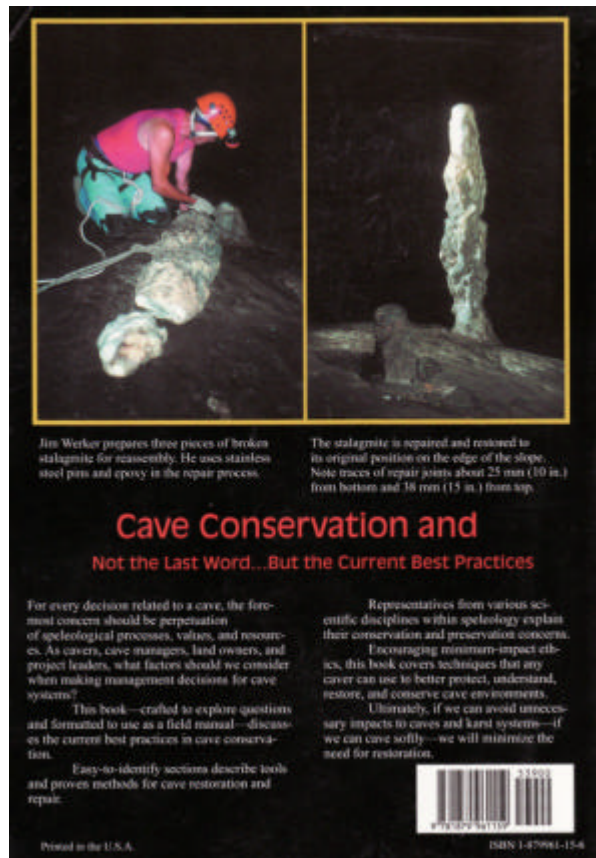


BOOK REVIEW

CAVE CONSERVATION AND RESTORATION: Current practices in cave conservation plus proven field methods for cave restoration and speleothem repair. **Reviewed by Andy Spate.**

Back cover of the book



A few weeks ago I sent the following to the ACKMA web list:

I have just received a copy of Cave Conservation and Restoration - 2006 Edition - published by the National Speleological Society (of America). This book is simply amazing - it runs to 600 + xiv pages and contains dozens of B&W and colour photographs and diagrams. For a price of \$US37 (\$US39 non-members ~\$A47-49.50) + freight, this book is a steal! An absolute must for caving clubs and managers!

See:

<<http://caves.org/service/bookstore/index.shtml>> for details.

The NSS Bookshop blurb says:

For every cave-related decision, the foremost concern should be protection of the cave resource. This new book, formatted in a handy field-manual size, provides ideas and practical tools.

Part One describes current concepts and practices in cave conservation. Identifying/protecting cave resources. Establishing limits. Monitoring impacts. Defining management standards. Improving ethics.

Part Two covers tools and proven methods for cave restoration and speleothem repair. Cleaning cave features. Removing artificial fill and debris. Controlling organic nuisances. Organizing cave projects. Repairing speleothems.

At 600 pages - and more than 4.5 cm thick - it is hardly a 'handy field manual size' but it is a extremely comprehensive documentation of thousands of good practical ideas as well as the more theoretical background to conservation and ethics.

I have now had the chance to dip into it more deeply - this is a dip-into reference book - but can also be read cover to cover. Fabulously well illustrated and referenced (although with a preponderance of USA references - which is fully understandable - more on references later) it addresses so many aspects of cave and karst conservation - plus the restoration component.

Many of the questions that have been directed at me over the past three decades are tackled here. As I said above all caving clubs, management agencies, show cave sites and professionals dealing with cave and karst conservation **MUST** have this book.

I was going to trespass on our editor's good nature and list all the 90 separate articles contributed by 46 authors and reviewed by 72 experts as there is no other way to adequately canvass the breadth of this remarkable book. But that would make this review too long so here is a subset of (perhaps) the most significant, interesting or unusual articles:

Part One: Introduction

- Endless Caves and Lost Stalagmites
- Vision for This Book
- Not the Last Word - But a Call to the Future

Part Two: Cave Conservation, Management and Ethics

Section A: Identifying and Protecting Cave Resources

- Current Best Practice
- Resource Inventory: A Tool for Cave Science, Management, and Restoration
- Biological Dos and Don'ts for Cave Conservation and Restoration
- Do Not Disturb Hibernating Bats or Nursery Colonies
- Federally Listed Bat Species of Importance to Caves and Mines
- Anthropogenic and Foreign Chemicals in Caves
- Protecting Microbial Habitats: Preserving the Unseen
- Paleontology in Cave Conservation and Restoration

• Archaeology in Cave Conservation and Restoration	
• Rock Art and Historic Writing in Caves	
• Karst Hydrology: Protecting and Restoring Caves and Their Hydrologic Systems	
Section B: Developing Cave Management Programs	
• Material Considerations for Cave Installations	
• Trail Delineation and Signage in Caves	
• Are We Managing Caves or Conflicts?	
• Model Ethics System for Resolving Cave Conservation Dilemmas	
Section C: Improving Caver Ethics	
• NSS Conservation and Preservation Policies	
• Do Cavers Need a Code of Conduct?	
• Public Relations: An Essential Element in Cave Conservation	
Part Three: Cave Restoration	
Section A: Introducing Cave Restoration	
• Cave Restoration Overview: Why Call it Cave Restoration?	
Section B: Organising Cave Projects	
• Documenting Volunteer Value	
Section C: Restoring Cave Passages	
• Cave Graffiti: The Writing is On the Wall	
• Control of Lamp Flora in Developed Caves	
• To Bleach or Not to Bleach: Algae Control in Show Caves	
• Cave Lint and Dust Removal Projects	
• Guidelines for Trash and Rubble Cleanup Projects	
• Sinkhole Cleanout Projects	
Section D: Restoring Speleothems	
• Harms and Limits	
• Sources for Cave Restoration Water	
• Flowstone and Dripstone Restoration	
• Cave Pearl and Delicate Speleothem Restoration	
• Practical Caving Gloves	
Part 4: Speleothem Repair	
Section A: Introducing Speleothem Repair	
• Current Best Practices in Speleothem Repair	
• Speleothem Repair Materials	
Section B: Repairing Speleothems	
• General Techniques for Most Speleothem Repairs	
• Drapery Repair	
• Rimstone and Travertine Dam Rebuilding	
• Gypsum Repair	
• Lava Formation Repair	
Section C: Specialised Mechanical Assists	
• Apparatus for Large Speleothem Repairs	
Section D: Success Stories and Blunders	
• Beware of Claims and Labels	
• "Three R" Story	
• No Sacrificial Caves	
[eight] Appendices	
Biographical Notes	
Index	

Note that this is only a partial list of the book's contents.

As I said above there is something for everyone – from how to write a cave management plan to what glues work best for repairing gypsum speleothems. Each of the 90 articles is usually

followed by cited references and suggested further reading.

I haven't counted these but I was sufficiently parochial to look through and find all the Australia/New Zealand papers cited – there are dozens mostly from the Cave Tourism and Management conference proceedings.

In fact the book's subtitle 'Current practices ...' is in part developed on discussion of Hamilton-Smith and others (1998) and Spate and others (1998) from the Twelfth ACKMA Conference at Waitomo.

The editors emphasise that they are presenting current best conservation and restoration practices rather than world's best practice or similar terms – reminding us 'that improved methods [and, hopefully, ideas] are always on the horizon.

As well as the references, B & W and colour photographs and a reasonably complete index there are dozens of useful comments and tips in sidebars throughout the book.

In terms of quibbles, both Neil Kell and I – after very little exposure to the book noted that there was no mention in the index of the use of vacuum cleaners. Ah ha! we thought, that is something that they have missed out on – even after we had talked about their use in a number of places.

They had missed it out – but only in the index! And that is about the extent of my complaints although invertebrates is spelt wrong in a couple of places and sometimes the hyphenation in the sidebars hasn't worked well – but such are the whinges of a pedantic old ****! Whilst behaving pedantically why no diphthong in 'palentology' but in 'archaeology'?

Nice to see, unusually for a book from the US, that both imperial and SI (*Le Système international d'unités*) metric units are used although there are occasional glimpses of unfamiliarity with SI units as on the back cover.

A further issue for those from downunder may well be the unavailability of some of the adhesives and materials suggested as suitable for cave environments.

I was particularly interested in comments on various epoxy adhesives – I imagine that we all tend to think of all epoxies and superglues as the same – given a moment's thought – and reference to this new bible – this is not the case.

The eight appendices contain much of value – perhaps most especially Appendix 3, Cave and Karst Reference List, which includes a full listing of the Australasian Cave and Karst Management Conference Proceedings from 1976 until 2005. Appendix 8, Sample Cave Management Plan: Joe Doe Cave, is also very useful.

All in all – just go out and buy it. Speleobooks may well have some copies available at Buchan and I may be able to obtain copies at discount prices after Buchan!