

# Joint media response concerning “the discovery of a new kind of killer whale” off western North America

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On October 4<sup>th</sup>, Hakai Magazine published an article with a headline reporting the discovery of “a new kind of killer whale”. Other media outlets subsequently reported similar headlines in Canada, the USA and internationally, and although some content has since been corrected in these articles, others continue to report false information.

The fact is that no new type of killer whale has been discovered and that many of the whales in question are part of the known Bigg’s (transient) killer whale population that prey on marine mammals. Their distribution patterns, social behaviours and population structure have been studied for over 30 years by several government and non-government research organizations in California, Washington, British Columbia, and Alaska.

Some previous publications on these killer whales include a 1997 catalogue by Black et al.<sup>1</sup> which provides details on 105 individuals photographed off the outer coast of California. It presents information on 45 of the 150 whales documented in the recent study by McInnes et al.<sup>2</sup> referenced by the media. Most of these whales have been photo-identified nearly each year since 1997, many have reproduced, and the overall population size has grown to around 200 whales <sup>(Black et al. in prep)</sup>. A book about killer whales published in 1999 by Ford and Ellis<sup>3</sup> states that some of these same whales had also been observed in British Columbia. Then in 2013, Ford et al.<sup>4</sup> went on to designate some 217 of these killer whales as belonging to a putative “outer-coast” sub-population and 304 belonging to a putative inner-coast sub-population. In 2019, Towers et al.<sup>5</sup> updated these numbers to 241 and 381, respectively, but confirmed that there is immigration and emigration between the two putative sub-populations.

Published records of a more oceanic population of mammal-eating killer whales off the west coast of North America also exist. Black et al.<sup>1</sup> reported on killer whales photographed far offshore of California that had cookiecutter shark scars and stated that these whales “may belong to currently unknown types”. Hoelzel et al.<sup>6</sup> presented genetic evidence in 1998 “indicating that there is another population found off California” and that “their genotype was closest to the transient type”. Pitman et al.<sup>7</sup> suggested in 2001 that a group of mammal-eating killer whales documented in the open ocean off California may “belong to a far offshore population that normally occurs seaward of the continental shelf”. Finally, Towers<sup>8</sup> communicated in 2017 that he and colleagues had encountered Bigg’s killer whales far offshore of British Columbia “that looked and behaved differently from any others we had known”. These four publications independently suggest that more than one population of Bigg’s killer whales occur off the west coast of North America. The new study by McInnes et al.<sup>2</sup> also states that some of the whales in their catalogue “may belong to an undescribed pelagic offshore mammal-eating population” but do not go on to discuss or conclude the existence of any population beyond the previously described and putative outer-coast population.

The terminology used to describe these killer whale populations can sometimes be confusing. For example, the putative outer-coast population of Bigg's (transient) killer whales that eats mammals tends to travel along the shelf edge from Monterey Bay in California to Haida Gwaii in British Columbia, but occasionally comes into inner coastal waters throughout this range<sup>4,5</sup>. A different population long referred to as offshore killer whales is only known to eat fish, mainly sharks<sup>9</sup>, and travels along the shelf edge from southern California to the Aleutian Islands<sup>10</sup>. They too will occasionally come into inshore waters. These populations are already both well described, do not mix, and are genetically distinct<sup>11</sup>. Less is known about the so far unnamed population of mammal-eating killer whales that occur in the open ocean.

The large media response to this topic of interest highlights an appetite for advances in our understanding of killer whales globally. The recent study<sup>2</sup> quoted in these articles provides a valuable contribution of data on individual killer whales that are found in deep water off the west coast of North America; however, it does not provide new facts or interpretations about populations or their structure that are different to those already published by others.

Sincerely,

Jared Towers  
Executive Director, Bay Cetology, [info@baycetology.org](mailto:info@baycetology.org)



**BAY CETOLOGY**

Nancy Black  
Director of Research, California Killer Whale Project, [montereybaywhalewatch@gmail.com](mailto:montereybaywhalewatch@gmail.com)

and

Alisa Schulman-Janiger  
Lead Research Biologist, California Killer Whale Project, [asjaniger@gmail.com](mailto:asjaniger@gmail.com)



Ken Balcomb  
President, Center for Whale Research, [kenbalcomb@gmail.com](mailto:kenbalcomb@gmail.com)



Lance Barrett-Lennard  
Director, Marine Mammal Research Program, Ocean Wise, [Lance.barrett-lennard@ocean.org](mailto:Lance.barrett-lennard@ocean.org)



Dan Olsen  
Research Biologist, North Gulf Oceanic Society, [waterdogdan@gmail.com](mailto:waterdogdan@gmail.com)



Howard Garrett  
President, Orca Network, [info@orcانetwork.org](mailto:info@orcانetwork.org)



Deborah Giles  
Research Director, Wild Orca, [giles@wildorca.org](mailto:giles@wildorca.org)



John Ford  
Scientist Emeritus, Fisheries and Oceans Canada, [johnkbford@gmail.com](mailto:johnkbford@gmail.com)



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

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