From: Rob Rankin
Subject: Internship: Quantitative Position with the Mandurah Dolphin Research Project in Australia

We are excited to announce a mixed quantitative and field-based research assistant position to study bottlenose dolphins in Australia. The position is open from January 9th to February 28th 2017 for the Mandurah Dolphin Research Project in Western Australia (WA).

The Murdoch University Cetacean Research Unit (MUCRU) commenced a research project in January 2016 aimed at gaining a solid understanding of the bottlenose dolphins using the Peel-Harvey Estuary (part of Ramsar Wetlands) and adjacent coastal waters. The overall aims of the project are to characterize population size and structure, habitat use and genetic connectivity of dolphins using the estuarine and coastal areas.

We seek a dedicated and independent research assistant (volunteer) to run capture-recapture computer simulations and statistical analyses. The research questions will be focused on practical problems of estimating abundance and demographic processes from photo-ID data, modelled after the ongoing field studies conducted by the Mandurah Dolphin Research Project. The simulations are expected to inform the survey design and analytical methodology of the overall Project, and potentially contribute to scientific publications. In addition to quantitative work, the assistant is expected to participate in boat-based dolphin surveys with a team of biologists and field assistants.

The main duties include:
- Simulations: write computer scripts to simulate dolphin movement patterns and capture-recapture data collection;
- Batch analyses: write R scripts to analyze simulation datasets;
- Data collection: spot dolphins, drive the boat, take photographs for photo-identification, record data;
- Data processing: upload data, enter data, match fins, map sightings;
- Literature: read and review capture-recapture literature to inform simulations and analyses;
- General: maintain the boat and car, clean equipment.

Applicants are expected to have the following traits and qualifications:
- can work independently;
- intermediate or advanced proficiency in R (or another scientific computing language);
- have prior experience debugging complicated computer code;
- have the mathematical acumen to read, learn, discuss and implement basic statistical analyses.
- have mental and physical stamina to endure long days on a boat under intense sunlight while collecting complex data according to a rigorous protocol;
- have a mixed background in biology, ecology, statistics, and computer programming, including some combination of formal tertiary education (B.Sc.) and relevant internships/jobs.
- additional preferred skills include boat handling, first aid, experience in photo-ID, experience in population ecology analyses (but not necessary).

The position would suit a student who is interested in a career in quantitative ecology. Supervision will be by two PhD students specializing in different aspects of capture-recapture. Ambitious and competent candidates may have the opportunity to pursue their own research interests, e.g. for academic research credit, such as a B.Sc. Honours project.

The boat-based data collection and data processing will be from the 9th of January till the 28th of February 2017. Data collection (photo-identification and biopsy sampling) will be conducted in inland waters to up to 12nm offshore. Data collection is weather dependent and research assistants are expected to be available full time during day light hours throughout the time they commit to the project.

This is an unpaid position and assistants need to organise their own travel to and from Mandurah, which is approximately 1 hr south of Perth in WA. The office space will be in a research house where assistants are required to rent a room for a cost of 150 AUD/week (inclusive of internet and bills) in shared accommodation. And for your free time Mandurah has everything you can think of a holiday town to offer (shops, cafes, bars, cinema, nature, hikes, camping, surfing, diving, snorkelling, paddle boarding, kayaking, wildlife spotting, skydiving etc.) and cosmopolitan Perth is only an hour away.

To apply for this position please send me a cover sheet specifying why you would like to assist in this project, how you meet the qualifications, the time you are applying for, your CV and names and contact details of two references to <R.rankin@murdoch.edu.au>
R DOT Rankin AT murdoch DOT au

Looking forward to hearing from you!

All the best,

Robert W Rankin & Krista Nicholson
PhD Candidates
Murdoch University Cetacean Research Unit
Perth, Western Australia