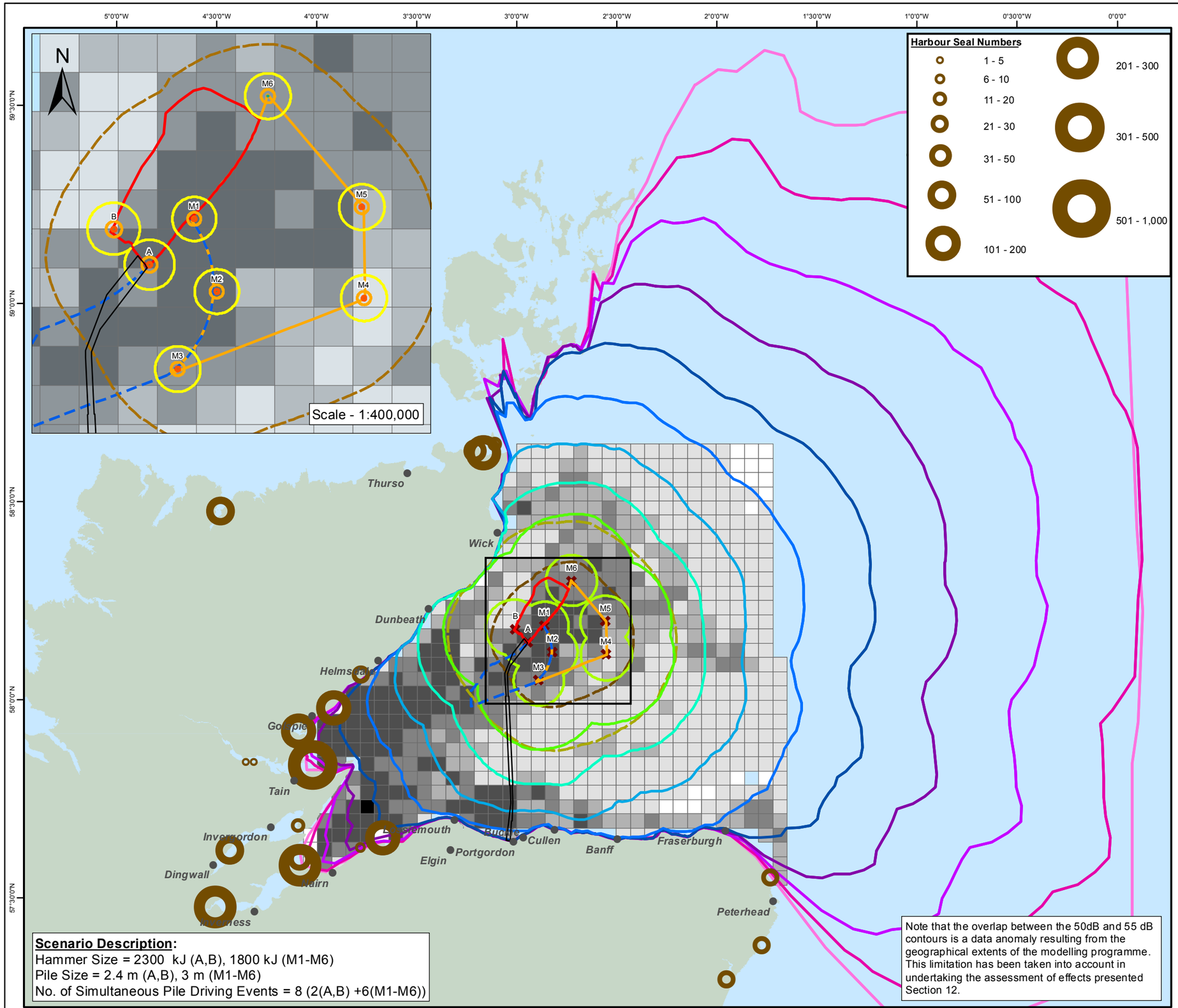
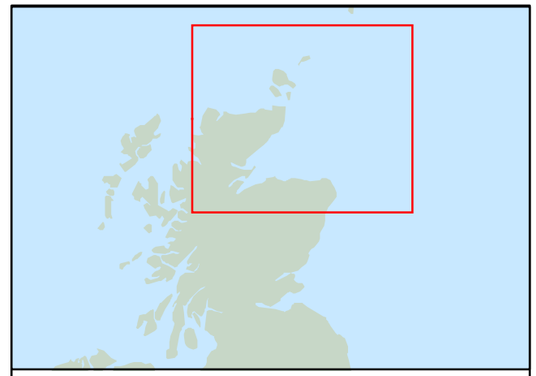


Harbour Seal Numbers

1 - 5	201 - 300
6 - 10	
11 - 20	301 - 500
21 - 30	
31 - 50	501 - 1,000
51 - 100	
101 - 200	

Scenario Description:
Hammer Size = 2300 kJ (A,B), 1800 kJ (M1-M6)
Pile Size = 2.4 m (A,B), 3 m (M1-M6)
No. of Simultaneous Pile Driving Events = 8 (2(A,B) +6(M1-M6))

Note that the overlap between the 50dB and 55 dB contours is a data anomaly resulting from the geographical extents of the modelling programme. This limitation has been taken into account in undertaking the assessment of effects presented Section 12.



Legend

- Wind Farm Site
- Amended OfTW Corridor
- MORL Site - Eastern Development Zone
- MORL Site - Western Development Zone
- Pile Positions

Area of Permanent Physical Injury / Death

- 220 $dB_{(ht)}$ - Unweighted *(Inset Only)*

Area of Permanent Threshold Shift (PTS)

- 198 dB re. 1 $\mu Pa^2/s$ - Fleeing
- 198 dB re. 1 $\mu Pa^2/s$ - Stationary

Area of Behavioural Effect

- 50 $dB_{(ht)}$
- 55 $dB_{(ht)}$
- 60 $dB_{(ht)}$
- 65 $dB_{(ht)}$
- 70 $dB_{(ht)}$
- 75 $dB_{(ht)}$
- 80 $dB_{(ht)}$
- 85 $dB_{(ht)}$
- 90 $dB_{(ht)}$
- 100 $dB_{(ht)}$
- 110 $dB_{(ht)}$ *(Inset Only)*
- 120 $dB_{(ht)}$ *(Inset Only)*
- 130 $dB_{(ht)}$ *(Inset Only)*

Harbour (Common) Seal Density

Proportion per 4 x 4 km Grid Square

- > 0.0 - 0.1 %
- 0.1 - 0.2%
- 0.2 - 0.3 %
- 0.3 - 0.4 %
- 0.4 - 0.5 %

Data Source: Cheney et al 2011
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0 10 20 40 km 0 3.75 7.5 15 nm

UK Offshore Development

Figure 4.11

Noise Contours for the In-Combination Concurrent Piling Scenario (worst case spatially) Overlaid on the Harbour Seal Density Map

Drawn: SC	Checked: TJM	Approved: TJM
Date: 26/01/2012	Scale: 1:1,100,000 @ A3	
Drawing Number: BEA-MAP-EWF-BOWL-376		Revision: 01
Datum: WGS84	Projection: UTM30N	

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File ref: P:\Projects\886 Beatrice Offshore EIA\MXDs\Habitats Regulations Assesment\Revised 20130219\Fig_4.11_Noise_Contours_incombo_piling_Harbour_Seal.mxd