

Aberdeen, 18 February 2013

Bárbara Soto-Largo Meroño
Subdirección General de Medio Natural
Dirección General de Calidad y Evaluación Ambiental y Medio Natural
Ministerio de Agricultura, Alimentación y Medio Ambiente
28071 Madrid

Re: advice on swim-with-captive bottlenose dolphin activities

Dear Bárbara Soto-Largo Meroño,

Thank you for your request (directed to Bill Perrin and Randall Reeves) for advice on matters pertaining to potential new swim-with-captive dolphins programmes in Spain.

As you probably know, the IUCN Species Survival Commission and its Cetacean Specialist Group focus their efforts on the conservation of species and populations. This generally involves trying to understand how human activities affect population viability and therefore species persistence and resilience. The new activities that you describe will influence individual animals that are in captivity and as such will probably not directly affect the conservation of bottlenose dolphins. However, the activities do raise welfare issues because they may influence the quality of life of the individual dolphins that are expected to interact with people attending live animal displays. Different nations have different regulations for the welfare of captive wild animals. I am not entirely familiar with the EU and Spanish laws that govern such things and therefore will not try to comment on legal aspects. Instead, I provide below some thoughts on four issues surrounding these activities that you may find relevant to inform your decision.

Effects of swim-with-dolphin programmes in the wild and in captivity

Studies in the wild have shown that bottlenose dolphins tend to try to avoid swimmers when tour operators place tourists in the water with them (Constantine 2001). Dolphins exposed to swimmers will also alter their behavioural repertoire. Ultimately, this exposes individual dolphins, as well as people interacting with dolphins in that manner, to hazardous conditions (Samuels & Bejder 2004).

There have been very few studies in captive settings, and all have focussed on effects on the behaviour of the dolphins. Changes in stress hormone levels, or other non-behavioural stress indicators, would probably be more informative to this welfare question in a captive setting. In situations where dolphins were afforded a refuge area in their tank (an area that swimmers could not enter), they tended to spend more time in that refuge when swimmers were in the tank (Kyngton et al. 2003). They also increased their breathing rate, which could be interpreted as a sign of stress (or simply be the result of increased activity) (Kyngton et al. 2003).

Dolphin-Assisted Therapy has no known beneficial therapeutic effects

Some swim-with-dolphin programs involve 'dolphin-assisted therapy' (DAT). That is, the claim is made that swimming with dolphins can be used to treat various mental or emotional disorders, or to improve the quality of life for people suffering from disabilities. No study has demonstrated any

therapeutic effects of DAT for the patients involved. Marino & Lilienfeld (2007) reviewed the few studies that had claimed to find an effect and found many methodological shortcomings that undermined the conclusions. Another more recent study could not detect any therapeutic effects of DAT (Salgueiro et al. 2012). According to Marion and Lilienfeld (2007), there is “no compelling evidence that DAT is a legitimate therapy or that it affords any more than fleeting improvements in mood.”

Conservation attitudinal changes after “swim-with-dolphin” experiences

The value of zoos and aquaria for changing the attitudes of visitors towards conservation is still unclear. There is no conclusive evidence that close interactions with the animals, such as swimming with them, provide long-term benefits to the species by changing the conservation attitudes of participants. The only study that compared the short-term influence on participants’ attitudes after attending a ‘dolphin show’ or after swimming with captive dolphins indicated that the latter did not provide any benefits additional to those of simply attending a ‘dolphin show’, and that both attendance and swimming-with had only small effects (Miller et al. 2013).

Potential consequences for the live dolphin trade

It can be very difficult to ascertain from exactly which wild population a given live-traded animal or group of animals has come (Fisher & Reeves 2005). Therefore, it can be difficult to assess the conservation risks associated with many live-capture operations, especially considering that most if not all of the targeted populations are already facing multiple anthropogenic threats. Live-capture programs can lead to the deaths of multiple individuals during attempts to live-catch one individual. If the welfare of dolphins in “swim-with” programs is compromised by this activity, it may reduce their survival, leading to higher turnover rates of dolphins at facilities offering the swim-with option than the current rates at regular aquaria. Hence, this may have a compounding effect on demand for live dolphins. Any new demand for live dolphins will have implications for wild populations, and it often involves supply chains which are not transparent and over which we have little (or no) control.

At this stage, it is difficult to say anything about the risks to species or populations from the programs you are considering. Although those risks may be small, I encourage you, given the complexity of the dolphin supply chain and its lack of transparency, to be extremely cautious in allowing any increase in demand that could contribute to the depletion of dolphin populations.

References

- Constantine R. 2001. Increased avoidance of swimmers by wild bottlenose dolphins (*Tursiops truncatus*) due to long-term exposure to swim-with-dolphin tourism. *Marine Mammal Science* 17(4): 689-702.
- Fisher S.J. & Reeves R.R. 2005. The Global trade in live cetaceans: Implications for conservation. *Journal of International Wildlife Law & Policy* 8(4): 315-340.
- Kyngdon D.J., Minot E.O., Stafford K.J. 2003. Behavioural responses of captive common dolphins (*Delphinus delphis*) to a ‘Swim-with-Dolphin’ programme. *Applied Animal Behaviour Science* 81(2): 163-170.
- Marino L. & Lilienfeld S.O. 2007. Dolphin-Assisted Therapy: More Flawed Data and More Flawed Conclusions. *Anthrozoös* 20(3): 239-249.
- Miller L.J., Zeigler-Hill V., Mellen J., Koeppel J., Greer T. & Kuczaj S. 2013. Dolphin Shows and Interaction Programs: Benefits for Conservation Education? *Zoo Biology* 32: 45–53.
- Samuels A. & Bejder L. 2004. Chronic interaction between humans and free-ranging bottlenose dolphins near Panama City Beach, Florida, USA. *Journal of Cetacean Research and Management* 6(1):69–77.

Salgueiro E., Nunes L., Barros A., Maroco J., Salgueiro A.I. & dos Santos M.E. 2012. Effects of a dolphin interaction program on children with autism spectrum disorders – an exploratory research. *BMC Research Notes*5:199.

Sincerely,

David Lusseau, PhD
MASTS Senior Lecturer in Marine Top Predator Biology

On behalf of myself and the following scientists:

Omar Amir
Isabel Beasley
Per Berggren
Alexei Birkun
Pablo Bordino
Lorenzo Rojas Bracho
Robert Brownell Jr.
Vic Cockcroft
Tim Collins
Kike Crespo
Wang Ding
Louella Dolar
Simon Elwen
Benjamin Kahn
Cara Miller
Putu Liza Mustika
Ada Natoli
Doug Nowacek
Randall Reeves
Renaud de Stephanis
Giuseppe Notarbartolo di Sciara
Dipani Sutaria
Asha de Vos
Randall Wells