Kerch Strait and Taman Bay IMMA

Description

The Kerch Strait and Taman Bay are located between the Sea of Azov and the Black Sea. This IMMA has depths ranging from 1 m to 10 m in the north, and up to 30 m in the south. Taman Bay is a shallow semi-closed lagoon-type bay situated to the north of the Taman peninsula (between the Sea of Azov and the Black Sea). It opens to the Kerch Strait in the west. In the Kerch Strait salinity varies from 10‰ in the northern portion, up to 18‰ in the southern portion, and from 13-19‰ in Taman Bay. Taman Bay freezes during cold winters and remains open during mild winter conditions (Al’tman, 1991).

The Kerch Strait is a migration corridor connecting the Sea of Azov and the Black Sea (Fashchuk and Petrenko, 2008; Drozdov, 2011), thus making this IMMA critically important for the Black Sea harbour porpoise (*Phocoena phocoena relicta*) and the Black Sea bottlenose dolphin (*Tursiops truncatus ponticus*) (Fig. 2). A local coastal population of the Black Sea bottlenose dolphin is present during the summer season (Gladilina et al., 2018). Every spring, the harbour porpoises follow the fish migration into the Sea of Azov. Numerous porpoise bycatch and stranding cases are recorded from this area (Fig. 1) (BLASDOL, 1999; Gol’din, 2004; Birkun, 2006; Birkun and Krivokhizhin, 2011; Vishnyakova et al., 2013; Vishnyakova and Gol’din, 2016; Vishnyakova, 2017; Vishnyakova et al., 2017).

The Kerch Strait with its intensive international shipping has been designated as Cetacean Critical Habitat by ACCOBAMS (Notarbartolo di Sciaara and Birkun, 2010) as the harbour porpoises enter through this narrow strait to feed in the Azov Sea and migrate from there to winter in the Black Sea. The proposed IMMA fully includes the Ecologically or Biologically Significant Marine Area Taman Bay and Kerch Strait.
Criterion A: Species or Population Vulnerability

The Kerch Strait and Taman Bay IMMA provides important habitat for the endangered Black Sea harbour porpoise (*Phocoena phocoena relicta*) listed as Endangered on the IUCN Red List (Birkun, 2002; 2003; Mikhailov, 2005; Birkun and Krivokhizhin, 2011; Savenko et al., 2013; Gol’din et al., in press: Öztürk et al., in press).

Criterion C: Key Life Cycle Attributes
Sub-criterion C2: Feeding Areas

Kerch Strait and Taman Bay is an important area of fish aggregation and migration. Every spring, the Azov anchovy and other fish species migrate to the productive feeding areas of the Sea of Azov and return to the Black Sea in autumn followed by the harbour porpoises. The main fish species which inhabit the area during the warm season are 16 species of gobies, as well as anchovy, herrings, mullets, horse mackerel, red mullet, turbot, sprat, pike perch (Fashchuk and Petrenko, 2008; Drozdov, 2011). Most of them are on the list of primary prey species for the harbour porpoise, particularly gobies and anchovy (Zalkin, 1940; Vishnyakova et al., 2013). Consumption of these fish species was confirmed by their presence in stomach contents and by visual observations (Zalkin, 1940; Gladilina and Gol’din, 2014).

Criterion C: Key Life Cycle Attributes
Sub-criterion C3: Migration Routes

The Kerch Strait is a migration corridor connecting the Sea of Azov and the Black Sea. Every spring the Azov anchovy and other fish species migrate to the productive feeding areas of the Sea of Azov and return to the Black Sea in autumn. The presence of migratory harbour porpoises was recorded during boat and coastal visual observations, passive acoustic monitoring with a C-POD detector and monitoring of stranding porpoises in 2007-2012 (Savenko et al., 2013 Vishnyakova et al., 2013). Autumn migration lasted between October and November, and spring migration lasts between March and April. During the peaks of migration, aggregations of harbour porpoises reach a few thousand individuals. The Kerch Strait is an important wintering habitat and a foraging ground for harbour porpoises where the individuals of the Black Sea and Azov populations occur (Vishnyakova, 2017).

Supporting Information


BLASDOL. 1999. Estimation of human impact on small cetaceans of the Black Sea and elaboration of appropriate conservation measures: final report for EC Inco-Copernicus (contract No. ERBIC15CT960104). C. R. Joiris (Coord.), Free University of Brussels, Belgium; BREMA Laboratory, Ukraine; Justus Liebig University of Giessen, Germany; Institute of Fisheries, Bulgaria; and Institute of Marine Ecology and Fisheries, Georgia. Brussels. 113 pp.


Drozdov, V.V. 2011. Long-term variability of fishery resources of the Black Sea, tendencies, the reasons and prospects. Uchenye zapiski RGGMU V 21:137-154

Fashchuk, D.Ya. and Petrenko, O.A. 2008. 'The Kerch Strait is the most important transport artery and fishing area of the Azov-Black Sea basin'. South of Russia: ecology, development, 1: 15-22.


Figure 2: A Black Sea bottlenose dolphin breaking the surface. Photo: Elena Gladilina.


Acknowledgements

We would like to thank the participants of the 2021 IMMA Regional Expert Workshop for the identification of IMMAs in the Black Sea, Turkish Straits System and Caspian Sea. Funding for the identification of this IMMA was provided by the Global Ocean Biodiversity Initiative funded by the German government’s International Climate Initiative (IKI) and the Tethys Research Institute, through a contribution from the MAVA Foundation. Support was also provided by Whale and Dolphin Conservation.
