Dolphin Acoustics

Liz Hawkins PhD

June 23 guest speaker report by George Lewis

Dolphins form family groups as we do, and they nurture, communicate and demonstrate feelings. Liz has made a lifetime study of them and shared some of her findings with us and explained why her study is so essential.

Liz began her PhD in 2003, based in Byron Bay out of Southern Cross University.

Aims of the research:

- To assess human impacts eg noise and boat collisions, water quality and pollution.
- To make recommendations.
- To promote environmental awareness and conservation.

Dolphins in this study are Bottlenose, the predominant local species. Over 1000 individuals have been seen in Byron Bay but only about 30% of these are residents.

Why study dolphins?

Dolphins are at the top of the food chain; they have changed little in 13 million years and are particularly sensitive to environmental changes. They live close to us and are therefore exposed to human impacts especially with regards to noise, habitat degradation, depletion of prey and food quality.

The study

From plaintive whistles of a calf in distress to joyful clicks of adults at play; from half-brain sleeping to bonding, parental guidance and indicating 'how I'm feeling today' – Liz is trying to unravel their secrets and assess how our changes to their habitat are affecting them.

Each group has its own favourite whistles and each individual its own identity call, much as we would use a name. There is also a feeding whistle that identifies prey and further whistles are used in socialising. They can communicate over 1000 kilometres.

Dolphin vision is far superior to ours. However this pales into insignificance when compared to their echo-location sonar. They can 'see' up to 100 metres even in murky water. Their clicks increase in rapidity as they approach an object. They can also 'see' through objects at close range. This fact helps to explain why they are rarely caught on shark prevention drum lines. Their ability allows dolphins to avoid hooks hidden inside baits.

Socialising includes swimming together with a mate touching fins, 'petting', and 'flashing', where a male might turn a mark or bright underside towards a female.

Males tend to form alliances of 4-5 adults, while females form much larger groups up to 90 animals, breaking into mini-groups where they escort calves of similar ages. Dolphins are conscious breathers, therefore they cannot afford to be totally asleep – instead they rest just below the surface, rising to breathe and then sinking again. Most feeding takes place early morning and late afternoon, but they are also opportunistic feeders and will take advantage of any food that happens by.

The Future of this Research

Moreton Bay is known to have a resident population of Bottlenose plus a few threatened Pacific Humpbacks, but little more is known. This study hopes to extend to Moreton Bay and establish 'base line data' from which human impacts on their populations and health can be measured.

Can we help?

As always the answer is 'yes'.

- Awareness – collect brochures from Gecko House, study the project and become involved.
- Sighting reports – discover how you can report dolphin sightings via the web.
- Attend a training workshop – details available from the brochures or from Gecko.
- Do your own monitoring – take dolphin photos and collect notes on harassments or entanglements.
- Support the program financially – eg Adopt-a-Dolphin. A separate brochure is available on this too.

Question time

As usual, members indulged in an animated question time to which Liz responded with often hilarious anecdotes describing the antics of dolphins and their interactions with us.

Thanks to the ladies who provided another delightful supper.

The next Guest Speaker is Leighton Upton speaking about the wildlife on South Stradbroke Island, 6.30pm on Wednesday 28th July.