

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p>Fourth Meeting of the Population and Conservation Status Working Group</p> <p><i>Wellington, New Zealand, 7 – 8 September 2017</i></p> <p>Identification of animal movement patterns using tri-axial accelerometry</p> <p><i>Emily L. C. Shepard, Rory P. Wilson, Flavio Quintana, Agustina Gómez Laich, Nikolai Liebsch, Diego A. Albareda, Lewis G. Halsey, Adrian Gleiss, David T. Morgan, Andrew E. Myers, Chris Newman, David W. Macdonald</i></p>
---	---

SUMMARY

An animal's behaviour is a response to its environment and physiological condition, and as such, gives vital clues as to its well-being, which is highly relevant in conservation issues. Behaviour can generally be typified by body motion and body posture, parameters that are both measurable using animal-attached accelerometers. Interpretation of acceleration data, however, can be complex, as the static (indicative of posture) and dynamic (motion) components are derived from the total acceleration values, which should ideally be recorded in all 3-dimensional axes. The principles of triaxial accelerometry are summarised and discussed in terms of the commonalities that arise in patterns of acceleration across species that vary in body pattern, life-history strategy, and the medium they inhabit. Using tri-axial acceleration data from deployments on captive and free-living animals (n = 12 species), behaviours were identified that varied in complexity, from the rhythmic patterns of locomotion, to feeding, and more variable patterns including those relating to social interactions. These data can be combined with positional information to qualify patterns of area-use and map the distribution of target behaviours. The range and distribution of behaviour may also provide insight into the transmission of disease. In this way, the measurement of tri-axial acceleration can provide insight into individual and population level processes, which may ultimately influence the effectiveness of conservation practice.

This paper has an attachment:

Report Citation: Shepard ELC, Wilson RP, Quintana F, Gómez Laich A and others (2008) Identification of animal movement patterns using tri-axial accelerometry. *Endang Species Res* 10:47-60. <https://doi.org/10.3354/esr00084>