Information for MAPS-Arctic whale sighting data

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Project	MAPS: Marine Mammal Perimeter Surveillance from RV Polarstern

Program description:

Since 2007 (with intermission between 2008 and 2012), AWI in cooperation with Reederei Laeisz, systematically and continuously logs all sightings of cetaceans near RV Polarstern in the Arctic Ocean and Nordic Seas (Marine Mammal Perimeter Surveillance, MAPS). A corresponding sighting protocol is maintained by the nautical officer on duty on the bridge of the RV Polarstern. While the officers are advised to systematically log all sightings, no dedicated sighting efforts are taken. Neither does the ship follow a dedicated survey design. The sightings hence are considered opportunistic sightings. However, in contrast to truly opportunistic sightings, logging occurs systematically and continuously and by a limited number of persons, who have received repeated briefing on marine mammal identification and generally several years of experience as nautical officers in the Arctic Ocean and Nordic Seas. Observations are made with the naked eye or handheld binoculars (7x50). Sightings were listed on a dedicated sightings form in 2007 and 2008 from cruise ARK XXII/1a (PS70) to cruise ARK XXIII/2 (PS72). After an intermission until ARK XXVII/1 (PS80) in 2012, the paper form was replaced by the electronic log AWI Walog (sic!).

In-field identification of sighted animals up to species level is aided by picture charts and common field guides. Additional post-event validation of the identification might be performed using photographs or a short video sequence if available.

For each cruise, the data sets are validated (test for plausibility of sighting location and time, standardization of species names, consideration of any "comments" and additional information (photo, video)) and entered into PANGAEA (one data set per cruise).

Within PANGAEA all data are aggregated relating to an "event label". Event labels used in Marine Mammal Observation contain information of the cruise, which animals were sighted as well as where and when sightings occurred. Additional metadata information (atmospheric, oceanographic and operational conditions) may be accessed via the respective DOI's, as listed under "comments" on to each data set's description site.

Parameter: Whale Species [string]

Abbreviation: Whale Parameter no: 84756

As determined by the observer at the time of observation.

When supplementary information (e.g. photographs, videos, concurrent sightings in context of dedicated marine mammal sighting efforts) are available, a post event review of this information might result in modified "species" assignments.

Whale, unidentified

On occasion, it is not possible to identify the animal. The observer is asked to classify the sighting according to size (large/small). If this is not possible, the sighting is generically listed as "Whale, unidentified".

Large whale, unidentified

On occasion, it is not possible to identify the animal. The observer is asked to classify the sighting according to size (large/small). If this is not possible, the sighting is generically listed as "Whale, unidentified".

Small whale, unidentified

On occasion, it is not possible to identify the animal. The observer is asked to classify the sighting according to size (large/small). If this is not possible, the sighting is generically listed as "Whale, unidentified".

Baleen whale, unidentified

On occasion, it is not possible to identify the animal. The observer is asked to classify the sighting according to size (large/small) and additional key features for baleen whales (e.g. fluke, fin, number of blow holes). If this is not possible, the sighting is generically listed as "Whale, unidentified".

Dolphins, unidentified

On occasion, it is not possible to identify the animals up to species level. These sightings are generically listed as "Dolphins, unidentified".

Balaenoptera acutorostrata

Abbreviation: B. acutorostrata

Common minke whale

Balaenoptera borealis

Abbreviation: B. borealis

Sei whale

Balaenoptera physalus

Abbreviation: B. physalus

Fin whale

Balaenoptera musculus

Abbreviation: B. musculus

Blue whale

Megaptera novaeangliae

Abbreviation: M. novaeangliae

Humpback whale

Balaena mysticetus

Abbreviation: B. mysticetus

Bowhead whale

Eubalaena glacialis

Abbreviation: E. glacialis

North Atlantic right whale

Physeter macrocephalus

Abbreviation: P. macrocephalus

Sperm whale

Hyperoodon ampullatus ***Abbreviation: H. ampullatus***

Northern bottlenose whale

Delphinapterus leucas ***Abbreviation: D. leucas***

Beluga whale key: Beluga

Monodon monocerus ***Abbreviation: M. monocerus***

Narwhal

Orcinus orca ***Abbreviation: O. orca***

Killer whale key: Orca

Globicephala melas ***Abbreviation: G. melas***

Long-finned Pilot whale

Delphinus delphis ***Abbreviation: D. delphis***

Common dolphin

Tursiops truncatus ***Abbreviation: T. truncatus***

Bottlenose dolphin

Lagenorhynchus acutus ***Abbreviation: L. acutus***

Atlantic white-sided dolphin

Lagenorhynchus obliquidens ***Abbreviation: L. obliquidens***

Pacific white-sided dolphin

Lagenorhynchus albirostris ***Abbreviation: L. albirostris***

White-beaked dolphin

Lagenorhynchus sp.

On occasion, it is not possible to identify animals belonging to the genus Lagenorhynchus up to species level. The observer is asked to classify the sighting according to diagnostic marks (e.g. beak, fin and coloration patterns). If evidence is not strong enough to assign the sighting up to species level the sighting is generically listed as "Lagenorhynchus sp.".

Phocoena phocoena ***Abbreviation: P. phocoena***

Harbour porpoise

Parameter: Certainty of identification [string]

Abbreviation: Certainty Parameter no: 84757

As determined by the observer at the time of sighting.

When supplementary information (e.g. photographs, videos, concurrent sightings in context of dedicated marine mammal sighting efforts) are available, a post event review of this information might result in modified "certainty of identification" assignments with respect to the original data.

definite

Used if unambiguous characteristics (fluke, flippers, shape of blow, fin, color) have been observed *in-situ*, possibly supported by video/photo footage.

probable

Used if identification is supported by evidence strong enough to establish presumption but not proof of species.

possible

Used if the presumed identification has an indicated potential to be correct.

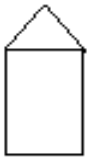
Parameter: Number of individuals [#]

Abbreviation: Ind [#] Parameter no: 84758

The number of individuals is binned according to the options given in the data acquisition software: 1, 2, 3, 4, ≥5, ≥10, ≥20, ≥50. More precise values may exist, due to observer comments.

Walbeobachtungen von Bord RV Polarstern

Weiße Felder: Bitte ausfüllen, Graue Felder: Bitte ausfüllen falls möglich

Datum	**Uhrzeit**
Schiff: **RV Polarstern**	**Beobachter**
Position	**Wassertiefe**
Walart	**Sicherheit der Bestimmung der Art** sicher / wahrscheinlich / möglich (zutreffendes bitte einkreisen)
Gesamtzahl an Tieren: **Beschreibung** (wie z.B. Größe, Kopfform, Färbung und Muster, Größe, Form und Position der Rückenfinne, Richtung und Form des Blas) **Verhalten** ausweichend / annähernd / Kurs haltend (zutreffendes bitte einkreisen) taucht unter Schiff durch: Ja/Nein	**Anzahl ausgewachsene Tiere** **Anzahl Kälber** **Photo oder Videoaufnahmen** Ja/Nein (zutreffendes bitte einkreisen) **Schwimmrichtung relativ zum Schiff**  **Schwimmrichtung geographisch:** **Entfernung vom Schiff**
Aktivität des Schiffes ☐ Fahrt ……. kn, Kurs……..°T ☐ auf Station	**Akustische Aktivitäten**

	an	aus	unbekannt
DoLog			
DWS-Lot			
Hydrosweep			
Parasound			
Simrad EK 60			
ADCP			
AirGuns			

Windrichtung und Stärke	**See**	**Sichtweite**

Gesammelte Aufzeichnungen bitte bei Anlaufen B'hvn an Olaf Boebel, AWI (0471-4831-1879)

Figure 1: Figure 1: Copy of paper form for systematic recording of opportunistic cetacean sightings. In use from ARK XXII/1a (PS70) to ARK XXIII/2 (PS72).

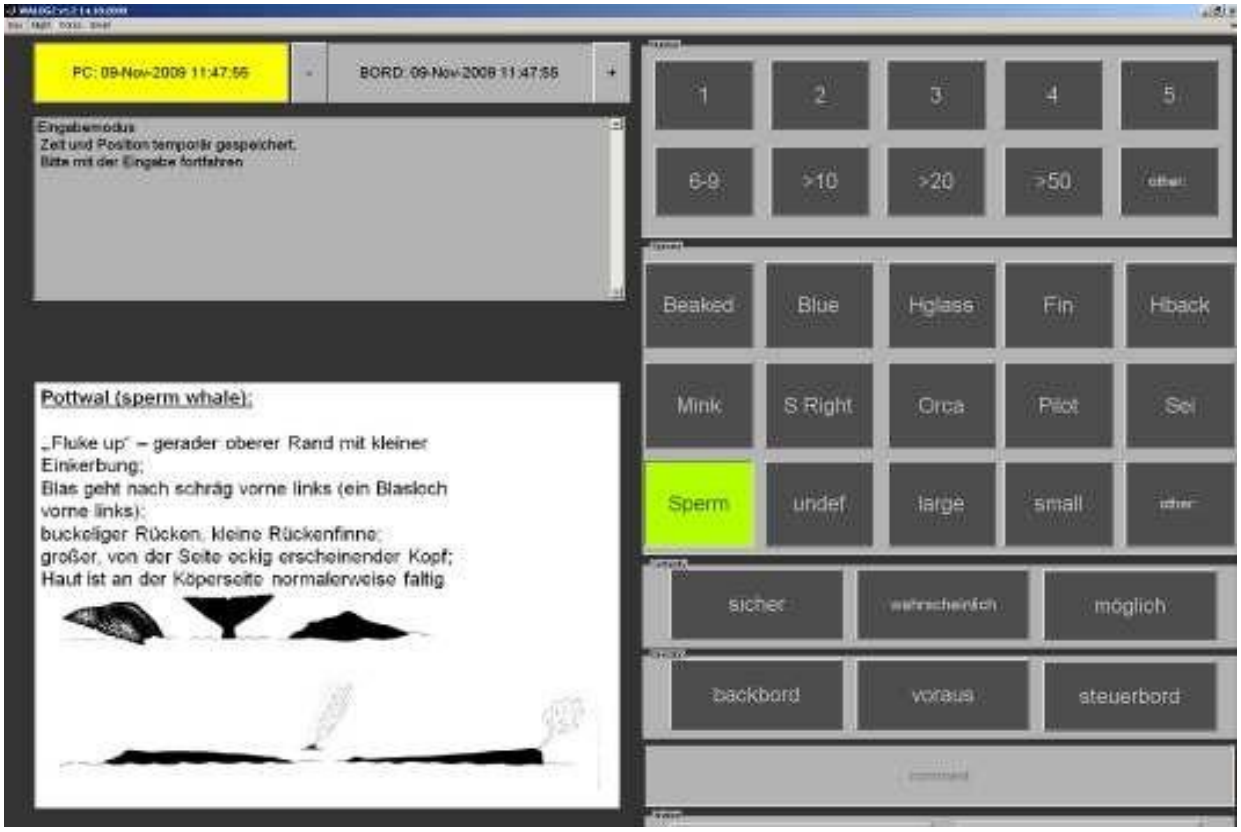


Figure 2: Screenshot of AWI Walog program for systematic recording of opportunistic cetacean sightings. In use since ARK XXVII/1 (PS80) in 2012.