

POST-RELEASE SURVIVAL OF
OILED SEABIRDS:
COMMENTS ON SOME OF THE IMPLICATIONS
OF SHARP'S RECENT PAPER
*DE OVERLEVING VAN GEREHABILITEERDE
OLIESLACHTOFFERS:
EEN COMMENTAAR OP HET ARTIKEL VAN SHARP*

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ABSTRACT

*The post-release survival of cleaned and rehabilitated Common Guillemots *Uria aalge* in the United Kingdom is discussed. Where a recent paper on the survival of these birds in the USA concluded that very few, if any, survived to return in the breeding population and where treatment of oiled birds before and after 1989 in the USA appeared to lead to the same, discouraging results, it is claimed that the chances for survival in oiled, cleaned and rehabilitated Common Guillemots in the United Kingdom have improved over the last 12 years. It is shown that in Plymouth between 2% and 9% of the released birds is immediately recovered on the beach. A further study showed that of 824 Common Guillemots released after treatment, cleaning and rehabilitation between 1985 and 1990 from the RSCPA Wildlife Hospital at West Hatch, near Taunton, Somerset, 62 recoveries have been recorded (7.5%), of which 15 birds had lived several years and 47 were recovered immediately.*

INTRODUCTION

The publication in *Ibis* of a paper on the post-release survival of oiled seabirds in North America (Sharp 1996) was heralded by a surprising degree of press and media coverage for a scientific paper. This, no doubt, was due to the current circumstances of the *Sea Empress* which at the time was discharging its cargo into the sea off Milford Haven (Wales), creating another environmental disaster that would involve a large number of seabirds, the ultimate fate of which related to the subject matter of Sharp's paper. The media coverage that preceded the actual publication of *Ibis* 138 created a large degree of irritation and even annoyance. This was due to the fact that the high point spectacular statements made, indicating a survival period of

released seabirds after cleaning and treatment for oil contamination, was only a few days. There were no supporting details to these statements and no statistical information to give credence to them. This created a very demoralising effect on organisations and individuals caught up in the *Sea Empress* oil spill. It was some considerable time before the scientific data relating to these statements could be studied and verified.

Ibis is a very prestigious journal and there can be little doubt that the statistical data and conclusions, presented by Sharp (1996), are correct. However, there are areas of consideration that may not have been taken into account and which may reveal a rather different picture in the United Kingdom than exists in North America. These expected differences are the subject of this comment on the paper of Sharp (1996).

RINGING REHABILITATED OILED BIRDS IN BRITAIN

The Royal Society for the Prevention of Cruelty to Animals (RSPCA) and the South West Oiled Seabird Group (SWOSG) have worked for many years on the treatment, cleaning and rehabilitation of oil contaminated seabirds, 90% of which are Guillemots *Uria aalge*, and the vast majority of these are victims of chronic oil pollution and not the massive spillage of oil from a grounded tanker such as the *Braer* in Shetland or the *Sea Empress* in Wales. Since 1985, some 600 Guillemots were ringed and have been released from a rehabilitation centre in Plymouth. In addition, large scale releases of treated, cleaned and rehabilitated Common Guillemots and Razorbills are undertaken from other oiled seabird units on the South Devon coastline. During the winter period 1995/96 (which includes birds from the *Sea Empress* grounding), >500 were released from Berry Head near Brixham (50°24'N, 3°29'W) and >100 birds from Wembury near Plymouth (50°19'N, 4°05'W).

CHRONIC POLLUTION VERSUS OIL INCIDENTS

Most oiled birds which are captured alive and brought into rehabilitation centres in the U.K. are victims of chronic oil pollution. Chronic pollution usually consists of oil slicks or 'patches' of oil that have diffused on the water allowing the very toxic light hydrocarbons to evaporate, leaving a relatively low toxic emulsified mousse residue. Pollution from a grounded tanker is usually an on going long term leakage of oil, over several days, which spreads rapidly with little effective evaporation, maintaining a thick spread of oil over large areas of the surrounding sea and nearby shoreline. The dif-

Table 1. Ring sequences of Common Guillemots rung after treatment and cleaning for oil contamination, released from Plymouth Seabird Unit between February 1985 and April 1996.

Tabel 1. Ringseries van Zeekoeten die na behandeling en schoonmaak in een opvangcentrum in Plymouth werden vrijgelaten tussen februari 1985 en april 1996.

Ring sequences	dates	controlled	number of days	percentage of
Ringseries	data	gecontroleerd	release-recovery aantal dagen tussen uitzetten en terugvinden	released birds recovered (%) percentage van vrijgelaten vogels terug (%)
T19401-19500 (100 rings)	4 Feb 1985→ 23 Jan 1988	T194 12 T194 45 T194 52 T194 53 T194 54 T194 68 T194 79 T194 83 T194 88	3 19 4 18 3 34 33 7 9	9%
T32151-32200 (50 rings)	24 Jan 1988→ 14 Dec 1989	T32 177 T32 196 T32 197 T32 200	8 5 9 3	8%
T78351-78400 (50 rings)	20 Dec 1989→ 10 Mar 1990	T783 53 T783 54 T783 76	2 2 5	6%
T80901-80950 (50 rings)	11 Mar 1990→ 1 Feb 1991	T809 11 T809 19 T809 31 T809 34	14 26 7 19	8%
T96001-96100 (100 rings)	2 Feb 1991→ 9 Feb 1993	T960 08 T960 16 T960 22 T960 46 T960 61 T960 98	4 0 13 4 127 4	6%
X20001-20050 (50 rings)	10 Feb 1993→ 17 Jan 1994	X200 01 X200 07 X200 26	3 58 26	6%
X35901-36000 (100 rings)	18 Jan 1994→ 4 Mar 1995	X359 54 X359 77	12 491	2%
X44401-44500 (100 rings)	5 Mar 1995→ 6 Apr 1996	X444 11 X444 18 X444 35	6 7 11	3%

ference must influence the survival prospects of contaminated seabirds, with the potential for a seabird to survive being greater in the chronic pollution situation. Sharp (1996) did not, or possibly could not indicate any differentials in the contamination source, either chronic or from a major spill, to which the seabirds in his study had been subjected.

Table 2. Common Guillemots ringed and recovered in the United Kingdom in 1994, plus the total number of Guillemots ringed and recovered from U.K. colonies (BTO 1996).

Tabel 2. Aantallen in 1994 op de Britse Eilanden geringde en teruggemelde Zeekoeten en het totaal aantal geringde en teruggemelde Zeekoeten (BTO 1996).

Guillemots ringed in 1994			recovered	Grand total	
juv/adult pullus	total			ringed	recovered
Zeekoeten geringd in 1984				Totaal generaal	
juv/adult onsjong	totaal	terugmeldingen		geringd	terugmeldingen
1481	11 394	12 875	305	188 869	5543
			2.6%		2.9%

IMPROVED TREATMENT AND CLEANING PROTOCOLS

A further factor is the treatment and cleaning protocols, used at the various rehabilitation centres, from 1969 onwards. Sharp (1996) points out that there is little statistical difference in mean survival days for birds before 1989 and after 1989. The implication drawn from this must be that the methods in the USA, although updated to a 'state of the art level' during that period, have not been effective. In the United Kingdom over the last 10-12 years, the RSPCA and SWOSG have improved treatment and cleaning protocols extensively. This is reflected in Table 1, where it will be seen that the percentage of 'ringed birds recovered' has improved significantly, from 9% in 1985/88 to 2% and 3% in 1995/96. In 11 years, between February 1985 and April 1996, some 600 Common Guillemots were ringed at the RSPCA oiled sea-bird units and released after treatment, cleaning and rehabilitation processes. Shown here is the number of recoveries per ring sequence and the number of days between each release and recovery (Table 1). It is of course evident that the short term recoveries (0-127 days) do reflect the level of failure of these Common Guillemots to survive after treatment. This equates to between 2% and 9% over the period, leaving a minimum of 91% of birds that may have survived for an extended period, possibly even several years, or alternatively to have perished and never been recovered. It would be a very pessimistic outlook to suggest that the latter was the case for all 91%.

We believe this improvement in recovery rate could be due, in part, to the fact that in latter years we have introduced a 'First Aid' treatment to immediately address the effects of hypothermia, ingested toxins and to minimise factors as much as possible. This treatment can be given virtually at the point of rescue. However, we believe it can only be organised where

there is a regular influx of contaminated seabirds. This is the case, during winter months, in the South West peninsula of the United Kingdom where several hundreds of seabirds can be washed ashore annually. This has evolved a planned treatment and cleaning process, administered and co-ordinated by people with many years experience in the field. This can rarely be the case with a major tanker spill, when, from the very outset, treatment usually starts at a make-shift level, normally with local volunteers learning the treatment skills as they go. Thankfully, such a major incident does not occur very often but it would be very difficult and extremely expensive to improve the response situation due to the number of unknown factors inevitably involved.

RECOVERIES OF RINGED GUILLEMOTS

The statistical comparisons made by Sharp (1996), between the numbers of returns and controls of ringed oiled birds and those of birds, of the same species, rung normally (in the case of the Common Guillemot the former being birds in, at least, their second calendar year and the latter being flightless young) must, as previously stated, concur with the appropriate probability tests. However, it is of some concern that the data sample, for Common Guillemots, is very small for such a long time period ($n = 78$ for the period 1969-1994).

In the United Kingdom, the percentage recovery and control of rung seabirds is very low (Table 2). Because of the large number of Common Guillemot involved in oil pollution incidents, this species provides the largest data sample and on this basis is the subject of the ringing data in this report. This equates in percentage terms to 2.6% birds recovered and controlled in 1994 and 2.9% birds of the grand total (Table 2). These figures do not include birds released after treatment for cleaning from oil pollution. If the survival mean days of Guillemots released after treatment and cleaning were as low as indicated by Sharp (21 and 5 days respectively = mean and median values for Common Guillemots) there would be a far higher recovery figure for birds as either carcasses or in a moribund condition. This would especially apply on the South Devon coastline which is relatively densely populated during winter months by people generally very aware of oil pollution and seabird contamination. Further, this coastline is frequently and extensively monitored by SWOSG members. There would appear to be an apparent lack of evidence to support parallel or similar statistical conclusions for the United Kingdom, which is further supported by the ringing data from the RSPCA oiled seabird units (see above).

Reasons for a more optimistic outlook, we believe, reflected in the data from the RSPCA Wildlife Hospital at West Hatch, near Taunton, Somerset. The data are not available to the author in the same detailed form as shown in Table 1, but contained in an unpublished report entitled "*Survival rates of oiled British birds after release*" (March 1996). From the report, of 824 Common Guillemots released after treatment, cleaning and rehabilitation between 1985 and 1990, 62 recoveries have been recorded (5.7%), of these:

- 10 birds survived 2 years (approx. 730 days)
- 1 bird survived 3 years, 8 months (approx. 1335 days)
- 1 bird survived 5 years, 7 months (approx. 2035 days)
- 1 bird survived 6 years, 8 months (approx. 2430 days)
- 2 birds survived 9 years, 10 months (approx. 3585 days)

In percentage terms these 15 long term controls equate to 1.8%, which is comparable to the figure of 2.6% recorded in the 1994 BTO Ringing Report for Common Guillemots recovered and controlled during that year (Table 2). The remaining 47 recoveries account for the 'returned failures', which equates 5.7% falling well within the range of 2-9% recorded by the Plymouth unit (Table 1).

DISCUSSION

We conclude that there would appear to be an apparent lack of evidence to support parallel or similar statistical conclusions for the United Kingdom as published by Sharp (1996). This must point to a need for further research and similar studies being undertaken in Europe, possibly for instance in south-west England. I fully endorse Sharp's suggestion that energies should be focused towards prevention rather than cure. However, we are living in the real world, no matter what safeguards are in place, so long as oil is transported by sea, disasters, spills and illegal discharges will happen.

It would be desirable and very useful if a consensus could be reached between scientific and welfare opinions as to the best methods and treatment regimes which should be applied to these seabird victims. To achieve this aim, much more research is needed, particularly into stress factors and the clinical effects these can bring about. We also believe more work should be done confirming minimum recovery weight. The SWOSG is currently undertaking a pilot study recording core temperatures of oiled seabird victims. It is hoped this data will help to establish the minimum hyperthermic condition

from which recovery can be made. Funding is needed for comprehensive research programmes. It would be a further satisfactory situation if the oil industry, probably the wealthiest industry in the world, could help finance such research programmes.

In conclusion, we think Sharp's paper should be taken as exactly what it is, a scientific study of the post-release survival of oiled, cleaned seabirds in North America. The compensation claims and extensive litigation that is subsequently involved in oil pollution can be very, very expensive. We hope this is not a motivating factor behind this study.

SAMENVATTING

Toen in 1996 het ongeluk met de Sea Empress in Wales voor een geweldige olievervuiling zorgde van de Ierse Zee kwamen de Britse media met een voorpublicatie van een Amerikaanse studie waaruit zou blijken dat de rehabilitatie van olieslachtoffers een uiterst kostbare en vooral volkomen zinloze activiteit zou zijn. Omdat de gewraakte publicatie (Sharp 1996) nog op zich liet wachten, leidde dit nieuws in de kranten tot een niet geringe irritatie bij de mensen die juist met de gevolgen van het nieuwe olie-incident te maken hadden: een niet aflatende stroom met olie overdekte vogels. In dit commentaar worden kanttekeningen geplaatst bij de Amerikaanse resultaten van het uitzetten van met olie besmeurde vogels. Vastgesteld wordt dat er aan de Britse zuidkust veel meer olieslachtoffers vallen door chronische olievervuiling dan door grote olierampen, zoals de Braer in Shetland, de Exxon Valdez in Alaska en de Sea Empress. Gesuggereerd wordt dat de betrokken mensen in de asiels daardoor veel meer ervaring hebben bij de opvang van olieslachtoffers dan de inderhaast opgetrommelde vrijwilligers bij de genoemde incidenten. In Groot Brittannië wordt bovendien al 12 jaar gewerkt aan een steeds effectievere 'eerste hulp' voor olieslachtoffers, waardoor er de laatste jaren aanmerkelijk minder geringde, uitgezette, herstelde olieslachtoffers 'onmiddellijk' worden teruggemeld. Vanuit het asiel in Plymouth nam het aantal terugmeldingen in de loop van 12 jaren af van 9% tot 2-3%. Ter vergelijking, van de op de kolonies geringde Zeekoeten wordt gemiddeld ruim 2% teruggevonden of gecontroleerd. Nog duidelijkere resultaten werden geboekt door een vogelhospitaal in West Hatch, vlakbij Taunton (Somerset), waar 824 Zeekoeten werden vrijgelaten tussen 1985 en 1990. Onder in totaal 62 terugmeldingen van Zeekoeten (7.5%) waren 15 vogels die verscheidene jaren in leven waren gebleven (1.8%), terwijl 47 exemplaren onmiddellijk werden teruggevonden en als 'mislukt' kunnen worden beschouwd. Omdat de Britse zuidkust grondig wordt onderzocht, wordt ervan uitgegaan dat de niet teruggemelde vogels naar alle waarschijnlijkheid niet meteen zijn omgekomen en deze groep wordt daarom eigenlijk tot de 'successen' gerekend. De auteur pleit voor uitgebreid onderzoek waarin zowel verbeteringen in de behandeling van met olie besmeurde zeevogels als de effectiviteit van de rehabilitatie ter discussie komen te staan.

REFERENCES

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Zeekoet *Uruba aalge* terug op land kort na vrijlating uit een asiel.
Guillemot returns on land shortly after release (photo M.F. Leopold).