

Table 5.3.2-9 Predicted Underwater Sound Levels Perceived by Finfish (Hearing Threshold Sound Levels) from Pile Driving			
Finfish species	Perceived Sound of Pile Driving (Hearing Threshold Sound Levels - dB <sub>ht</sub> re 1 μPa)		
	At 500 m (1640 ft)	At 320 m (1050 ft)	At 30 m (98 ft)
Tautog	81	85	105
Bass	76	80	100
Cod	87	91	111
Atlantic salmon	72	76	96

**Note:**  
Research shows marine animal avoidance reactions occur for 50% of individuals at 90 dB<sub>ht</sub> re 1 μPa, occur for 80% of individuals at 98 dB<sub>ht</sub> re 1 μPa, and occur for the single most sensitive individual at 70 dB<sub>ht</sub> re 1 μPa. For estimating the zone of injury for marine animals, a sound pressure level of 130 dB<sub>ht</sub> re 1 μPa (i.e. 130 dB above an animal's hearing threshold) is recommended.

Table 5.3.2-10 Calculated Zone of Behavioral Response for Significant Avoidance Reaction to Pile Driving	
Finfish	Distance Where dB <sub>ht</sub> = 90 dB re 1 μPa and Avoidance Reaction May Occur (m)
Tautog	180
Bass	100
Cod	350
Atlantic salmon	60

Table 5.3.2-11 Early Benthic and Pelagic Life Stages of Species with Designated EFH Potentially Present in the Proposed Action Area			
Species	Eggs (E)	Larvae (L)	Potential Time of Year Present in Nantucket Sound
<b>Early Benthic Life Stages</b>			
Winter flounder	X	X	February – July
<b>Early Pelagic Life Stages</b>			
Atlantic butterfish	X	X	April to August
Atlantic mackerel	X	X	Unknown/water temperatures between 5-22.7°C
Black Sea Bass		X	August – September
Summer Flounder	X	X	October – May
Winter Flounder		X	L: March – July. Larvae swim upwards, then sink.

X = Potentially Present in proposed action area  
R = Potentially Present in proposed action area, but would be considered rare  
**Note:** Although king mackerel, Spanish mackerel and cobia have designated EFH for eggs and larval stages, further analysis indicates that they are unlikely to occur in Nantucket Sound (see Section 4.2.4 of the EFH Assessment).