



Legend

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

Area of Permanent Physical Injury / Death

- 220 dB_{re 1 μPa²/s} - Unweighted (*Inset Only*)

Area of Permanent Threshold Shift (PTS)

- 198 dB re. 1 μPa²/s - Fleeing (*Inset Only*)
- 198 dB re. 1 μPa²/s - Stationary

Area of Behavioural Effect

- 50 dB_{re 1 μPa²/s}
- 55 dB_{re 1 μPa²/s}
- 60 dB_{re 1 μPa²/s}
- 65 dB_{re 1 μPa²/s}
- 70 dB_{re 1 μPa²/s}
- 75 dB_{re 1 μPa²/s}
- 80 dB_{re 1 μPa²/s}
- 85 dB_{re 1 μPa²/s}
- 90 dB_{re 1 μPa²/s}
- 100 dB_{re 1 μPa²/s}
- 110 dB_{re 1 μPa²/s} (*Inset Only*)
- 120 dB_{re 1 μPa²/s} (*Inset Only*)
- 130 dB_{re 1 μPa²/s} (*Inset Only*)

Bottlenose Dolphin Presence

Probability per 4 x 4 km Square

- 0
- <0.10
- 0.10 - 0.20
- 0.20 - 0.30
- 0.30 - 0.40
- 0.40 - 0.50
- 0.50 - 0.60
- 0.60 - 0.70
- 0.70 - 0.80

Data Source: Cheney et al 2011
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UK Offshore Development

Figure 4.7
Noise Contours for the In-Combination Concurrent Piling Scenario (worst case spatially) Overlaid on the Probability of Occurrence of Bottlenose Dolphin within the Moray Firth

Drawn: SC	Checked: TJM	Approved: TJM
Date: 26/01/2012	Scale: 1:1,000,000 @ A3	
Drawing Number: BEA-MAP-EWF-BOWL-372	Revision: 01	
Datum: WGS84	Projection: UTM30N	

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))

