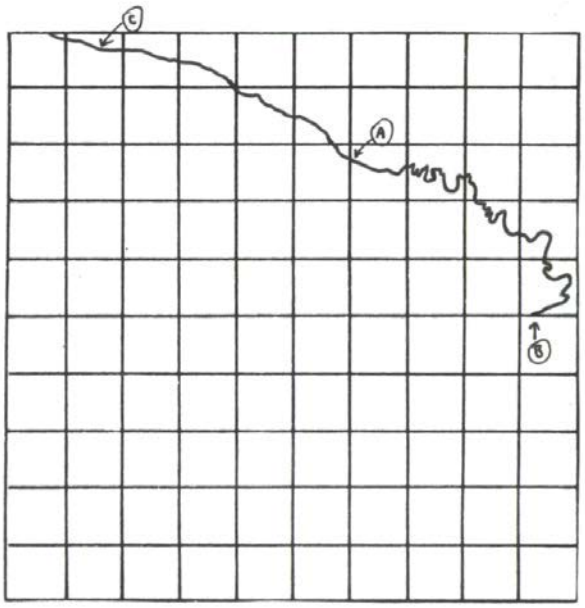
Observer [redacted] County / District HUMBERSIDE

Address [redacted]

Date 16/8/87

Sketch coastline using 1 km squares marked in box. Show exact position/extent of seabird colonies & indicate any parts of the coast you did NOT survey. Use this space and back of card to list colonies by name, & for additional details.

THE AREA NORTH OF POINT (A) LIES WITHIN THE R.S.P.B. BEMPTON RESERVE. THE COLONY BETWEEN POINTS (A) AND (B) TERMED 'NORTH CLIFF' AS INDICATED ON THE 1:50000 O.S. MAP ALTHOUGH THIS NAME IS NOT USED LOCALLY. COUNT FROM POINT (C) NORTHWARDS INCLUDED IN TA17.



SEABIRD COLONY REGISTER

	1	5
1216		

	10	15	FOR OFFICE USE
TA21073587			

	20
33	

Data Sheet

Name: RSPB + [redacted]

Year: 1987

Give address on back of sheet if different from Colony Register Form

Colony Name: Bempton reserve

Notes: Use back of sheet PTO

County/District: N. Humberside

FILL IN HERE

SPECIES			DATES OF COUNTS	ACCURATE COUNT	RANGE OF ESTIMATE min.	max.	Unit	Method	Br. Status		
Fulmar	022			7100			2	1	13		
Manx shearwater	046										
Storm petrel	052										
Leach's petrel	055										
Gannet	071			7810			2	1	13		
Cormorant	072										
Shag	080										
Arctic skua	567										
Great skua	569										
Black-headed gull	582										
Common gull	590										
Lesser black-back	591										
Herring gull	592			9510			2	1	13		
Great black-back	600										
Kittiwake	602			75000			2	1	13		
Sandwich tern	611										
Roseate tern	614										
Common tern	615										
Arctic tern	616										
Little tern	624										
Guillemot	634			29300			1	1	13		
Razorbill	636			7350			1	1	13		
Black guillemot	638										
Puffin	654			6050			1	1	06		

FILL IN HERE

UNIT
1 = Individual bird on land
2 = Apparently occupied nest
3 = Apparently occupied territory

COUNTING METHOD
1 = From land 4 = Land photo
2 = From sea 5 = Sea photo
3 = From air 6 = Air photo
7 = Others, give details in Notes.

BREEDING STATUS
01 = Bird in habitat
02 = Singing in habitat
03 = Pair in habitat
04 = Territory
05 = Display
06 = Nest site
07 = Anxious parent
08 = Incubation
09 = Nest building
10 = Distraction
11 = Used nest
12 = Fledged young
13 = Occupied nest
14 = Food for young
15 = Nest + eggs
16 = Nest + young.

✓

3/ Following the comments in the 1986 annual report (refering to the inadequacy of the counts for the 'Seabird Colony Register') and the large degree of latitude in some of the figures, I decided to try and repeat the exercise. I was also aware that one of or local Members Group ([redacted]) was attempting to count the rest of the Flamborough Headland colony. So, with the help of two volunteers, I acheived the following totals (I counted the colony seperatetly to the other two, and where our counts varied by more than 5% for a given section we went back and repeated the counts together. Remarkably there were only a few sections where this was necessary). Accuracy for each species (except Puffin) is approximately + or - 5%.

KITTIWAKE	75,000	occupied nests
GUILLEMOTT	29,300	individuals
RAZORBILL	7,350	individuals
PUFFIN	6,050	individuals
FULMAR	700	apparently occupied nests
HERRING GULL	950	apparently occupied nests
SHAG	16	nests located
GANNET	780	apparently occupied nests

giving rise to over 650 young (661 just before first fledging)

The figure for Puffin is undoubtably an under estimate, as for several sections which I looked at on a more regular basis, i often acheived higher totals than on the attempted counts.

PTO.

SEABIRD COLONY REGISTER

Colony register form

Office use

LOCATION	Cliff start	TA	254 700
	Cliff end	TA	220 166 728 750
	Col. centre	TA	243 720

COLONY NAME North Cliff.

DESCRIPTION OF LOCATION

North side of Flamborough Head peninsula.

COMPILER'S NAME & ADDRESS if different from 10 km summary

As summary. [redacted]

CONSERVATION STATUS None.

DATE OF COMPILATION 27/8/87

COLONY DESCRIPTION

North facing chalk cliffs overlain by varying depth of boulder clay, height ranging from 50' to over 300' at end; very indented coastline with quite a few sea caves.

LANDING/ACCESS/OWNERSHIP

Public footpath runs along top of cliffs for whole length. Access below cliffs at Cattlemere Hole, Selwick's Bay, North Landing and Thornwick Bay. Possible to cover a good deal of the base of the cliffs from these points but local knowledge advisable to avoid being cut off by incoming tide.

ORNITHOLOGICAL HISTORY

Not known.

BREEDING SEABIRDS & STATUS

Fulmar, herring gull, guillemot, razorbill, puffin, kittiwake, shag.

COUNTING PROBLEMS

Some difficulty around centre of colony.

OTHER NOTES

Section from 220.728 to 176.747 is R.S.P.B. Bempton Reserve (not counted).
Section north from 176.747 included in TA17.

BIBLIOGRAPHY

Not known.

Natural England Evidence Statement Regarding Kittiwake Count Data Used to Classify the Flamborough Head & Bempton Cliffs SPA

SEABIRD COLONY REGISTER

Data Sheet

Name: [redacted]

Year: 1987

Give address on back of sheet if different from Colony Register Form

Colony Name: North Cliff, Flamborough Hd

Notes: Use back of sheet

County/District: Humberside

FOR OFFICE USE: TA243728

FILL IN HERE

SPECIES			DATES OF COUNTS	ACCURATE COUNT	RANGE OF ESTIMATE min.	RANGE OF ESTIMATE max.	Unit	Method	Br. Status
Fulmar	022	1516	15/6/87	1360			2	1	13
Manx shearwater	046								
Storm petrel	052								
Leach's petrel	055								
Gannet	071								
Cormorant	072								
Shag	080	1516	15/6/87	15			2	1	13
Arctic skua	567								
Great skua	569								
Black-headed gull	582								
Common gull	590								
Lesser black-back	591								
Herring gull	592	1516	15/6/87	1160			2	1	13
Great black-back	600								
Kittiwake	602	1516	15/6/87	8368			2	1	13
Sandwich tern	611								
Roseate tern	614								
Common tern	615								
Arctic tern	616								
Little tern	624								
Guillemot	634	1516	15/6/87	2988			1	1	13
Razorbill	636	1516	15/6/87	312			1	1	13
Black guillemot	638								
Puffin	654	1516	15/6/87	896			1	1	06

FILL IN HERE

UNIT
1 = Individual bird on land
2 = Apparently occupied nest
3 = Apparently occupied territory

COUNTING METHOD
1 = From land 4 = Land photo
2 = From sea 5 = Sea photo
3 = From air 6 = Air photo
7 = Others, give details in Notes.

BREEDING STATUS
01 = Bird in habitat
02 = Singing in habitat
03 = Pair in habitat
04 = Territory
05 = Display
06 = Nest site
07 = Anxious parent
08 = Incubation
09 = Nest building
10 = Distraction
11 = Used nest
12 = Fledged young
13 = Occupied nest
14 = Food for young
15 = Nest + eggs
16 = Nest + young.

SEABIRD COLONY REGISTER

Data Sheet

1 5 | 1 2 1 6 |
10 15 | T A 2 3 5 6 9 2 8 7 | FOR OFFICE USE
20 | 1 3 |

Name: [redacted]

Year: 1987

Give address on back of sheet if different from Colony Register Form

Colony Name: South Landing, Flamborough Hd

Notes: Use back of sheet

County/District: Humberside

FILL IN HERE

SPECIES			DATES OF COUNTS	ACCURATE COUNT +	RANGE OF ESTIMATE min.	max.	Unit	Method	Br. Status
Fulmar	022	0216	3/6/87	1103			2	1	13
Manx shearwater	046								
Storm petrel	052								
Leach's petrel	055								
Gannet	071								
Cormorant	072								
Shag	080								
Arctic skua	567								
Great skua	569								
Black-headed gull	582								
Common gull	590								
Lesser black-back	591								
Herring gull	592	0216	3/6/87	111			2	1	13
Great black-back	600								
Kittiwake	602		[redacted]		300		2	1	13
Sandwich tern	611		1986, 2 colonies in TA2469						
Roseate tern	614								
Common tern	615								
Arctic tern	616								
Little tern	624								
Guillemot	634								
Razorbill	636								
Black guillemot	638								
Puffin	654								

FILL IN HERE

UNIT
1 = Individual bird on land
2 = Apparently occupied nest
3 = Apparently occupied territory

COUNTING METHOD
1 = From land 4 = Land photo
2 = From sea 5 = Sea photo
3 = From air 6 = Air photo
7 = Others, give details in Notes.

BREEDING STATUS
01 = Bird in habitat
02 = Singing in habitat
03 = Pair in habitat
04 = Territory
05 = Display
06 = Nest site
07 = Anxious parent
08 = Incubation
09 = Nest building
10 = Distraction
11 = Used nest
12 = Fledged young
13 = Occupied nest
14 = Food for young
15 = Nest + eggs
16 = Nest + young.

Appendix 5. SCR Count forms for 1987 for Speeton

SEABIRD COLONY REGISTER

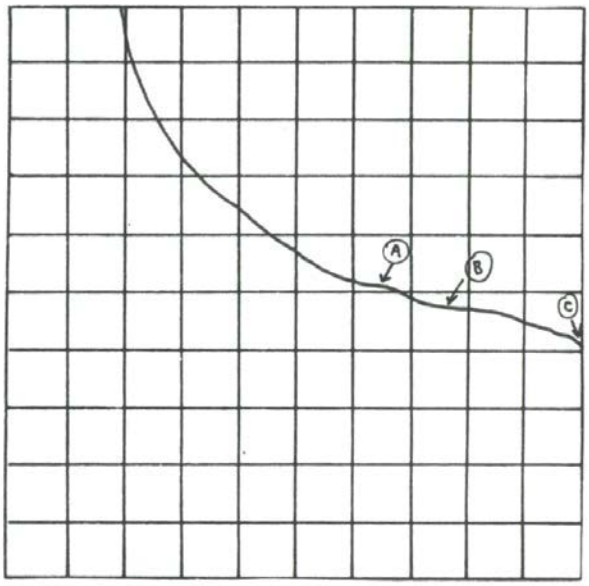
TEN KM SQUARE SUMMARY Square no. T A 1 7

Observer [redacted] County / District North Yorkshire / Humberside

Address [redacted]

Date 16/8/87

Sketch coastline using 1 km squares marked in box. Show exact position/extent of seabird colonies & indicate any parts of the coast you did NOT survey. Use this space and back of card to list colonies by name, & for additional details.



The area between Points (B) and (C) lies within the R.S.P.B. Bempton Reserve.

The colony between Points (A) and (B) termed 'Speeton Cliffs'. No birds North of Point (A).

SEABIRD COLONY REGISTER

Colony register form

Office use

COLONY NAME Speeton Cliffs.

LOCATION

Cliff start	TA	160	752
Cliff end	TA	200	740
Col. centre	TA	168	750

DESCRIPTION OF LOCATION

South side of Filey Bay and northernmost section of Flamborough Cliffs.

COMPILER'S NAME & ADDRESS if different from 10 km summary

As summary. [redacted]

CONSERVATION STATUS None.

DATE OF COMPILATION 28/8/87

COLONY DESCRIPTION

North facing chalk cliffs overlain by varying depth of boulder clay, rising steeply from about 100' at start to 400' at end.

LANDING/ACCESS/OWNERSHIP

Access below whole length of cliffs just about possible at low tide but not to be recommended due to difficult nature of bouldery terrain. Public footpath runs along top of cliff.

ORNITHOLOGICAL HISTORY

Not known.

BREEDING SEABIRDS & STATUS

Fulmar, herring gull, guillemot, razorbill, puffin, kittiwake.

COUNTING PROBLEMS

Some difficulty at S. end of colony due to height of cliffs.

OTHER NOTES

None.

BIBLIOGRAPHY

Not known.

SEABIRD COLONY REGISTER

Data Sheet

FOR OFFICE USE: 1215 / TA16575087 / 33831

Name: [redacted]

Year: 1987

Give address on back of sheet if different from Colony Register Form

Colony Name: Speeton Cliffs

Notes: Use back of sheet

County/District: North Yorkshire / Humberside

FILL IN HERE

SPECIES			DATES OF COUNTS	ACCURATE COUNT	RANGE OF ESTIMATE min.	RANGE OF ESTIMATE max.	Unit	Method	Br. Status
Fulmar	022	0716	7/6/87	32			2	1	13
Manx shearwater	046								
Storm petrel	052								
Leach's petrel	055								
Gannet	071								
Cormorant	072								
Shag	080								
Arctic skua	567								
Great skua	569								
Black-headed gull	582								
Common gull	590								
Lesser black-back	591								
Herring gull	592	0716	7/6/87	22			2	1	13
Great black-back	600								
Kittiwake	602	0716	7/6/87	1727			2	1	13
Sandwich tern	611								
Roseate tern	614								
Common tern	615								
Arctic tern	616								
Little tern	624								
Guillemot	634	0716	7/6/87	290			1	1	13
Razorbill	636	0716	7/6/87	26			1	1	13
Black guillemot	638	0716							
Puffin	654		7/6/87	54			1	1	06

FILL IN HERE

UNIT
1 = Individual bird on land
2 = Apparently occupied nest
3 = Apparently occupied territory

COUNTING METHOD
1 = From land
2 = From sea
3 = From air
4 = Land photo
5 = Sea photo
6 = Air photo
7 = Others, give details in Notes.

BREEDING STATUS
01 = Bird in habitat
02 = Singing in habitat
03 = Pair in habitat
04 = Territory
05 = Display
06 = Nest site
07 = Anxious parent
08 = Incubation
09 = Nest building
10 = Distraction
11 = Used nest
12 = Fledged young
13 = Occupied nest
14 = Food for young
15 = Nest + eggs
16 = Nest + young.

Appendix 6. Summary of 1987 SCR counts from Bempton Annual Report (Phillips 1987).

Extract from
Bempton Cliffs Annual Report 1987 - Peter Phillips.

2.3 Seabird colony register

The 1986 annual report indicates that the counts conducted for the 'seabird colony register' were less than adequate. I therefore determined to repeat the counts in an attempt to acheive greater precision. The counts were limited to the reserve recording area - Speeton Heights to Gull Nook - as the area outside of this was being counted by [redacted] of the Bridlington members group.

Counts were made from both the clifftops and from boats. The clifftop counts stare in late May and continued until mid-July. The aok species being counted first (in order that Guillemots and Razorbills were counted during their optimum counting period.). These were followed by the Kittiwakes from mid-June; Fulmar, Herring Gul and Shag during late June and early July; and Gannet through to mid-July. Addition counts of total Puffin numbers in late July yielded a maximum count of 6,050 on 27 whilst a count of Gannet chicks in mid-August showed about 660 to be present.

I enlisted to help of two competent volunteers to assist with the clifftop counts. each counted a section of cliff, then swapped over, so that each section was count at least twice by independant observers. Where our results differed by greater tha 5% the section were recounted together. This proved quite acceptable (with only a few sections having to be recounted), except in the case of the Puffin where the apparent numbers on the cliff could change substantialy in less than an hour.

Five boat based counts were undertaken, two concentrating on the Gannets whilst th other three concentrated on the remaining species. Assistance was recieved on two of these boat based counts. The counting of the Gannets and Shags was relatively easy from the boats. The remaining species being somewhat more difficult with Fulma and Herring Gull proving virtually impossible. The Kittiwake and auk counts proved acceptable but yielded up to 20% lower figures than the clifftop counts. This was taken into consideration when estimating the number on the sections of the cliff which could not be counted from the clifftops.

@	Kittiwake.....(occupied nests).....	75,000
@	Guillemot.....(individuals).....	29,300
@	Razorbill.....(individuals).....	7,350
*	Puffin.....(individuals - max, late July).	6,050
@	Fulmar.....(occupied nests).....	700
@	Herring Gull.....(occupied nests).....	950
£	Shag.....(occupied nests).....	16
£	Gannet.....(occupied nests).....	780

@ = An accuracy of the order of 10% is believed to have been achieved. The accuracy of the clifftop counts were of the order of 5% but the boat based counts would have reduced this accuracy.

* = An accuracy of the order 20% is believed to have been acheived.

£ = An accuracy of the order 5% is believed to have been acheived.

(x% = + or - x%)

Appendix 7. Statement from JNCC on the 1987 Kittiwake Count Data from Flamborough Head and Bempton Cliffs SPA (provided 28/05/2014)

Joint Nature Conservation Committee

1987 Kittiwake Count Data from Flamborough Head and Bempton Cliffs SPA

Introduction
The Joint Nature Conservation Committee (JNCC) recognise that there has been some debate regarding the validity of the kittiwake count data from breeding seabird surveys at Flamborough Head and Bempton Cliffs SPA in 1987. This note is intended to clarify the situation so that the appropriate count data is used in any environmental impact assessment (EIA) or Habitats Regulations Assessment (HRA) relating to the SPA.

Correct count data
JNCC have examined all kittiwake count evidence available, including original paper survey forms and reports, from the 1987 breeding seabird survey within the area now defined as Flamborough Head and Bempton Cliffs SPA. We consider the count of 85,395 apparently occupied nests (AONs) to be correct. This figure combines 75,000 AONs recorded within the Bempton Cliffs RSPB reserve with 1,727 and 8,668 AONs respectively recorded in the remaining SPA areas to the north and south of the reserve respectively.

Justification
The paper record examined shows that there was condemnation of a 'count' from 1986 at 'Bempton Cliffs' as inferior and derived from an earlier (1979) estimate. Accordingly, a re-survey of 'Bempton Cliffs' in 1987 was undertaken by RSPB staff and volunteers, in co-ordination with surveys of other areas ('North Cliff', 'South Landing', 'Speeton') by non-RSPB personnel.

It is also shown in the paper record that there are clearly defined boundaries for various count sections in 1987 (from grid references and hand drawn maps) ensuring sections surveyed did not overlap (to avoid double counting). The appropriate count units are clearly stated for kittiwakes (apparently occupied nests - AON) and suitable count dates are provided for the 1987 survey (from mid-June).

We can also confirm that the cliffs were counted using suitable methods (specifically from land with hidden sections counted from boat to achieve complete coverage; surveyors also worked together comparing counts to achieve consensus and reduce error). An estimation of the accuracy of the 'Bempton Cliffs' land-based and sea-based counts are also provided in the paper record.

Copies of all the relevant survey sheets can be made available for further scrutiny, if required.

Conclusion
Based on the evidence outlined above, JNCC advise that the correct count data highlighted above should be used from now on.