



Legend

- Beatrice Offshore Wind Farm Site
- 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	Harbour Porpoise Density
 50 dB _(re. 1 μPa²/s)	 >0 - 5
 55 dB _(re. 1 μPa²/s)	 5 - 10
 60 dB _(re. 1 μPa²/s)	 10 - 15
 65 dB _(re. 1 μPa²/s)	 15 - 20
 70 dB _(re. 1 μPa²/s)	 20 - 30
 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)	
 120 dB _(re. 1 μPa²/s) (Inset Only)	
 130 dB _(re. 1 μPa²/s) (Inset Only)	

Data Source: Cheney et al 2011
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UK Offshore Development

Figure 12.12
BOWL and MORL Cumulative Piling Scenario for Harbour Porpoise

Drawn: SC	Checked: LHu	Approved: VR
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Drawing Number: BEA-MAP-EWF-BOWL-195	Revision: 01	
Datum: WGS84	Projection: UTM30N	

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.

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))