

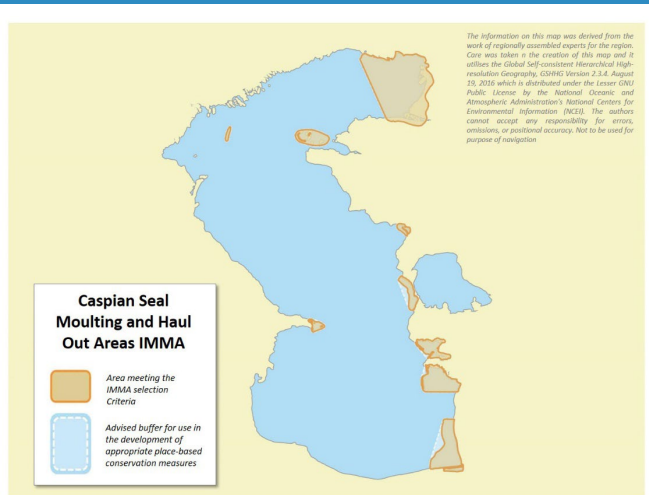
Caspian Seal Moulting and Haul-Out Areas IMMA

Description

As with other pinnipeds, Caspian seals (*Pusa caspica*) haul-out on solid substrates for moulting and resting (Fig. 1). In the Caspian Sea, terrestrial haul-out locations are usually of three main types: 1) small sand banks and narrow sandy peninsulas or spits, often near the tip, with ready access to water on either side, 2) rocky islets and 3) reed mudflats surrounded by very shallow water. Historical accounts suggest that Caspian seal haul-outs were once widespread, but since at least the late 20th Century, the haul-out habitat used by Caspian seals is usually offshore or in remote areas inaccessible by foot from shore. In recent years there are only a few haul-out sites across the whole Caspian known to be used regularly by seals (Wilson and Goodman 2012).

For breeding adults, the spring moult begins on the ice sheet in early to mid-March, and the seals move to nearby haul-out sites on shore when the ice melts. During the moult, Caspian seals typically lie close together in physical contact, often in large groups numbering a few hundreds or thousands of individuals (e.g. Wilson et al., 2014). These dense moulting aggregations were the sites of hunts, which peaked during the first half of the 20th century (Vereshagin, 1938; Badamshin, 1961).

During the summer and autumn foraging period, seals can remain at sea for extended periods, in some cases exceeding 6 months, resting at the water surface rather than coming ashore (Dmitrieva et al., 2016). Therefore, only a few hundred individuals at any one time might be recorded at haul-out sites during the summer, but such aggregations are becoming rare. Scattered small groups and individuals may also use reed beds and partially submerged sandbanks around the margins of the northern basin. During the northward autumn migration, seals returning from the southern and mid-Caspian basins gather, sometimes in large numbers,



Area Size

35,351 km²

Qualifying Species and Criteria

Caspian Seal – *Pusa caspica*

Criteria A, B2, D1

Marine Mammal Diversity

Pusa caspica

Summary

Coastal areas used by Caspian seals for moulting in the spring and haul-out during the summer and autumn migrations in the past 30 years, are listed in this IMMA. Two areas in the north Caspian, the region between the Komsomlolets Bay and Prorva in the northeast, and Malyy Zhemchuzhnyy Island (with associated sandy islands or islets) in the northwest, support thousands of seals, mainly breeding adults, during the spring moult immediately following the ice melt in March. Other sites in current use typically host 10s to 100s of seals seasonally. The Absheron Peninsula in the west, and the Ogurchinskiy (Ogurjaly) area in the east are reported to have supported tens of thousands of seals historically, falling to a few hundreds in the early 21st century, and to a few tens in the most recent years. The only former terrestrial pupping site documented was on Ogurchinskiy Island in the 1980s. Eight pups were recorded there in 2002, but none since then.



Figure 1: Various haul-out locations for Caspian seals within the IMMA. A) Moulting seals in the reedbeds of the Durneva islands, the Komsomolets Bay. Photo: Simon Goodman. B) A group of juvenile Caspian seals hauled out at Rybachiy Island. C) Seals on Malyy Zhemchuzhnyy in early April (2019) near the end of the spring moult. Photo: Vladimir Philippov.

at traditional haul-out sites where they feed locally for brief periods (Eybatov and Rustamova, 2010; Dmitrieva et al., 2016). The margins of the north Caspian basin are very shallow (less than 1m), and recently, there has been a declining sea level trend, which is forecast to continue through this century (Prange et al., 2020). Haul-out and moulting sites in the northeast Caspian that previously hosted dense aggregations are no longer accessible, with seals shifting to newly emergent islands.

Criterion A: Species or Population Vulnerability

The Caspian seal is listed as Endangered by IUCN (Goodman & Dmitrieva 2016), and in the Red lists of all 5 littoral states (Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan). Since it is landlocked within the Caspian Sea it has no possibility of migration to alternate areas, and therefore is entirely dependent on the Caspian environment. The IMMA encompasses the primary locations used by Caspian seals for moulting and hauling out.

The Caspian seal is an amphibious mammal, which requires suitable solid substrate ("haul-out sites"), clear of the water, for resting. All Caspian seals more than one year old undergo an annual spring moult, lasting 4–6 weeks during late March and April. During the moult they spend most of their time hauled-out at a suitable location where they can stay dry for as long as possible. This prolonged hauling out enables the seals to minimise the energy cost of the moult by maintaining a high skin surface temperature which optimises the growth of new hair (Paterson et al., 2012).

Criterion B: Distribution and Abundance Sub-criterion B2: Aggregations

The sites incorporated into this IMMA form a discontinuous network of locations known to be in current use for haul-out and/or moulting; or locations where satellite telemetry tracks show seals still utilising waters around sites where aggregations are now rare or not observed, but are known to have occurred historically. Human disturbance appears to be the main cause of recent site abandonments, but sea level changes are also a factor in some cases.



Figure 2: A group of Caspian seals hauled out at Kenderli Bay. Photo: Lilia Dmitrieva

The sites listed here which have experienced declines in haul-outs have potential for restoration if anthropogenic disturbance can be controlled. Outside of these areas through the rest of the Caspian, either the habitat features preferred by seals for hauling out are not present, or the habitats are currently too degraded to support seals.

Supporting evidence is derived from aerial surveys, boat/shore based observations and monitoring, and satellite telemetry studies (Wilson and Goodman 2012; Dmitrieva et al., 2016). However, few locations have frequent, systematic monitoring. In each case IMMA boundaries encompass a terrestrial haul-out site or group of sites within a continuous area, plus the adjacent waters that allow access by seals. Some locations overlap with previously designated EBSAs (Convention on Biological Diversity 2017), in which case the EBSA boundary was adopted. The westward boundary of the northeast Caspian polygon was extended to allow for anticipated sea level declines making sites in current use inaccessible, and the adoption of newly emergent islands.

The sizes of haul-out groups, and frequency and seasonality of use vary considerably. Some haul out sites in the north Caspian (e.g. the area between the Komsomolets Bay and Prorva, and the Malyy Zhemchuzhnyy area) attract thousands of moulting seals, but most currently host 10s to hundreds of seals seasonally. Haul-out sites for which there are records are listed here according to geography, starting with sites in the northeast Caspian (Kazakhstan) and proceeding clockwise around the Caspian coast.

Haul-out site locations:

Republic of Kazakhstan

1. The Zyuydvestovyye shalygi islands (Ural delta, 46.74° N 51.64° E).
2. The northeastern Caspian, including shalygi (sandy islands) (approximately 46.42° N 52.46° E), Prorva (approximately 46.06° N 52.76° E) and Komsomolets Bay (approximately 45.56° N 52.72° E).
3. The Tuylen'i Islands archipelago, including Kulaly Island and Rybachiyy Island (44.76° N 50.37° E).
4. The Kenderli Bay (42.68° N, 52.63° E) (Fig. 2).

Turkmenistan

5. Kara-Ada Island (41.52° N, 52.54° E).
6. Tuylen'i Islands (41.05° N 52.86° E).
7. Bolshoy Osushnoy Island (39.68° N 53.14° E).
8. Ogurjaly (Ogurchinskiy) Island (38.76° N 53.07° E).
9. The Esenguly area (between approximately 37.9° N 53.79° E and the Turkmen-Iranian border)

Islamic Republic of Iran

10. There are no documented haul-out sites for Caspian seals on the Iranian coast at the present time. The boundary from the Miankaleh Peninsula (36.85° N 53.46° E) to the Iranian-Turkmen border was designed according to the same EBSA.

Azerbaijan Republic

11. Absheron Archipelago (between approximately 40.39° N 50.36° E and 40.28° N 50.54° E).
12. Shakhova Kosa (Shahdili Kosa) (40.19° N 50.37° E).
- 13.

Russian Federation

14. Malyy Zhemchuzhnyy (Small Pearl Island; 44.97° N, 48.28° E) and associated shalygi (sandy islands or islets).

Criterion D: Special Attributes

Sub-criterion D1: Distinctiveness

Ogurchinskiy (Orgujaly) and Mikhailova Islands in Turkmenistan - Krylov (1990) recorded pupping on the sand spit on the southern tip of Ogurchinskiy Island, with approximately 50 breeding females (1983–84), but stated that the numbers appeared to

be increasing at that time. The last record of pupping was of eight pups born on the spit in January 2002, four of which were photographed alive on the spit (P. Erokhin, unpublished data). Counts on Ogurchinskiy in recent years (2016–20) have not included January, and two counts in February 2019 did not mention pups.

This site on the Ogurchinskiy (Orgujali) spit is the only known site away from the ice sheet where pups are known to have been born regularly, at least during the latter part of the 20th century, and potentially reflects a rare ecologically distinct behaviour. The Caspian seal is similar to the closely-related grey seal (*Halichoerus grypus*) and may be able to breed successfully at onshore sites, with pups surviving to weaning. Such ability could be important in the future if the ice sheet no longer forms in the winter due to climate heating.

Supporting Information

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