

Technical Working Group – Density Data

Plan

- Morning
 - Data sources & challenges
- Afternoon
 - Decision support (how do we pick what data to use?)

Challenges

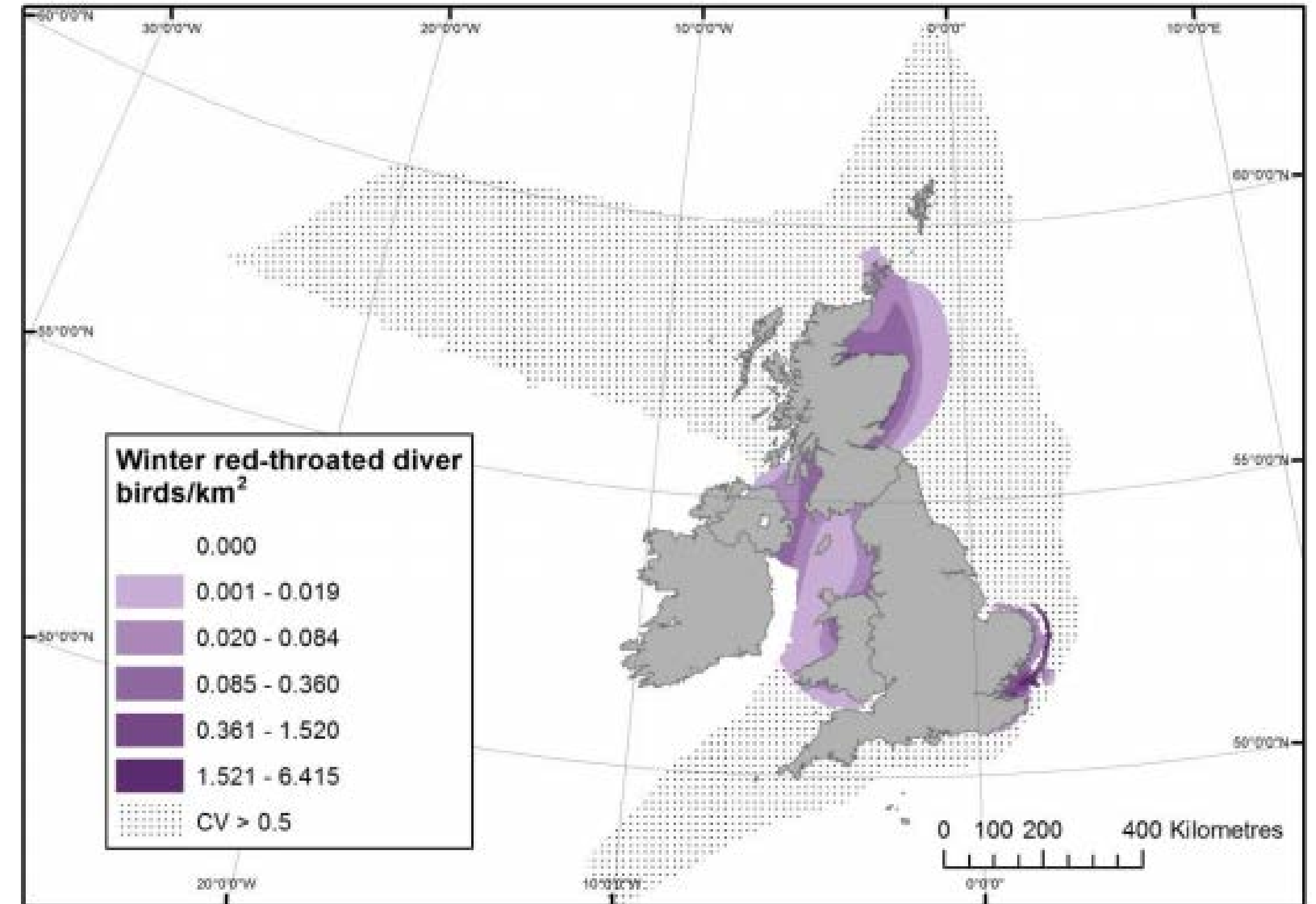
- Tools require different inputs
- sCRM & displacement matrix
 - Monthly densities (in flight)
- SeabORD & Apportioning tool
- Spatial density layers

Challenges

- Best available data
 - Up to date
 - Monthly data
 - Standardised data collection methodology
 - Density estimates with uncertainty
 - % birds in flight
 - WF Buffer zones
 - Spatial layer

Data Sources

- MERP Density layers
- RSPB GPS Tracking layers
- Existing WF ES's
- **Are we missing anything?**



MERP strengths/weaknesses

- Spatial data layers
- Monthly density estimates
- + associated uncertainty
- Separates birds in flight & on water
- Spatial data layers
- Limited species (no terns, GB, Arctic Skua)
- Older data

RSPB Tracking data

- Relatively recent data
- Spatial data layers
- Direct link to breeding colonies
- Doesn't separate flight & on water
- Limited species
- Breeding season only

ES data

- Relates to development concerned
- Usually contemporary to WF construction
- Abundance/density estimates rather than spatial density layers
- Inconsistent approaches, particularly in relation to older projects
- Density vs abundance vs peak counts

ES data

- Monthly vs seasonal
- Distance corrections applied?
- Availability bias accounted for?

Other points to consider

- Buffer zones
- Best place to find final density data used in assessments?
- Should most recent data be prioritised?
- Potential inconsistencies in using different datasets for different tools? (e.g. ES density estimates for sCRM, MERP for SeabORD)

[BREAK – back at 13:00]

Decision support tool

- SeabORD, SNH/MSS Apportioning tool

Non-breeding season → **MERP & BDMPS**

Breeding season & RSPB Tracking data

→ **RSPB Tracking Data**

Breeding season & no RSPB Tracking data

→ **MERP**

Decision support tool

- sCRM & Displacement Matrix

- Monthly density estimates (& uncertainty) from DAS accounting for availability bias
 - Monthly density estimates (& uncertainty) from DAS not accounting for availability bias
 - Monthly distance corrected density estimates (& uncertainty) from line-transect boat survey
 - Monthly distance corrected density estimates (& uncertainty) from line-transect visual aerial survey
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- Seasonal distance corrected density estimates (& uncertainty) from line-transect boat survey
 - Seasonal distance corrected density estimates (& uncertainty) from line-transect visual aerial survey
 - Monthly density estimates from line-transect boat survey
 - Monthly density estimates from line-transect visual aerial survey
 - Seasonal density estimates from line-transect boat survey
 - Seasonal density estimates from line-transect visual aerial survey

USE MERP



- Monthly peak counts from boat surveys
 - Seasonal peak counts from boat surveys
 - Monthly mean counts from boat surveys
 - Seasonal mean counts from boat surveys
 - Raw count data
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- Where do we draw our red line?
 - What do we do about species not covered by MERP?
 - Can we accept a different level for sCRM & Displacement Matrix?