

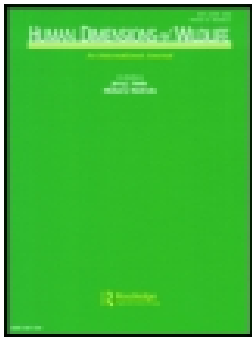
# SC/68A/INFO/55

More evidence of unsustainable  
dolphin-watching practices in Bocas del  
Toro, Panama (Human Dimensions of  
Wildlife DOI:  
10.1080/10871209.2019.1605007)

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INTERNATIONAL  
WHALING COMMISSION



# Human Dimensions of Wildlife

An International Journal

ISSN: 1087-1209 (Print) 1533-158X (Online) Journal homepage: <https://www.tandfonline.com/loi/uhdw20>

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To cite this article: Ashley S. M. Sitar Soller & E. C. M Parsons (2019): More evidence of unsustainable dolphin-watching practices in Bocas del Toro, Panama, Human Dimensions of Wildlife, DOI: [10.1080/10871209.2019.1605007](https://doi.org/10.1080/10871209.2019.1605007)

To link to this article: <https://doi.org/10.1080/10871209.2019.1605007>



Published online: 06 May 2019.



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## More evidence of unsustainable dolphin-watching practices in Bocas del Toro, Panama

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**KEYWORDS** Dolphin-watching; sustainability; bottlenose dolphin; regulations; Bocas Del Toro; Panama

The Panamanian whale-watching<sup>1</sup> industry started in Bocas del Toro (an archipelago located on the northeast Caribbean coast of Panama) in the late 90's. The industry attracts approximately 15,500 dolphin-watchers per year (Hoyt & Iñiguez, 2008). By 2008, the total number of boat operators was 64 with a boat fleet of 206 (Hoyt & Iñiguez, 2008). Panama has official whale-watching regulations (via Resolution ADM/ARAPNO.01, 2007<sup>2</sup>). Observations of boat operators behavior of around dolphins, however, indicate a high level of non-compliance (Sitar et al., 2016). Boats were closer than the regulated 100 m (71% of the time). Boat engines were only switched off or idle 31% of the time when vessels were 50 m or closer to dolphins (Sitar et al., 2016). Only 55% of all observed dolphin-watching interactions were following the whale-watching regulations of one or two boats being present at one time. Forty-five percent of the time, three to 15 boats were around dolphin groups. Sitar et al. (2016) also provided evidence that boat operators were circling, chasing and otherwise pursuing dolphins.

This Findings Abstract provides additional supporting evidence that boat operators in Bocas del Toro are not complying with whale-watching regulations using qualitative data. The article provides a “concurrent triangulation” approach for “mixed methods” (Cresswell et al., 2003) social science research (i.e., quantitative observations on how boat operators are behaving in the field in comparison to qualitative data on how the boat operators perceive themselves behaving). Data were obtained in August and September 2013 using a non-probability sample approach (Berg, 2009).

A total of 15 operators were interviewed. All participants were experienced dolphin-watching operators in the area. The boat operators shared the same demographic, educational and economic background. Of the 15 operators, 47% had over seven years of dolphin-watching trip experience (33% had 5–6 years; 20% < 4 years). A third (33%) depended on dolphin-watching trips for their primary income. On average, boat operators charged US \$20 for a dolphin-watching trip (mode = US\$20, range = US \$12.5 – \$25). About half (47%) of the boat operators said that they had not received whale-watching tourism training, while the other half (53%) stated they had training. Independent of the training, all boat operators claimed compliance with Panama's whale-watching regulations. But, all boat operators also said that they approached dolphins closer than Panama's regulations permit with 33% saying they came as close as 10–30 m from dolphin groups (four operators as close as 10 m). Eighty percent stated that they watched dolphins at distances of 50 m or less. These distances agree with the in-field observations (Sitar et al.,

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2016) and are grossly in violation of regulations. Although 53% of the operators said they had received whale-watching tourism training, only 27% were aware that Panama had whale-watching regulations. In contrast, 40% did not know if there were regulations and 33% stated that there were “no regulations”. When asked how many boats they thought should be present around a dolphin group, responses ranged from 3 to 15 boats, with a mean of 5.43 ( $SD = 3.3$ ) and a mode of five.

Over two-thirds (67%) believed the dolphin population was “stable”, 20% “decreasing”, and 13% “increasing”. Specifically, 47% of the boat operators believed the dolphin population consisted of 50–100 dolphins (20%: 100–200 individuals; 13% 200–300 individuals; 7% > 400 or more; 7% <50 dolphins; 7% “did not know”). When asked if the dolphin population size would be the same in 20 years, 50% (from  $n = 14$ ) said “yes”. When asked, “how important is marine environment protection,” 93% said “very important” to them and only 7% said it was “not important” ( $\chi^2 = 11.27, p < .001$ ). Over three-quarters (80%) of the operators indicated it was “important” to vote for a politician that supports dolphin conservation, while the remaining 20% responded that this was “not important” ( $\chi^2 = 5.4, p = .02$ ). Ninety-three percent of the operators said dolphin conservation was “very important”. Finally, all boat operators wanted whale-watching training available locally; they currently need to travel to Panama City at their own cost.

In general, the operators said they supported local marine conservation, especially with respect to the dolphins. They seemd to indicate an honest and heartfelt appreciation for the local environment.

This article providd further evidence that boat operators in Bocas del Toro are not following Panama’s whale-watching regulations and/or are unfamiliar with them. However, improvements in Bocas del Toro are possible as boat operators were open to formal whale-watching training, cared for the resident bottlenose dolphins, and supported conservation. Even though the boat operators claimed formal whale-watching training, we propose that alocally-located boat-maneuvering course be incorporated, where the operators learn how to operate the boat with the observed dolphin behaviors. This article suggests that the current formal training offered is ineffective in ensuring whale-watching regulations are followed.

## Notes

1. Whale-watching is a term that encompasses watching cetaceans – whales, dolphins and porpoises – in the wild (see the international Whaling Commission for a definition; <https://iwc.int/whalewatching>).
2. República de Panamá Asamblea Nacional Legispan Legislación de la República de Panamá, Resolution ADM/ARAPNO.01 of the Legislation of Panamá available from [http://www.panacetacea.org/uploads/6/6/8/1/6681148/resolucion\\_no.1\\_protocolo\\_de\\_avistamiento\\_de\\_cetaceos.pdf](http://www.panacetacea.org/uploads/6/6/8/1/6681148/resolucion_no.1_protocolo_de_avistamiento_de_cetaceos.pdf).

## Acknowledgments

We wish to thank The Pacific Whale Foundation, Humane Society International & Cetacean Society for funding. We also thank the staff of Panacetacea. This paper is dedicated to the late Barbara T. Young.

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