

pollution still kills

Bibl. C.J. Camphuijsen

Reprints BOX Nr. 159

140574

Colin Bibby and W R P Bourne
report on the results of the 1972-
73 Beached Bird Survey

For the second successive winter it is good to report a low level of oil pollution and consequent seabird mortality on British shores. The Beached Bird Survey continued to collect information from a regular sample of over a thousand miles of coast and the results are shown in Table 1 (compare the previous year from *Birds* November 1972).

The range of coverage improved considerably thanks to the dedication of the many loyal voluntary helpers. Both the numbers of birds found per kilometre and the percentage oiled were marginally lower than last winter though the similarity between the two years suggests that these are probably the kind of figures to be expected at the best of times. In 1971-72 there was a marked peak of mortality and oil pollution in the middle of the winter, but this was not apparent in 1972-73. This might be the result of the extremely mild weather, or perhaps the westerly winds which may have drifted the bodies towards the continent.

For the fifth year in succession we made a special effort in late February when coverage abroad was also attempted. The results of this are shown in more detail in Table 2. A team led by Norman Hammond (RSPB local representative for Cumbria and one of our most dedicated beached bird helpers) went to Denmark and covered the west coast in conjunction with local ornithologists. This is the first time that such a survey has been organised in the area. In south-west Denmark bodies were found at the rate of nearly seven per kilometre, with eiders and scoters as the main species (by comparison the average on British coasts was 0.5 birds/km).

E Kuyken organised a survey in Belgium for the Belgian Youth Federation for the study of Nature and covered some French and Dutch coasts as well. The results showed a greater number of birds and degree of oiling than in the previous two winters. Scoters were numerous oil victims but auks predominated, indeed more auks were found in his 273 km sample of European coastline than in the whole 2336 kms checked in Britain and Ireland. These results together with those published previously show a pattern of serious oil pollution stretching from the channel coasts of France through Belgium, the Netherlands and Germany to Denmark. It seems that oil spilled in the major shipping lanes of north-west Europe is most likely to come ashore on the continent with our prevailing westerly winds. In Britain last winter the highest mortality was in the north-west which was also exposed to an unusually prolonged spell of onshore south-westerlies before the count.

In the last two winters we have made

Table 1 Results of beached bird surveys in winter, 1972-73

	Sep	Nov	Jan	Feb	Mar	TOTAL
Kms covered	2004	1893	2062	2336	1599	9894
Corpses found	815	662	733	1167	626	4003
Percentages oiled	22	29	35	26	29	28
Birds per km 72-73	0.41	0.35	0.36	0.50	0.39	0.41
Birds per km 71-72	0.14	0.40	0.51	0.71	0.48	0.48

sample surveys further south in Portugal, Spain, Majorca, Morocco and Madeira. Virtually all beaches examined were littered with weathered lumps of crude oil but no dead oiled birds were found. It seems that in warm conditions oil rapidly loses its volatile components and becomes harmless to birds.

From July 1972 to June 1973, nine acute oiling incidents were recorded as affecting a minimum of 1,500 birds, mainly auks. In the previous winter there were 11 such incidents so this seems to be the average sort of level for a "good" winter and supports our view that the number of birds killed in such recognisable incidents is probably less than the total killed by routine chronic oiling which continues all round the country throughout the year.

Acute oiling incidents can however do serious harm to local bird populations. For example oil in Conway Bay in November 1972 included a number of great crested grebes in its victims though luckily the main flock there had dispersed. In autumn, this site holds one of the largest gatherings of these grebes in the country and will be few miles from trouble when Shell's new marine oil terminal off Amlwch comes into operation. The following month some 300 oil victims came ashore in East Anglia and these included not only scoters but also divers - relatively scarce species with a tendency to congregate there in winter. Apart from these two incidents, it was as usual the auks and especially guillemots which headed the casualty lists.

All British incidents were however dwarfed by the Danish disasters in 1972 described by Anders Holm Joensen in *Marine Pollution Bulletin* (August 1973). The first in March involved 12-15,000 eiders, 10,000 common scoters and 7,000 velvet scoters in an area of the Kattegat frequently polluted by ships entering or leaving the Baltic. In December 200,000 ducks, the largest concentration ever reported in Denmark, were threatened by oil in the eastern Waddensea. A minimum of 30,000 perished. It is now thought that even duck populations in spite of their greater reproductive capacity will not long tolerate damage on the present scale. It is good news that a further oil leak following a

collision off east Denmark in January 1973 was successfully contained in the first major Danish pollution control exercise. We hope the authorities will be able to keep this up.

The most publicised British accident of the year did not have such encouraging results. On 24 June the Liberian registered tanker *Conoco Britannia* had an engine failure in the Humber, ran aground and ruptured a tank on her own anchor. Although this occurred at the finest time of year and close to a much publicised pollution control unit about 400 tons of oil escaped and much of it went to sea. Fortunately the winds prevented it reaching the huge bird cliffs at Flamborough Head and Bempton. Most of the oil eventually came ashore and killed few birds. Those examined by Dr John Croxall at Newcastle were considered to have suffered as much from the detergents used for dispersal as from the oil itself. This incident emphasises the importance of trying to contain an oil slick with booms or similar means as soon as possible rather than relying on detergents or favourable winds to disperse it.

A problem with beached bird surveys has always been the interpretation of the results and particularly the calculation of the total number of birds killed. The best previous evidence was obtained when 20 per cent of experimentally ringed corpses put in the Irish Sea in May 1969 were recovered along the coast of north-west England. To help investigate further, nearly 400 gull corpses were ringed by kind permission of the British Trust for Ornithology and dropped from the Liverpool-Isle of Man ferry in early February. Over the next four weeks, the winds were strong south-westerly and within a week bodies were coming ashore in Lancashire and Cumberland. It appeared that many of the corpses spent some time just offshore in a way that had been noted in the 1969 Irish Sea bird kill; only after a long period of onshore winds were all the bodies beached, the final total being nearly 60 per cent. The higher level than previously found was probably caused by a combination of proximity to the shore, more persistent winds and lower temperatures reducing the rate of decomposition. Further experiments are planned to resolve some of these problems.

Counting the cost of damage done by oil will never be easy but this was the aim of a study commissioned by the Department of Trade and Industry for the International Marine Pollution Conference 1973. We were able to provide evidence from the Beached Bird Survey on the damage done to birds by oil pollution. The study suggested that the only economic costs of oil pollution were those of cleaning up specific incidents; damage to the tourist industry and fisheries being dismissed as insignificant or inadequately proven by the available evidence. Birds were assessed on their entertainment value and an attempt was made to evaluate this by considering the number of people visiting the RSPB reserve at Minismere and the amount they spend in doing so. It was concluded that such a reserve probably had a direct economic value of £750,000 a year, so this was probably the minimum the population might pay to maintain birds in their present environment. As the first impartial analysis of the economic value of a nature reserve this study is of considerable interest. Although much of the report can be criticised in its methods and conclusions, it is certainly heartening to see that damage to birds begins to be taken seriously.

The IMCO conference aims to eliminate intentional discharge of oil and other noxious substances at sea by 1975 if possible

but by the end of the decade at latest. We very much hope that these aims are achieved. In the last few years the number of intentional oil discharges from tankers has undoubtedly decreased with improved legislation and greater public awareness of pollution problems (in which ornithologists have played a major role). Sadly this does not mean the end of oil at sea as a hazard to birds partly because while there may now be fewer tanker accidents they are likely to be more serious, because the endless minor spills from other shipping are harder to control and also because of the recent discovery and imminent exploitation of oil beneath the North Sea, and possibly in other British coastal waters.

We are also carrying out further investigations of the occurrence of toxic chemicals in seabirds. While they have failed to support suggestions that high levels are accumulating in puffins, analyses organised by Dr Jim Bogan of the Veterinary School at Glasgow University have confirmed that polychlorinated biphenyls (PCBs) and lesser amounts of the DDT breakdown product DDE are now universally distributed in North Atlantic seabirds. Even in the Arctic, Bill Bourne found a glaucous gull with high PCB and DDE levels dying in convulsions after it had been eating the contaminated eggs of other species. Equally high PCB levels, reaching

505 parts per million in the liver and comparable to those found in dead auks during the bird kill in the Irish Sea in 1969 were present in a dead kittiwake found at Barrow in Furness in March 1973 while Messrs Parslow, Jeffries and Hanson also reported raised levels in the livers of gannets found around the Irish Sea in the summer of 1972. Among other possible pollutants, we have failed to find raised mercury levels in birds occurring out at sea, but these are now high in some birds feeding in estuaries such as divers and seaducks, notably a red-breasted merganser from Aberdeenshire, which contained five times the amount considered toxic at the time of the Irish Sea bird kill. Some preliminary results are listed in *Marine Pollution Bulletin* (November 1972 and May 1973) and further investigations are continuing. ■

Organisation of the beached bird survey is not the Society's only contribution towards the conservation of seabirds. There is a continual liaison with government departments and other interested organisations, such as the Advisory Committee on Oil Pollution of the Sea and the Seabird Group. A conservation planning officer has recently been appointed to deal with possible threats to birds and their environment from development of the North Sea Oil. Over half of the RSPB's 50 reserves include seabird colonies.

Table 2 Dead birds found on international beached bird survey, 24-25 February 1973

Kilometres	Denmark		Nether-lands	Belgium	France	Scotland		NE	E	England			Wales	Ireland	Channel Isles	UK & Eire Total	Grand Total
	E & NW	SW				W	E			SE	SW	NW					
	502	206	29	63	181	286	430	233	249	193	118	435	163	176	53	2336	3317
Divers	7	26	1	4	21	1	1	—	7	—	—	8	—	4	—	21	80
Grebes	—	—	5	7	24	—	—	—	1	—	—	4	—	—	—	5	41
Fulmar	38	21	2	—	2	1	5	—	1	—	—	12	4	1	—	24	87
Gannet	7	10	4	4	39	4	2	—	—	—	1	6	—	1	2	16	80
Cormorant/Shag	2	2	—	—	1	8	16	—	1	1	3	22	4	5	1	61	66
Eider	13	561	1	—	—	10	17	1	—	—	—	—	—	—	—	28	603
Scoters	12	342	10	19	46	—	3	—	1	—	—	3	1	1	—	9	438
Other wildfowl	7	74	3	1	11	2	14	—	4	1	—	83	2	—	—	106	202
Waders	2	30	7	2	8	23	14	—	11	1	—	67	5	—	1	122	171
Gulls	143	247	14	42	186	46	128	22	35	14	5	238	18	4	5	515	1147
Razorbill	17	6	6	25	113	7	9	1	8	—	4	22	2	6	2	61	228
Guillemot	36	41	4	12	131	7	70	16	10	—	—	18	51	11	3	186	410
Puffin	—	—	—	—	1	—	—	—	—	—	—	1	—	—	—	1	2
Miscellaneous	4	15	1	8	8	—	5	—	—	—	—	4	2	1	—	12	48
TOTAL	288	1375	58	124	591	109	284	40	79	17	31	521	49	26	11	1167	3603
Birds/km	57	6.67	(2.00)	1.97	3.27	38	86	17	32	09	26	1.20	30	15	21	50	
% oiled	50	31	98	86	82	11	24	(43)	53	(24)	(81)	18	27	(69)	—	26	

Figures in brackets are from small samples