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Guiding principles for data collection from
whale-watching vessels as platforms of
opportunity

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INTERNATIONAL
WHALING COMMISSION

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Background

At SC/65b, Vinding *et al.* (2014) presented guidelines for data collection from whale-watching vessels and quality control of such data. In discussions on that paper, the sub-committee agreed that an intersessional working group should be convened to refine these guiding principles, with the goal to post final principles to the Commission website under the whale-watching sub-section.¹ Based on diverse documentation prepared by different groups over the years and comments on Vinding *et al.* (2014)'s guidelines, the intersessional group concluded that minimising data collection fields to the bare essentials was key for developing overarching, widely applicable guiding principles for data collection from whale-watching vessels under most if not all circumstances, regardless of location, observer training level, or access to advanced technologies. In this paper, the group has prepared a final list of minimum, standardised data fields, with annotations to explain and clarify the purpose of the data to be collected, to be used by anyone wishing to use whale-watching vessels as platforms of opportunity.

Minimum recommended data can be collected by any operation with basic training, and regardless of species, area or available instrumentation. *Desirable* data may be feasible in some areas and operations, but may require more experience or training, or be better driven by population or area-specific feasibility/opportunities and/or researcher interest (Table 1). Under ideal conditions, platforms of opportunity can take advantage of advances in technology, such as Whale and Dolphin Tracker (Kaufman *et al.*, 2011). As a general guideline, platforms of opportunity should record as many types of data as feasible for their circumstances.

Table 1. Minimum recommended data to be collected by whale-watching vessels as platforms of opportunity, with other desirable data when feasible

Data category	Minimum recommended	Other desirable data, depending e.g. on target species, training, logistics (these are examples only)
General	Date; Data collector	
Cetacean data	Species observed (or 'no sightings'); Min/max number (or best estimate) of all animals; Start/end time of sighting; Location	Group behaviour; Composition of group (#males, #females, #juveniles); Photo-identification; Number (or best estimate) of calves; Individual behaviour; Injuries/scars/health
Vessel data	Vessel name and type; Trip start/end times	Vessel location and speed at regular intervals (GPS logging is best, if possible) ; Area(s) searched
Weather data		Visibility; Swell height/direction; General weather; Sea state or height; Wind speed/direction; cloud cover
Environment data		Water temp; Water depth; Tide state; Marine debris; Fishing gear; Vessel activity; Prey observed; Other species present

¹ See <https://iwc.int/whalewatching>.

Annotations to each data field (Table 1)

Minimum recommended data

General:

1. Date

Dates recorded in full, e.g. MMM-DD-YYYY (example: Apr-04-2016), minimise confusion during analyses.

2. Data collector

Full name and contact details (e.g. email, phone number).

Cetacean data:

3. Species observed (or no sightings)

A species' scientific (Latin) name should be provided if known. To determine sighting effort, it is necessary to record the number of trips with no sightings. Even with no sightings, effort has been expended searching for animals.

4. Minimum/maximum number (or best estimate) of animals

The ability to estimate number of individuals with any degree of accuracy decreases as group size increases.

5. Start/end time of sighting

Noting sighting times allows the calculation of search effort and sighting effort. It can also help to determine if the cetacean species sighted have time-of-day preferences for different activities/behaviours or for utilising different locations.

6. Location

Location is relevant to identifying important or 'critical' habitat. It is important to provide as precise a location for the cetaceans sighted as possible. Minimum information is local name for location, region, and/or country. GPS-determined latitude and longitude are preferable.

Vessel data:

7. Vessel name and type

Vessel types might include: Commercial or non-commercial, whale-watching or non-whale-watching, motorised or non-motorised.

8. Trip start/end times

The total time spent at sea is necessary to determine sighting effort.

Desirable data

These suggested data fields go beyond the basic data every platform of opportunity should collect. Depending on research questions of interest, target species, availability of dedicated observers, training level of observers, and other factors, these data fields can be added to the basic fields included in data collection forms. In some cases, whale-watching vessels may not be appropriate platforms to collect certain data, as their primary focus will be on whalewatching and customer satisfaction. In others cases, they may simply be unable, for logistical reasons, to collect certain data.

References

Kaufman, G., D. Maldini, B. Ward, P. Merrill, B. Moore and M. Kaufman. 2011. Enhancing platforms of opportunity data collection using newly developed *Whale & Dolphin Tracker* software. Paper presented to the Scientific Committee of the International Whaling Commission, Tromso, Norway, SC/63/WW3.

Vinding, K., M. Christiansen, and N. Rose. 2014. Data collection from commercial whale watching vessels: the need for international guidelines and systematic quality control. Paper presented to the Scientific Committee of the International Whaling Commission, Bled, Slovenia, SC/65b/WW07.