POSTER

Reinventing Wildlife Tracking for the 21st Century – Improving the Efficiency of Radio Telemetry

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VHF radio telemetry is a great tool for locating and monitoring wildlife – especially in forested landscapes where other methods are unsuitable – but the equipment hasn't changed much since the 1980s. Traditional single-frequency receivers can monitor only one frequency at a time. However, sequentially scanning through a list of frequencies wastes time, and if the receiver is moving you risk missing unmonitored frequencies. There has to be a better way!

Here we describe the development of new Multi-Track receiver technology which revolutionises conservation research, especially for aerial tracking. The receiver monitors 500 frequencies simultaneously (instead of requiring sequential scanning), and it automatically determines positions without the need for triangulation. The system can track while moving, and without needing to hover and rotate, which is ideally suited for efficient aerial tracking. Unlike standard radio receivers, it also logs positions for easy spatial analysis, and comparisons over time.

Tracking from the air using aircraft or Unmanned Aerial Vehicles (UAVs, or drones) offers many advantages over traditional ground-based survey and research techniques, and different platforms provide different benefits. As well as making fieldwork faster, safer, and more efficient, the technology doesn't require and any manual input so supports fully-automated searches for simplicity and repeatability.

We discuss the evolution of this technology for applied conservation, and present results comparing the efficiency of different tracking methods for locating different species, including cryptic nesting penguins and forest birds.