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## Comment on recent study by Francesco Ferretti et al. Reconciling predator conservation with public safety. Frontiers in Ecology and the Environment 2015 13:8, 412-417

The Ferretti paper reported that in California an individual's risk of being attacked by a shark decreased by >91% from 1950 to 2013; reporting that their study estimates the current chances of a surfer in California being attacked by a shark to be around 1 in 17 million. A very low number. One of the main messages of the Ferretti paper was that shark culling is not the solution to public safety concerns regarding sharks.

While we acknowledge that knowing that the overall rate of shark attacks in California has decreased dramatically over time is useful, so is knowing what the chances are for getting attacked if you surf at "sharky" breaks. A more relevant statistic for heavy ocean users probably needs to be site and time of year specific. We believe that at least in California the vast majority of surfers are concentrated to crowded breaks in highly populated areas where shark attacks have never even happened. Sharks seem to congregate close to marine mammal rookeries which tend to be in less urbanized parts of the coastline.<sup>1</sup> Misinterpretation of the overall shark statistics presented in the paper could have the unintended effect of causing people to behave more risky with respect to their ocean use. Just as wearing a shark repellent device has been argued to cause people to engage in more risky ocean behavior.<sup>2</sup>The incredible range of risk related to site and time of year was well addressed in the paper. The study reported that in California the chances of a shark attack are around 1600 times lower in March between San Diego and Los Angeles (Southern California) that they are during the month of October in Mendocino County (Northern California). However, many of the media reports on the study did not highlight the fact that the actual risk for being attacked by a shark is highly dependent on location and time of year.

Note: as the study alludes to, there may no longer be "sharky" breaks in California.

1. Brown A, Lee D, Bradley R, and Anderson S. 2010. Dynamics of white shark predation on pinnipeds in California: effects of prey abundance. *Copeia* **2010**: 232–38.

2. http://californiametalphoto.com/shark-repellent-commentary.pdf