

DEEP BLUE CONSERVANCY™

The use of Kite Aerial Photography in the behavior documentation of Humpback whales (*Megaptera novaeangliae*), Gray whales (*Eschrichtius robustus*) and the whale watching activities around them in the areas of Banderas Bay and San Ignacio Lagoon, Mexico.



**Oscar S. Frey, Oceanographer
Chief Researcher and Vice-President**

Deep Blue Conservancy, Inc.
3413 Larga Circle
San Diego, CA 92110

oscar@deepblueconservancy.org
www.DeepBlueConservancy.org
(858) 605-6463

The purpose of this work was to assess the applications of Kite Aerial Photography (KAP) in documenting and studying Humpback whales, (*Megaptera novaeangliae*) and Gray whales, (*Eschrichtius robustus*) in two areas of Mexico where whale watching activities have been developed. We worked with the goal of determining the technical specifications to follow in the use of KAP as a non-intrusive technique to document the behaviors of both species as well as the whale and human interactions that occur during whale watching activities in Banderas Bay and San Ignacio Lagoon, Mexico.

With the use of specialized kites to lift cameras from a boat, aerial observations were done over different social groups of *M. novaeangliae* and *E. robustus*. The documentation of their behavior was achieved by keeping an upwind position relative to the whale or whales observed.

During the winter seasons from 2004 to 2010, three different social groups of *M. novaeangliae* and *E. robustus* were documented with these techniques: mother/calf pairs, courting groups and solitary whales.

It was found that Kite Aerial Photography and Kite Aerial Videography are non-intrusive techniques and useful in documenting social groups of these two whale species, specifically mother/calf pairs. The most important applications for

scientific research include: behavior documentation of *M. novaeangliae* and *E. robustus* and the whale watching activities around them, determination of the proximity of the vessels to the whales and their relative positions and geo-reference of the aerial images obtained.

KAP also has a potential application to support vigilant actions to protect these species in the coastal areas of Mexico where whale watching activities are being developed.

