

Table 1. Ship strike reduction measures that have been implemented

Area	Measure	Whale species of most concern	Date implemented	More details
Routing measures through TSS changes (mandatory to the extent that TSS rules apply)				
Canada, East Coast, Bay of Fundy	Relocation of TSS	North Atlantic right whale	2003	Implemented through IMO
Spain, Mediterranean, Cabo de Gata	Relocation of TSS	Important area for several species	2006	Implemented through IMO
Spain, Strait of Gibraltar/Alboran Sea	Relocation of TSS	Important area for several species	2006	Implemented through IMO
USA, East Coast, MA, approaches to Boston	Narrowing and relocation of TSS	Important area for several species.	2009	Implemented through IMO
USA, West Coast, CA, Channel Islands	Relocation of TSS	Blue whale	2012	Implemented through IMO
USA, West Coast, CA, approaches to San Francisco	Extension of TSS	Blue whale	2012	Implemented through IMO
Panama, Pacific approaches to Panama Canal	Relocation of TSS	Humpback whale	2014	Implemented through IMO (COLREG.2/Circ.65) based on Nav 59/3
Routing measures through Areas To Be Avoided				
Canada, East Coast, Nova Scotia	Roseway Basin, seasonal ATBA, 1 Jun - 31 Dec	North Atlantic right whale	2008	Implemented through IMO (Vessels >300GT)
USA, East Coast, MA	Great South Channel, seasonal ATBA, 1 Apr - 31 Jul	North Atlantic right whale	2009	Implemented through IMO (Vessels >300GT)
Costa Rica, Pacific coast	ATBA off Peninsula de Osa	Humpback whale	2017	Implemented through IMO (Vessels >900GT) SN.1/Circ.335
Recommended routes (voluntary e.g. requested by port or regional authorities)				
Argentina, Province of Chubut	Golfo Nuevo, Peninsula Valdes	Southern right whale	Updated 2010	
USA, East Coast, GA	Approaches to Brunswick	North Atlantic right whale	2006	http://www.nmfs.noaa.gov/pr/shipstrike/
USA, East Coast, FL	Approaches to Jacksonville	North Atlantic right whale	2006	http://www.nmfs.noaa.gov/pr/shipstrike/
USA, East Coast, FL	Approaches to Fernandina	North Atlantic right whale	2006	http://www.nmfs.noaa.gov/pr/shipstrike/
USA, West Coast, Ala	Glacier Bay National Park	Humpback whale	Updated 2013	
Canada, East Coast	Gulf of St Lawrence. Avoidance area	Beluga, minke, blue, humpback, fin	2013	http://www.thesolutionsjournal.com/node/237427
Speed restrictions				
USA, East Coast, MA	Cape Cod Bay SMA, 1 Jan - 15 May	North Atlantic right whale	2008, renewed in 2013	Mandatory 10 knots for vessels >65ft LOA http://www.nmfs.noaa.gov/pr/shipstrike/
USA, East Coast, MA	Race Point SMA, 1 Mar - 30 April	North Atlantic right whale	2008, renewed in 2013	Mandatory 10 knots for vessels >65ft LOA
USA, East Coast, MA	Great South Channel SMA, 1 May - 31 Jul	North Atlantic right whale	2008, renewed in 2013	Mandatory 10 knots for vessels >65ft LOA

USA, East Coast (mid Atlantic)	Six individual SMAs, 1 Nov -30 Apr	North Atlantic right whale	2008, renewed in 2013	Mandatory 10 knots for vessels >65ft LOA
USA, East Coast, GA and FL	Brunswick, Fernandina, Jacksonville SMAs, 15 Nov - 15 Apr	North Atlantic right whale	2008, renewed in 2013	Mandatory 10 knots for vessels >65ft LOA
USA, East Coast	Dynamic Management Areas, established when concentrations of whales observed	North Atlantic right whale	2002	Voluntary 10 knots for vessels >65ft LOA
USA, West Coast, Ala	Glacier Bay National Park, localised, seasonal	Humpback whale		Mandatory 10 knots in some areas, 13 in others http://www.gpo.gov/fdsys/pkg/CFR-2012-title36-vol1/pdf/CFR-2012-title36-vol1-sec13-1174.pdf
USA, West Coast, CA	Shipping lanes into Los Angeles and Long Beach	Blue whale		Recommended 10 knots when whales present
Spain	Strait of Gibraltar, Apr - Aug	Sperm whale	2007	Recommended 13 knots, endorsed by IMO
Argentina, Province of Chubut	Golfo Nuevo, Peninsula Valdes	Southern right whale		Recommended 10 knots
Panama	10 knot seasonal speed restriction, Pacific approaches to Panama Canal	Humpback whales	2013	Recommendation, endorsed by IMO, Nav 59/3
Gulf of St Lawrence, Canada	Recommended speed reduction	Beluga, minke, blue, humpback, fin	2014	http://www.thesolutionsjournal.com/node/237427
Gulf of St Lawrence, Canada	Temporary mandatory 10 knot speed reduction in the western Gulf of St. Lawrence from the Quebec north shore to just north of Prince Edward Island.	North Atlantic right whale	2017	Notice to shipping Q1189/2017 issued 11/08/2017, vessels over 20m length
Hauraki Gulf, Ports of Auckland, New Zealand	10 knot speed recommendation	Bryde's whale	2015	https://www.poal.co.nz/community-environment/Documents/HaurakiGulf_voluntary_protocol.pdf
Port of Duqm, Oman	10 knot speed recommendation	Arabian Sea humpback whale	2016	https://www.portduqm.com/Media/News-and-Events/Rare-humpback-whales-collisions-can-be-prevented-in-Oman.html

Table 2. Ship strike areas of particular concern where measures may be considered. There are currently no proposals to IMO that have been considered but are pending adoption.

Area	Measure	Whale species of most concern		More details
Sri Lanka, south coast	Shift in TSS	Blue whale		MEPC 69/10/3
Greece, Hellenic Trench	New TSS	Sperm whale		MEPC 69/10/3

Spain, Canary Islands	PSSA and associated routing	Sperm whale		MEPC 69/10/3
USA, West Coast, CA	Further changes to TSS	Blue whale		See IWC Scientific Committee report 2015 and Irvine et al. 2014 ¹

¹ Irvine, L.M., Mate, B.R., Winsor, M.H., Palacios, D.M., Bograd, S.J., Costa, D.P. and Bailey, H. 2014. Spatial and temporal occurrence of blue whales off the US west coast, with implications for management. PLoS ONE 9(7): 1-10.