

## A rapid assessment of wildlife tourism risk posed to cetaceans in Asia

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### ABSTRACT

Dolphin-watching tourism is growing globally. In developing countries, the typically low environmental awareness of operators and poorly enforced or non-existent regulations exacerbate risks to wildlife. Ecological indicators like behavioural responses are useful to assess wildlife tourism, but obtaining such data is slow and expensive. We modified the Driver–Pressure–State–Impact–Response (DPSIR) framework to rapidly assess the risk of dolphin-watching tourism harming, displacing or causing local extinction to dolphin populations, using human dimension data to complement limited ecological data. We assessed industries at seven dolphin-watching sites in six countries in Asia: Cambodia, India, Indonesia, Malaysia, Thailand, and the Philippines. All sites have reached or almost reached financial saturation except Cambodia and Malaysia. We find high risk to dolphins at the sites in India and Indonesia and intermediate risk at the site in Cambodia. Pending more ecological data, the risk at Thailand, the Philippines, and Malaysian sites might be low. Our analysis also indicates site-specific conservation recommendations for Driver, Pressure and Response. We suggest that the DPSIR framework is useful to assess the risk of a wildlife watching industry, even when the impact is uncertain due to insufficient ecological data.

### ARTICLE HISTORY

Received 4 February 2016  
Accepted 30 October 2016



### KEYWORDS

Cetacean watching; human dimensions; risk; developing countries; DPSIR; ecological indicator

## Introduction

Wildlife tourism connects people to iconic wildlife, provides economic opportunities, and supports conservation of local biodiversity (Green & Higginbottom, 2000). Dolphin-watching tourism is a growing industry worldwide, and can contribute to local economies and reduce poverty in many developing countries where it is growing fast (O'Connor, Campbell, Cortez, & Knowles, 2009; Cisneros-Montemayor, Sumaila, Kaschner, & Pauly, 2010). However, the success of the industry can be its downfall: unmanaged industry growth is commonly associated with greater risk to focal wildlife, which in the long term could mean loss of biodiversity, and industry viability. Dolphin-watching

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 Supplemental data for this article can be accessed  [here](#).