CATHEDRAL CAVE SEDIMENT REMOVAL

- Steve Bourne

Sediment removal in action!

Cathedral Cave contains the third largest fossil deposit discovered at Naracoorte and has been the site of two excavations, firstly by two Flinders University students, Nick Bishop and Matt McDowell who excavated a test pit under the supervision of Ass. Prof Rod Wells and then by Steven Brown, also of Flinders University who completed an honours project in the cave. Whilst the entrance chamber is very large, the cave quickly narrows to a passage that is about 70 metres long and as low as 30 cm in places. In total, the fossil deposit is over 200 metres from the entrance.

Three groups of volunteers at Naracoorte Caves over the weekend of March 8th and 9th completed a rather unusual and difficult project. Eighteen members of the Cave Exploration Group of South Australia (CEGSA), ten Green Corps participants and fourteen members from the newly formed "Friends of Naracoorte Caves" collected together on the Saturday morning to plan a strategy to remove over 500 bags of sediment from the fossil chamber to the surface. The previous researchers had bagged the sediment and returned it to the excavated pits, as per fairly regular practice. It was necessary to clear the pits to enable a further project to begin, building on the early research.

Management of fossil deposits is an interesting task. The removal of fossils is essentially a quarrying process that has a significant an irreversible impact on the cave environment. What to do with the sediment after a site is excavated is also an interesting problem; do you back fill the excavation pit, clearly delineating the excavated area or do you leave it open in case of further research? When is the research on a site completed and how much should be left for future generations or as new techniques and technology develops?

It is always a dilemma whether to clear the sediment permanently from a cave, or leave it to backfill the hole. The decision was made to remove it for several reasons.

- Wherever the bags of sediment would be stacked would impact on a part of an important chamber.
- The sediment required wet screening to retrieve small fossil material. Some had been dry sieved in the cave but his is not the most satisfactory method of retrieving small specimens.
- To fulfil its World Heritage values, Naracoorte Caves must continue research. Backfilling the pit would hamper further work, possibly causing greater impact when emptying the pit again.
- Research planning includes assessing each site for the information it may yield. The size of excavations is based on "The law of diminishing returns", so excavations cease is there is little further knowledge to be gained. The size if the Cathedral Cave deposit suggests there are many more years of research to come yet.

The 42 volunteers were split into teams throughout the cave and worked laboriously throughout the day. By day's end, the majority of the bags had been removed from the fossil chamber with over 100 out of the cave completely. The following the morning the hardy CEGSA cavers returned to the cave alone and in an amazing effort moved all the sediment to the last squeeze and another 200 bags from the cave. Subsequently, the Green Corps team have moved the last 200 bags to within easy reach of the entrance. The next research project by Dr. Gavin Prideaux has commenced and for certain we will not allow the sediments bags to again build up to this level. It was an amazing effort by a large group of volunteers that not only attracted the attention of the local press but also was reported in the statewide "Advertiser" newspaper.