

## **Final discussion and concluding remarks**

[ *First session* ] Summarized by J.A. van Franeker. Concluded was, that the sampling of oil (or rather 'substances') from feathers and beaches is a valuable way of tracing and monitoring sources of pollution. There was a general feeling that oil sampling could improve future Beached Bird Surveys (BBS) to a greater extent than nowadays and several participants suggested to expand the oil sampling project (now Netherlands, Germany and Denmark) with participants from other countries (CJC, HS, MLT). It was recommended that sampling methods were improved to enhance the possibilities for statistical analysis (representativity), and that any sampling programme should be embedded in an international programme for BBS. It was noted, that in order to obtain a maximum effect in policy decisions or in order to secure fundings of further joint projects on BBS and oil sampling, politicians (e.g. the North Sea Task Force) should be informed in time about these efforts and should be given results in frequent reports in understandable language (WL, BW). MLT asked for better definition of the question behind these programmes, but concluded that the

Dutch, German and Danish cooperation in analyzing oil on beached birds seemed to give satisfactory results. CJC preferred to have one backing institution for analysis and (international) coordination. JD concluded that future funding is needed. TK remarked that the possibilities for the identification of oil depends of the type of oil. Only crude oils can be identified easily, while half of the observed slicks concerned fuel oil discharges, which are unidentifiable. Half of the shipping movements along the Dutch coast is just passing by. Only a combination of several aspects makes proof useful in court. In conclusion, Germany, Denmark and Netherland will continue their cooperation (CJC, JD, HS). Belgium and Norway have expressed their wish to join the programme and await further information (AF, CJ). The situation in Shetland is different, but MH showed his interest.

The investigations of the effects on seabirds by non-mineral oils need further study and discussion (CJC). In case of non-mineral oil a large (random) sample is needed to make a prediction about seabird mortality caused by non-mineral oil. Because the discharge of non-mineral oil is legal, this problem must be solved (MLT). Sampling techniques, and methods of random sampling, should indeed be improved and this will require a technical workshop on these matters (CJC). The North Sea Directorate is certainly interested and would like to be involved in a sampling project for non-mineral oils (MB, TK). The Toxicological Department of the Veterinary Institute is very interested, but unfortunately it may have to close down (RSB). The result of all our efforts should mean a change of the law or regulation rather than just figures and data (MLT).

*[ Second session ]* Summarized by A. Webb. One of the important things which turned up are the fluctuations in numbers of birds killed by oil discharges in certain areas. Changes in the proportion of contaminated birds show a decline in the western North sea. This may be caused by low sampling along the British coast. There was a general feeling that indeed, coupling beached bird surveys and oil sampling (plus oil analysis), North Sea wide, would be very valuable. Most represented countries gave positive reactions. There are reservations and limitations and we need to know what mortality by oil means to the overall mortality (AW). A longer, technical discussion will be required, to discuss methods and to discuss the sort of information which should/could be derived from BBS (LC, CJC, MLT). Additional to a European BBS coupled with an oil sampling programme, there should be dissection of birds to study mortality factors in more detail. Veterinary analysis would also be required (HSa, MLT). A professional coordinator will be needed in the future (MFL, AW). It would be valuable to take away all the doubts before we become "European" and to reach an international agreement on methods and aims with an EBBS (CJC). We need the name and adress of those who are interested in discussing this matter on a technical workshop, well before the next ministerial North Sea conference is held. It was remarked that the North Sea Task Force has sufficient contact points. Ministerial conferences take a long time to prepare, so recommendations have to

be sent to the North Sea Task Force at least one year before date (Anon.).

[ *Third Session* ] Summarized by C.J. Camphuysen. Important conclusions from this session were (1) the number of oil slicks at sea did not decrease since MARPOL Annex 1 entered into force, (2) methods to deal with trespassers varied between countries and international agreements were difficult to reach, (3) when the decision has to be made to clean up an oil slick, the presence of vulnerable concentrations of seabirds is generally not taken into account.

There are several procedures to clean up beaches (TK), but slicks at sea do more damage (JAF). The North Sea Directorate decides whether or not to clean up an oil slick (TK). It usually is a matter of time. Small slicks disperse naturally. On average 10 slicks are cleaned up annually by Dutch authorities and 100 tonnes of oil is recovered in these operations. There are emergency plans for big spills. To get to a slick would take six to twelve hours by ship. Stationing a ship in areas with vulnerable concentrations of birds could be valuable (MLT). TK replies that cleaning up slicks happens whenever possible. The penalties for discharging illegally plus the bill for cleaning up are presented to the polluter. Cleaning up is done especially if the bill can be presented.

[ *Fourth session* ] Summarized by M.F. Leopold. The situation with oil incidents needs better coordination, the need for a professional coordinator has been put forward. A meeting, to improve cooperation during oil incidents or mass strandings, will be convened by the Ministry of Agriculture, Nature Management, and Fisheries (AB). The Dutch Seabird Group (NZG/NSO; CJC), the Netherlands Institute for Sea Research (NIOZ; MFL), the North Sea Directorate (TK) and Vogelbescherming (HP) will be invited. MFL promises that NIOZ reports about dissections on oiled seabirds in the early 1980s will be published. Agreement is reached to cooperate with dissections in future (CJC, MFL). NZG/NSO will be informed by the authorities about incidents about clean up operations. In return, NZG/NSO will inform governmental bodies about mass strandings (CJC).

**Abbreviations:** MB M.Bommel , RSB R.S.Boshuizen, LC L.Campbell, CJC C.J. Camphuysen, JD J.Durinck, AF A.Follestad, JAF J.A.van Franeker, MH M.Heubeck, WL W.Lammers, MFL M.F.Leopold, CJ C.Joiris, TK T.Kramer, HP H.Peeters, HSA H.Sandee, HS H.Skov, MLT M.L.Tasker, AW A.Webb, BW B.van der Wetering