



Population ecology of a resident population of common bottlenose dolphins (*Tursiops truncatus*) in North Patagonia, Argentina: the most popular dolphin species on its way out?

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A coastal bottlenose dolphin population from Bahía San Antonio (Patagonia, Argentina) was subject to a photo-identification study between 2006 and 2011. Effort of land- and boat-based surveys totalled 1470h during which 413 dolphin groups were observed, resulting in the identification of 67 individual dolphins. Of these, 57% were defined as residents, 34% as partial residents and 9% as transients. Adult dolphins associated with a calf were significantly more resident in the study area than all other identified dolphins.

Seasonal abundance estimates ranged from 40 (95%CI: 16.1-98.8) to 83 (95%CI: 45.8-151.8) individuals. Adult survival rates varied between 0.97 (± 0.037 SE) and 0.99 (± 0.010 SE), and the probability of temporary emigration was equal to the probability of permanent emigration, averaging 0.047 (CI: 0.004 – 0.637) annually. The average calving interval equalled 3.5 ± 1.03 years, with an estimated 3.5 births/year population-wide resulting in a minimum annual birth rate of 4.2%. Documented calf mortality equalled 22% annually, however data strongly suggest some calves may have been lost before they were documented, leading to an underestimation of birth rate, calf mortality and possibly the number of reproductive females. Recorded birth and recruitment rates are insufficient to compensate for mortality in the population.

Analysis of social structure indicates that, although this community clearly qualifies as fission-fusion society, the association index values within this population were high when compared to other dolphin populations worldwide.

This bottlenose dolphin population from Bahía San Antonio is small, isolated and declining. Subsequently found low genetic diversity supports our findings of its extreme vulnerability. Despite extensive research, worldwide increasing numbers of populations of once “common” bottlenose dolphins are reported to be declining.