

KARST FRONTIERS: FLORIDA AND RELATED ENVIRONMENTS SYMPOSIUM

- Mia Thurgate

The Karst Waters Institute (KWI) hosted a symposium entitled *Karst Frontiers: Florida and Related Environments* in Gainesville, Florida between 6-10 March 2002. The symposium focussed on the hydrogeology and biology of young, unaltered karst aquifers, which are commonly found in coastal or island settings. Examples such karst aquifers are found in Florida, Texas (Edwards Aquifer), Yucatan Peninsula, Bahamas and Cuba. I decided to join the symposium and presented a poster on a South Australian example of this type of karst aquifer, the South East Karst Province.

Most of our understanding of karst hydrogeology has developed from the study of older karst aquifers that have been developed in recrystallised carbonates, where typically most of the flow is through fractures and conduits. In young, unaltered karst aquifers, a significant component of groundwater flow is through the bedrock itself, and models developed in older karst aquifers may not apply. There is a need to develop a body of work on the hydrogeological nature of young karst aquifers to address this gap. The KWI symposium went a considerable way towards achieving this goal. It also brought scientists together with land managers providing a forum to discuss the implications of research for management of these areas.

The symposium opened with a reception and several keynote addresses, which unfortunately I missed as I was stuck somewhere between New Orleans and Gainesville on a Greyhound bus. From what I was told, the keynote addresses were fascinating. Richard Franz spoke on the interesting and highly diverse subterranean fauna of Florida. This was followed by Bill Wilson's paper on conduit modelling was apparently controversial, ambitious, exciting and certainly generated a lot of discussion throughout the symposium.

I arrived in Gainesville in time to attend the first session of papers, devoted to the examination of groundwater flows in young karst. This was followed by a session on the diversity and richness of the fauna of Florida and the Caribbean. Afternoon sessions examined geochemistry and microbiology. This last session was especially interesting, and it is becoming increasingly clear that microbes can and do play a major role in the development of karst systems. The evening was devoted to a poster session and the relaxed atmosphere and wide array of posters on display provided the perfect opportunity for delegates to mingle and chat.

The next day was devoted to field trips in the local area. Our first stop was the Haile Complex quarries where we had a chance to look at the local Ocala Limestone and karst features exposed by mining activities. The site is also famous for a wide array of fossils, with a range of invertebrates (corals, snails and mussels etc) and vertebrates (fish, whales and crocodiles) contained in the bedrock. Sediment fills in

exposed karst features also contain interesting fossils including giant ground sloths, tapirs and turtles.

Our next stop was the beautiful Ichetucknee Springs State Park, featuring a group of nine large and hundreds of small karst springs. Beautiful clear waters feeding into the Ichetucknee River characterize these exquisite features. Over 400 000 people visit the park each year for diving, canoeing or tubing, and bush walking. Sadly, recreational activities were not regulated in the past and intense visitor pressure, coupled with attempts by a former owner to block the headspring, resulted in severe degradation of the system. Current management practices have curtailed recreational damage and have largely restored the headspring. Nearby quarrying operations were recently purchased in an effort to prevent groundwater contamination. In exchange for the purchase agreement, the quarry owner was given permission to build a cement kiln nearby, and this has sparked outrage as conservationists see the kiln as another potential source of pollution.

In the evening a reception was held in the Florida Museum of Natural History, currently housed at the University of Florida. The natural history and anthropology of the local area are vividly interpreted and presented in the museum exhibits. For the karst-minded, there is an excellent replica of a cave, complete with realistic speleothems, cave critters and crawl holes (for the children and young-at-heart). At the time of our reception, there was also a travelling exhibit of a nearly-complete *Tyrannosaurus rex* skeleton, standing at over 12.5 m.

The following day saw a return to the paper sessions. In the morning, papers were presented covering the development of karst on carbonate islands. This was followed by a session dealing with the hydrogeology and biology of the Yucatan, and then a similar session on Edwards Aquifer. The final session was devoted to karst biology. A final summary paper by Art Palmer tied the main themes of the conferences together and examined the differences between older, recrystallised karst versus young, unaltered karst. The symposium formalities were rounded off with a banquet in the evening and a paper on the palaeontology and archeology of karst deposits from Florida.

The conference was interesting, well organised and attended by a dynamic group of people from all over the world. I thoroughly enjoyed the event and gained a great deal from the experience. I thank John Mylroie and his students for making my attendance possible, and also thank the Conference Organising Committee and other delegates for making me so welcome. Anyone interested in learning more about the symposium and obtaining a copy of the proceedings should go to the Karst Waters Institute web site at: www.karstwaters.org

On a sad note, during the symposium field trip, keynote speaker Bill Wilson became unexpectedly ill

and suffered a heart attack. A small group of delegates performed CPR until medical assistance arrived and Bill was airlifted to hospital. Unfortunately he did not recover and passed away

several days later. I'm sure that ACKMA members will join me in expressing condolences to Bill's family.