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Waterbirds around the world

A global overview of the conservation,
management and research of the
world's waterbird flyways

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landbouw, natuur en
voedselkwaliteit



SCOTTISH EXECUTIVE



EDINBURGH, UK: THE STATIONERY OFFICE

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First published in 2006 by The Stationery Office Limited
71 Lothian Road, Edinburgh EH3 9AZ, UK.

Applications for reproduction should be made to Scottish Natural Heritage,
Great Glen House, Leachkin Road, Inverness IV3 8NW, UK.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN 0 11 497333 4

Recommended citation:

Boere, G.C., Galbraith, C.A. & Stroud, D.A. (eds). 2006.
Waterbirds around the world. The Stationery Office, Edinburgh, UK. 960 pp.

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Revision of Danish EU Bird Directive SPAs in relation to the development of an offshore wind farm: a case study

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Petersen, I.K. 2006. Revision of Danish EU Bird Directive SPAs in relation to the development of an offshore wind farm: a case study. *Waterbirds around the world*. Eds. G.C. Boere, C.A. Galbraith & D.A. Stroud. The Stationery Office, Edinburgh, UK. pp. 750-751.

Danish marine inshore waters are major staging and wintering grounds for huge numbers of migratory waterbirds. At least five to seven million individuals of more than 30 species winter in these areas, and much greater numbers exploit them for staging on migration (Laursen *et al.* 1997). In some cases, these concentrations constitute the entire breeding or flyway populations of northwest Palearctic species and are of major international importance (Rose & Scott 1994, 1997, Laursen *et al.* 1997, Delany & Scott 2002). As a consequence, Denmark has obligations under international legislation and as a signatory to international conventions, such as the African – Eurasian Migratory Waterbird Agreement under the Bonn Convention, the Ramsar Convention and the EU Birds Directive. Such treaties require states to protect the habitats and maintain the populations of migratory birds using the territory of those states. The majority of Danish SPAs (Special Protection Areas) under the EU Birds Directive are marine, all of which were classified in 1983.

As part of a programme to develop renewable energy sources, a government action plan launched five offshore demonstration wind farm projects in Danish waters in 1997. The aim of the projects was to provide information about their engineering and economic feasibility as well as assessing their effects on the environment, especially the potential impacts on waterbirds. All projects were obliged to undertake full Environmental Impact Assessments (EIAs) prior to construction, as well as post-construction monitoring. Results from these projects would provide background information to support the development of policy relating to future offshore wind farm developments.

One such wind farm, consisting of 33 wind turbines spread over an area of approximately 20 km², was planned south of the island of Læsø. Bird numbers and distributions were studied within a 5 600 km² survey area. This large study area was chosen because of the intention of extending the windfarm and developing capacity to exploit up to 2 000 MW of wind power in the area. In addition, these shallow waters were considered to constitute a single biogeographical unit for Common Scoter *Melanitta nigra*.

Between 1999 and 2001 a total of 15 aerial surveys were conducted by the National Environmental Research Institute (NERI) using a high winged, twin-engined Partenavia P-68 Observer, designed for general reconnaissance purposes. Survey flight altitude was 76 m and cruising speed approximately 185 km/h (100 knots). The whole study area was covered by a total of 30 north-south parallel transects, flown at 3 km intervals, covering a total linear track of 1 800 km.

The surveys revealed huge concentrations of wintering, as well as moulting, Common Scoter (Figs. 1 & 2). Although the existence of these concentrations were already known (Laursen *et al.* 1997) and previous aerial surveys had encountered up to 900 000 Common Scoters in the study area, this was the first survey to

establish their total extent and detailed geographical distribution. Data presented from this study are based on the number of birds encountered from the line transect samples, so the actual number of birds is expected to be at least two or three times higher than the number of individuals encountered (Petersen *et al.* 2003).

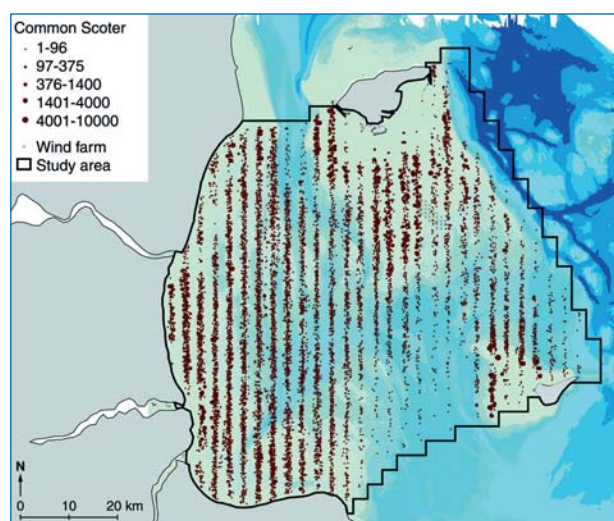


Fig. 1. Distribution of wintering Common Scoter *Melanitta nigra* in the survey area (October to April).

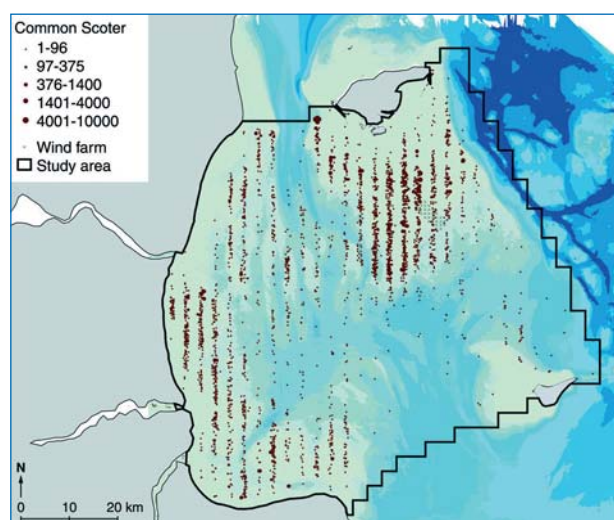


Fig. 2. Distribution of Common Scoter *Melanitta nigra* in the survey area during the moulting period (July to September).

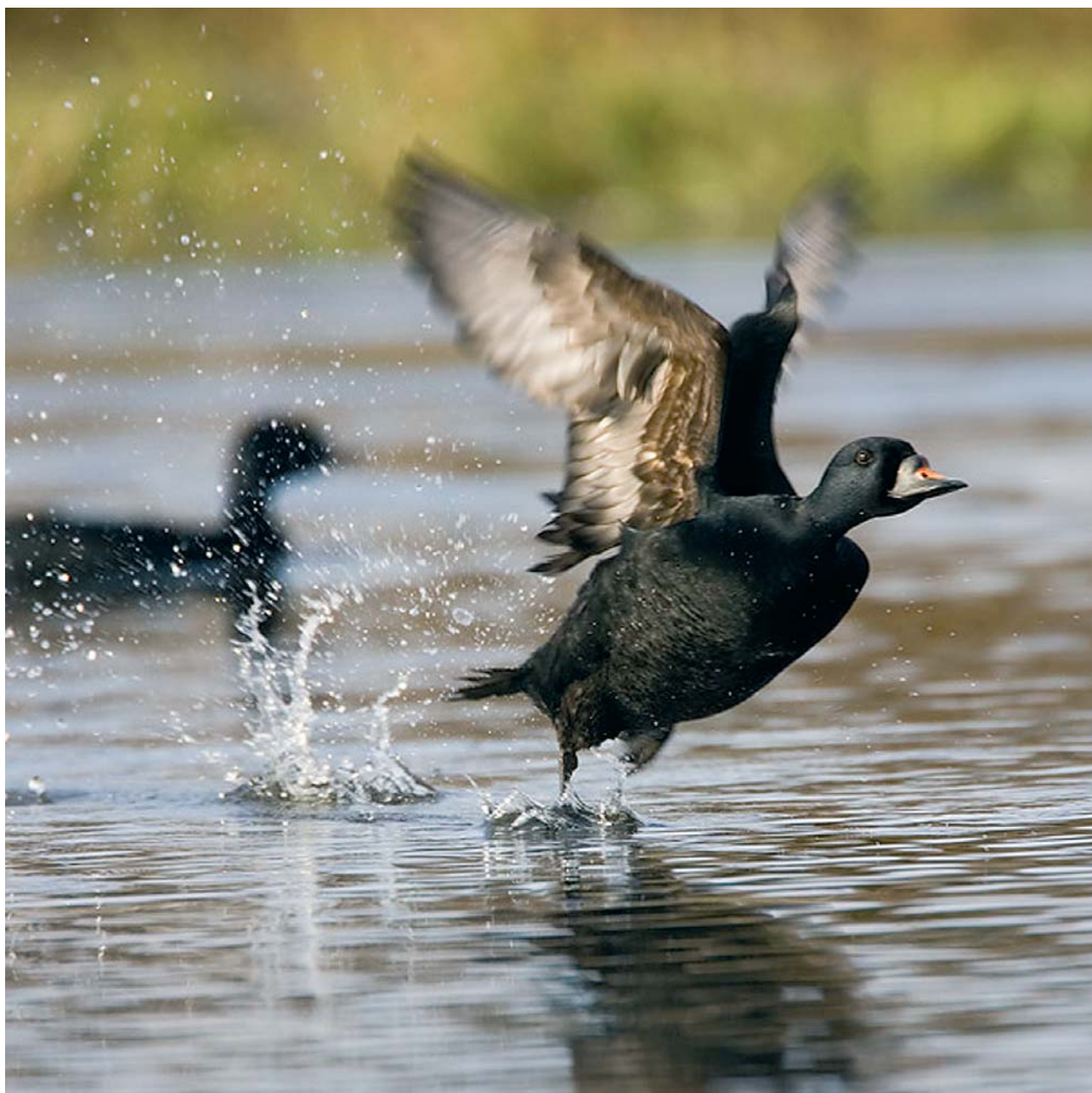
During winter, Common Scoters were scattered over shallow areas of the study area, particularly in the vicinity of the proposed wind farm and in the western parts of the area. In the moulting period (July to September) the birds were concentrated

in the vicinity of the proposed wind farm, with lower concentrations in the western parts of the study area.

Thus the location of the proposed wind farm was close to concentrations of wintering and moulting Common Scoters, giving some cause for concern for their future favourable conservation status. Based on this new information it was decided to adjust the position of the proposed wind farm by 10 km, in order to avoid conflict with concentrations of Common Scoter. In addition it became clear that less than half of Common Scoters present in the study area were detected within boundaries of existing SPAs. This led to the enlargement of two SPAs and the designation of one new area so as to include 98% of the Common Scoters in the study area.

REFERENCES

- Delany, S. & Scott, D.A.** 2002. Waterbird population estimates. Third Edition. Wetlands International Global Series 12. Wageningen, The Netherlands. 226 pp.
- Laursen, K., Pihl, S., Durinck, J., Hansen, M., Skov, H., Frikke, J., & Danielsen, F.** 1997. Numbers and distributions of waterbirds in Denmark 1987-1989. Danish Review of Game Biology 15(1): 1-184.
- Petersen, I.K., Fox, A.D. & Clausager, I.** 2003. Distribution and numbers of birds in Kattegat in relation to the proposed offshore wind farm south of Læsø - Ornithological impact assessment. Report commissioned by Elsam Engineering A/S. National Environmental Research Institute. 116 pp.
- Rose, P.M. & Scott, D.A.** 1994. Waterfowl population estimates. IWRB Publication 29. Slimbridge, UK. 102 pp.
- Rose, P.M. & Scott, D.A.** 1997. Waterfowl population estimates. Second Edition. Wetlands International Publication No. 44. Wageningen, The Netherlands. 106 pp.



Although breeding on freshwater wetlands, Common Scoters *Melanitta nigra* overwinter in Danish inshore waters in internationally important numbers. Photo: Daniel Bergmann.