The Drone Ranger – a VHF-equipped drone to improve yellow-eyed penguin nest-finding

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Endangered yellow-eyed penguins (*Megadyptes antipodes*) nest individually underneath thick coastal scrub up to 1 km from the sea, making nests difficult and time-consuming to find by ground searching. Unmanned Aerial Vehicles (UAVs) or drones fitted with a camera are increasingly used for counting and monitoring wildlife, however, visual and thermal imagery are not suitable for detecting penguin nests under thick vegetation cover. We fitted a multi-frequency VHF receiver to a UAV (the Drone Ranger) to track penguins to their nests on Enderby Island in the New Zealand subantarctic. The receiver simultaneously tracked multiple VHF transmitters operating on individual frequencies. In this talk we present the results of nest location using several different methods; manual ground searching, ground-based VHF tracking, and aerial tracking using the UAV system. This novel technology has applications for locating and tracking a wide range of wildlife, particularly those hidden under thick vegetation, underground, or cryptic species which are difficult to see.