

J O I N T
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C O M M I T T E E



**STANDARDISED METHODS FOR
SEABIRD SURVEY AT SEA FROM SHIPS
IN EUROPE**

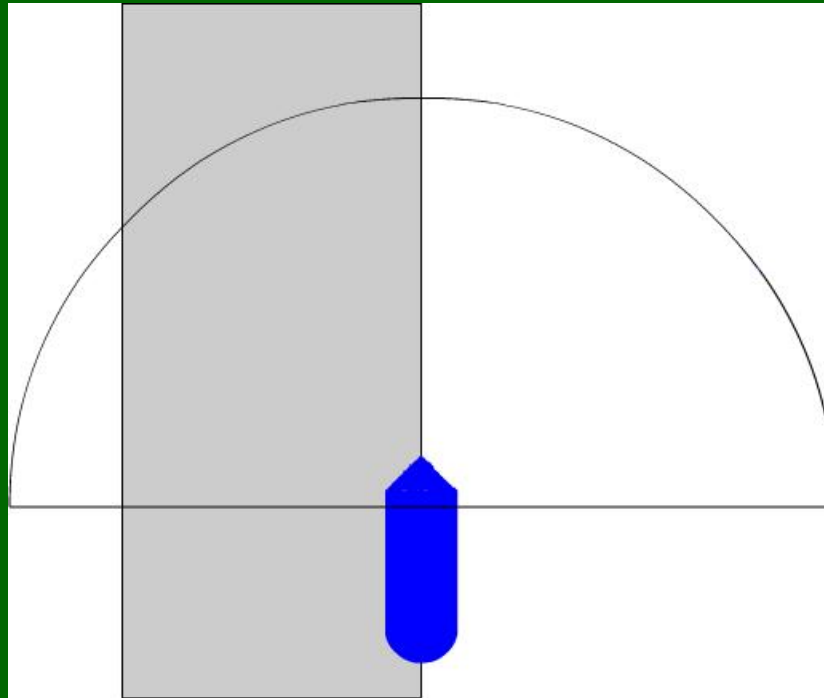
Andy Webb

HISTORY OF AT-SEA SURVEY PROGRAMMES IN EUROPE

- First major at-sea projects started in 1970s
- Suitable methods and computerization of sightings data essential for success of NCC project in 1979
- **Tasker *et al.* 1984. *Auk*, **101**, pp. 567-577.**
- Other programmes and workers extended coverage during 1980's using compatible methods

Standardized methods

- Described as a continuous 180° forward scan with concurrent 300m wide strip transect

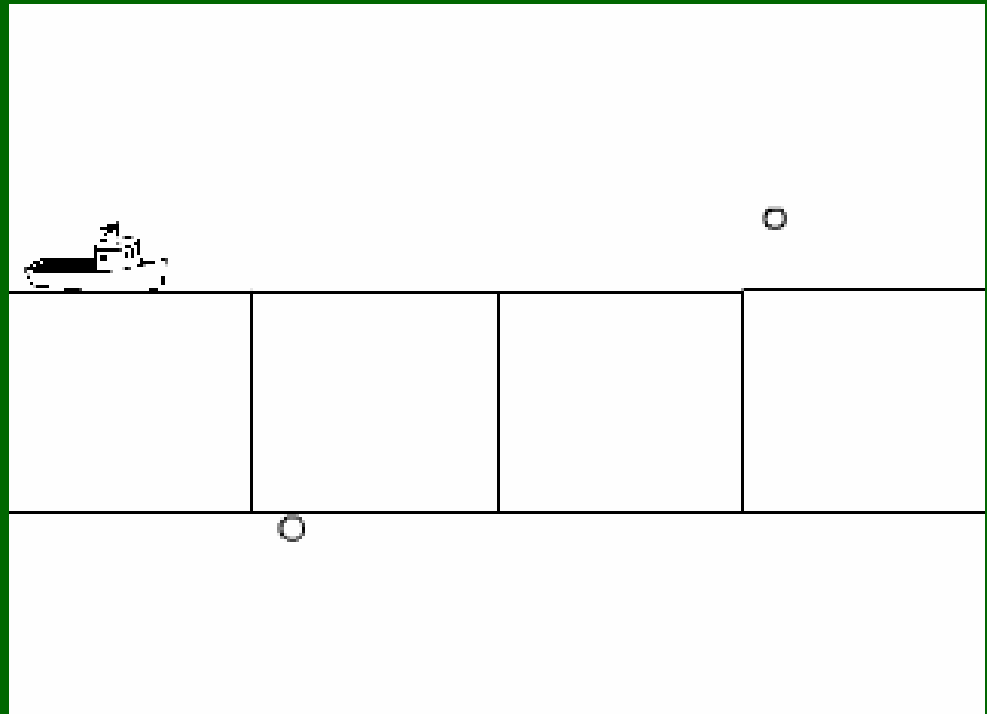


Standardized methods

- Described as a continuous 180° forward scan with concurrent 300m wide strip transect
- Observations separated into 10 minute recording intervals
- Snapshot method used to control for movement of flying birds
- Abundance expressed as Number / km or Number / km²

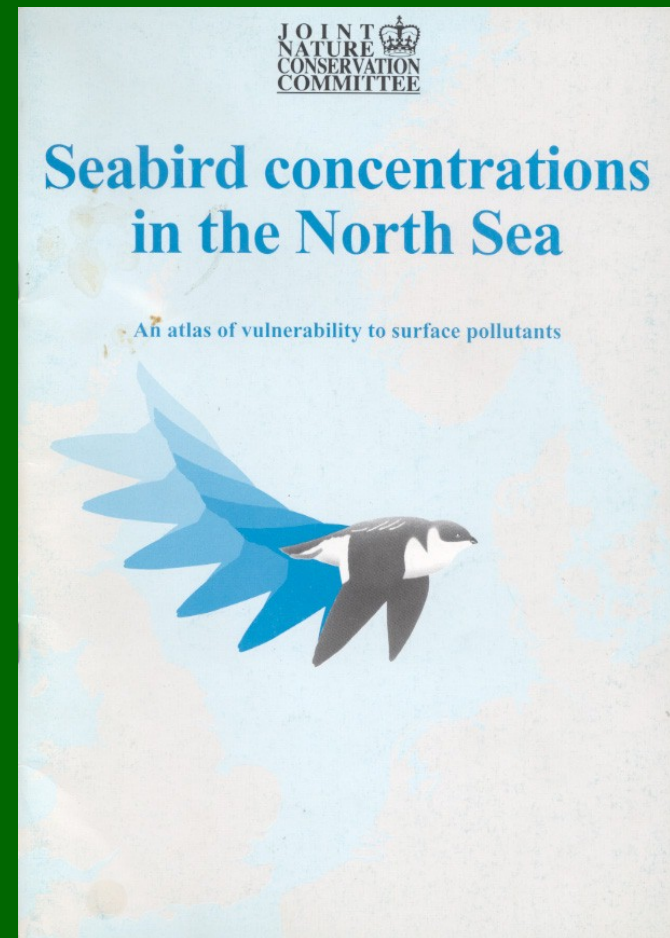
Snapshot method

- Need birds to stay still while you're trying to count them
- Snapshot method “freeze-frames” flight within sections of the strip transect
- Use time signal to indicate snapshot counts



Formation of ESAS

- European Seabirds at Sea Database Co-ordinating Group (ESAS)
- Established in 1991 as a collaboration between individuals and institutes who had collected information on marine distribution of seabirds in the North Sea using minimum standards
- Aim of founding project to merge data from different collaborators and use to publish atlas of vulnerable concentrations of seabirds to oil pollution



Benefits of ESAS

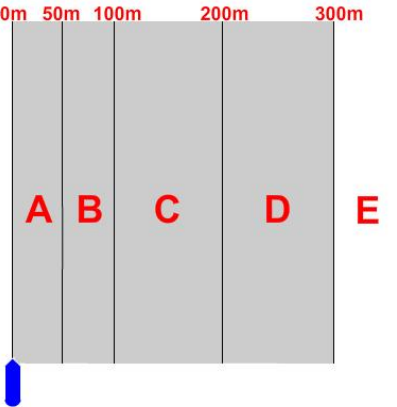
- Establishment of common standards in data collection, data storage
- Development of training standards
- Access (with protocol) to shared database for research purposes
- Collaboration in surveys, research projects and more

ESAS Database

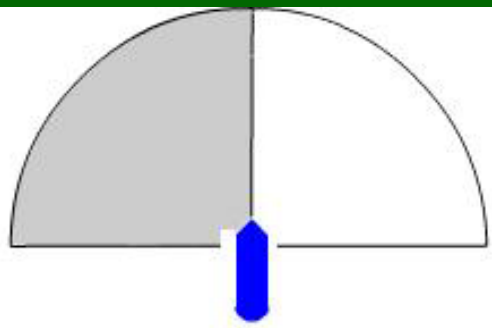
- Static database released in updates to contributors (v4.1)
- Simple relational database (three tables), normalised and described in coding manual
- Coverage centred around NW Europe, but much data available for wider area
- Over 2 million species sightings, 1 million km
- Contributions from 20 individuals and organisations



Improvements to methods



10 minutes
5 minutes
2 minutes
1 minute
Real time



- Distance estimation for birds on the sea using 5 bands
- Shorter time intervals
- 90° instead of 180° scan
- Use two observers and binoculars for some species
- Collection of behavioural data using standardized codes



- Komdeur *et al.* 1992. IWRB Special Publ. No. 19
- Camphuysen *et al.* 2004. COWRIE BAM-02-2002



Key outputs from ESAS DB

- Regional, national and international atlases of seabird and cetacean distribution
- SEA and EIA for offshore developments (oil & gas, wind energy)
- Fisheries management through multi-species models and other investigations of interactions
- Identification of Marine Protected Areas (Special Protection Areas)
- Numerous ecological questions (e.g. time series, behavioural)

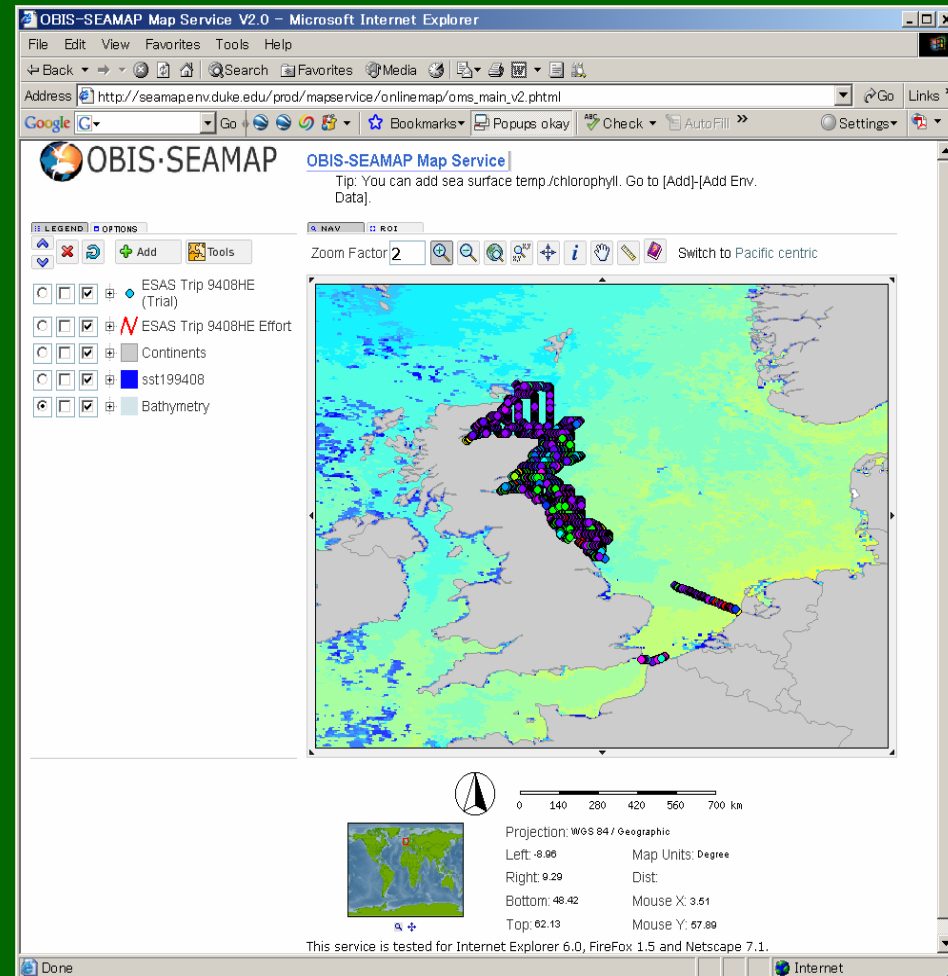


Public Interface

- ESAS datasets available to public compiled with OBIS-SEAMAP standard format
- No sensitive attributes are exposed
- All SEAMAP features are available, including mapping, data download and summary stats

Community Interface

- Newly developed for ESAS
- Full access to database, restricted to ESAS community (login required)
 - SEAMAP holds the data in its original format
- Most of the standard SEAMAP features applicable



Acknowledgements

- Many colleagues in JNCC, ESAS and wider scientific community for ideas behind development of standardized methods
- ESAS members for contributions to the ESAS database
- OBIS-SEAMAP for work to take ESAS to the next stage
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