

# CETACEAN SIGHTING ACCOMPANIMENT

## KAI Marine Services



### Critical Information

**Species Identification:** see Cetacean Identification Key document

**Effort:** this is one way that we stratify the data for analysis; it combines both the sea state and the presence or absence of an observer on the mast.

- 0 = not on effort
- 1 = sea state 1 with a lookout on the mast
- 1S = sea state 1 without a lookout on the mast
- 2 = sea state 2 with a lookout on the mast
- 2S = sea state 2 without a lookout on the mast
- 3 = state state 3 with a lookout on the mast
- 3S = state state 3 without a lookout on the mast

**Form no.:** this is the same as the primary number on Logger. It can be out of sync with the sighting number due to false sightings (i.e. pressing Ctrl S when there was no cetaceans sighted) recorded on Logger, so keep an eye on Logger to make sure the Form number is the same as the primary number.

**Sighting no.:** this is the actual number of sightings in the year. Will be less than the form no / primary number if there have been false sightings on Logger.

### Primary data – Information at the time the cetacean(s) is initially sighted

**Time, latitude and longitude:** take from NMEA Server on Logger for the exact time and position when the species is first sighted.

**Wind direction:** the direction the wind is coming from. Ask the captain and record as letters (e.g. N, NW, W, SW).

**Wind force:** the effect the wind is having on the sea according to the Beaufort scale. Ask the captain and record as a number. Also see the separate training document describing the difference between wind force and sea state.

**Working conditions:** this is a category summing up numerous conditions (sea state, swell, wind force, glare etc.), which is used to stratify the data for analysis. Ask the captain or Ricardo.

- 1 = excellent (e.g. no glare, no or very little swell, sea state 0, wind force 0)

- 2 = good (e.g. a little glare, swell 0 - 0.5m, sea state 1, wind force 1)
- 3 = fair / moderate (e.g. some glare, swell 0.5 - 1m, sea state 1, wind force 2)
- 4 = poor (e.g. some glare, swell > 1m, sea state 2, wind force 2)
- 5 = mixed (combination of working conditions, may have very low sea state but very high swell for example)

**Sea state:** the sea conditions according to the Douglas scale. Ask the captain and record as a number. There is a separate training document describing the difference between wind force and sea state. We work up to and including sea state 3, above sea state 3 is regarded as being off effort.

**Course:** the geographical direction of the boat. Ask the captain or read from NMEA server on Logger, and record in degrees.

**Speed:** the speed the boat is travelling. Ask the captain or read from NMEA server on Logger, and record in knots.

**Observer position:** this is the position of the observer at the time of initial cetacean observation.

- M = mast
- D = deck
- B = bridge

**Duplicate number:** If this is a cetacean group previously seen on survey this day, then note the sighting and form number of the first sighting.

**Distance:** best estimate of the distance of the animals from the boat at the time of initial sighting.

**Reticule:** this is read by the observer from the binoculars; it is the number of major increments on the Y axis down from the horizon. Reticule allows you to calculate the vertical angle between the animal and the horizon, which in turn is used to calculate distance between the observer and cetacean.

**Angle:** Angle of the animals sighted relative to observers position on the boat (with bow being 0°, directly perpendicular to starboard and port being 90°, and aft being 180°).

- P = port
- S = starboard

**Heading:** direction animal is moving geographically. Record in degrees.

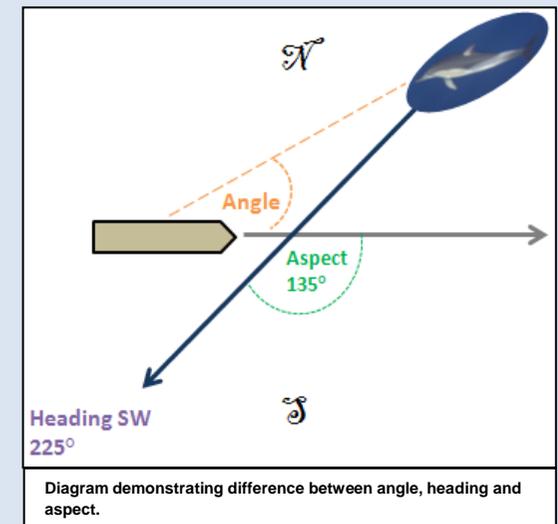
**Aspect:** direction cetaceans' movement relative to the boat (also equals the difference between heading and ship course). Record in degrees.

**Cue:** The initial clue that indicated the presence of cetaceans.

- BL = blow
- JU = jump
- SP = splash
- FB = dorsal fin or back of the animal

BI = birds (groups of birds feeding may indicate the presence of cetaceans, no guarantee of cetaceans always being seen with large groups of birds but they are frequently sighted together particularly if bait balling or feeding)

Other = could be another option eg. fluking, breaching, flipper slapping, lobtailing and spyhopping. Please specify which.



**Activity:** this is the behaviour of the cetaceans when they are initially sighted.

- F = feeding-foraging
- R = resting
- S = socialising
- BR = bow riding
- T = travelling
- M = milling (frequent changes in heading, often a transition between other behaviours)

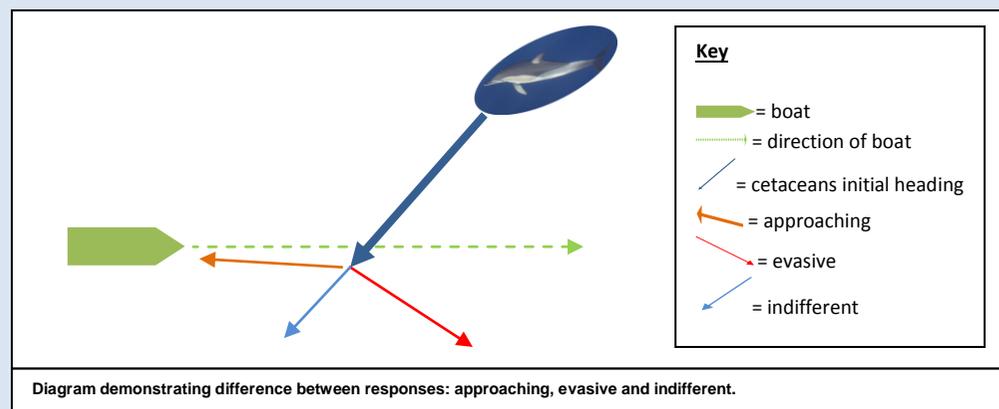
**Min – best – max:** number of individuals estimated when initially sighted. The observer estimates the minimum and maximum number of individuals, and best guess the exact number of individuals.

**Contact data – When the sighting is within 60m of the boat. If the animals are within 60m at time of initial sighting then the primary data and contact data are the same.**

**Time, longitude and latitude:** the time and position of the sighting when they become in contact with the boat (within 60m). Take from Logger.

**Initial response:** this is the response of the cetaceans to the boat when you first sight them.

- A = approaching (cetaceans change direction to approach the vessel)
- I = indifferent (cetaceans continue on their original line of travel)
- E = evasive (cetaceans change direction to avoid the vessel)



**Heading:** see above.

**Activity:** see above.

**Subgroups:** presence or absence of subgroup divisions.

**Group size:** see above.

### Social Structure / Behaviour

**Cohesion:** this category is more subjective and species dependent; use your judgement to determine if a group is compact or dispersed (for smaller cetaceans being compact may mean being within 50m of each other, and dispersed being over 50m; for sperm and fin whales being compact may mean being within 200m of each other). Ask a Research Technician or long term crew member for help if needed.

L = lone individual

- C = compact
- D = dispersed

**N° of sub-groups:** the number of smaller groups the sighting is divided into. Similar to cohesion this is somewhat subjective and depends on the species. Please ask a Research Technician or long term crew member for help if needed.

**Min, Best, Max:** Same as Group Size above.

**Min, Best, Max Calves:** number of calves estimated if present. The observer estimates the minimum and maximum number of calves, and best guess the exact number of calves.

**Juveniles:** number of younger adults / older calves. These will be smaller than full adult size and larger than the calves.

**Min, Best, Max Newborns:** number of newborns estimated if present. Vertical light coloured lines (i.e. fetal folds) and very small size distinguish newborns. The observer estimates the minimum and maximum number of newborns, and best guess the exact number of newborns.

**Activity:** behaviour of sightings for majority of time seen.

**Orientation:** If the cetaceans are directional or not, i.e. travelling in one uniform direction.

**Direction:** If they are directional, the direction they are heading geographically, i.e. their heading.

**Mating:** If mating is seen or not. If you cannot tell for definite then leave blank.

**Response:** see above diagram.

**Association with ships and birds:** notes for details on interactions with ships (e.g. feeding around fishing boats) or interactions with birds (e.g. both feeding on a baitball).

### End of Sighting – Information relating to the time when the cetaceans are last seen

**Time, longitude and latitude:** Time and position taken from Logger NMEA Server when cetaceans are no longer seen.

**Activity:** last behaviour seen at the end of sighting.

**Sea state:** see above.

**Wind force:** sea above.

**Wind direction:** See above. Record as N, NW, W, SW etc.

**Acoustics, samples and video:** If any acoustics are recorded from hydrophone take notes, or if photos are taken take notes on the camera use then record photograph number, camera used etc.

**Comments:** Any additional comments you would like to add which are relevant to the sighting, for example unusual behaviour and interactions with other species.