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Guadalupe Mountains National Park
Texas

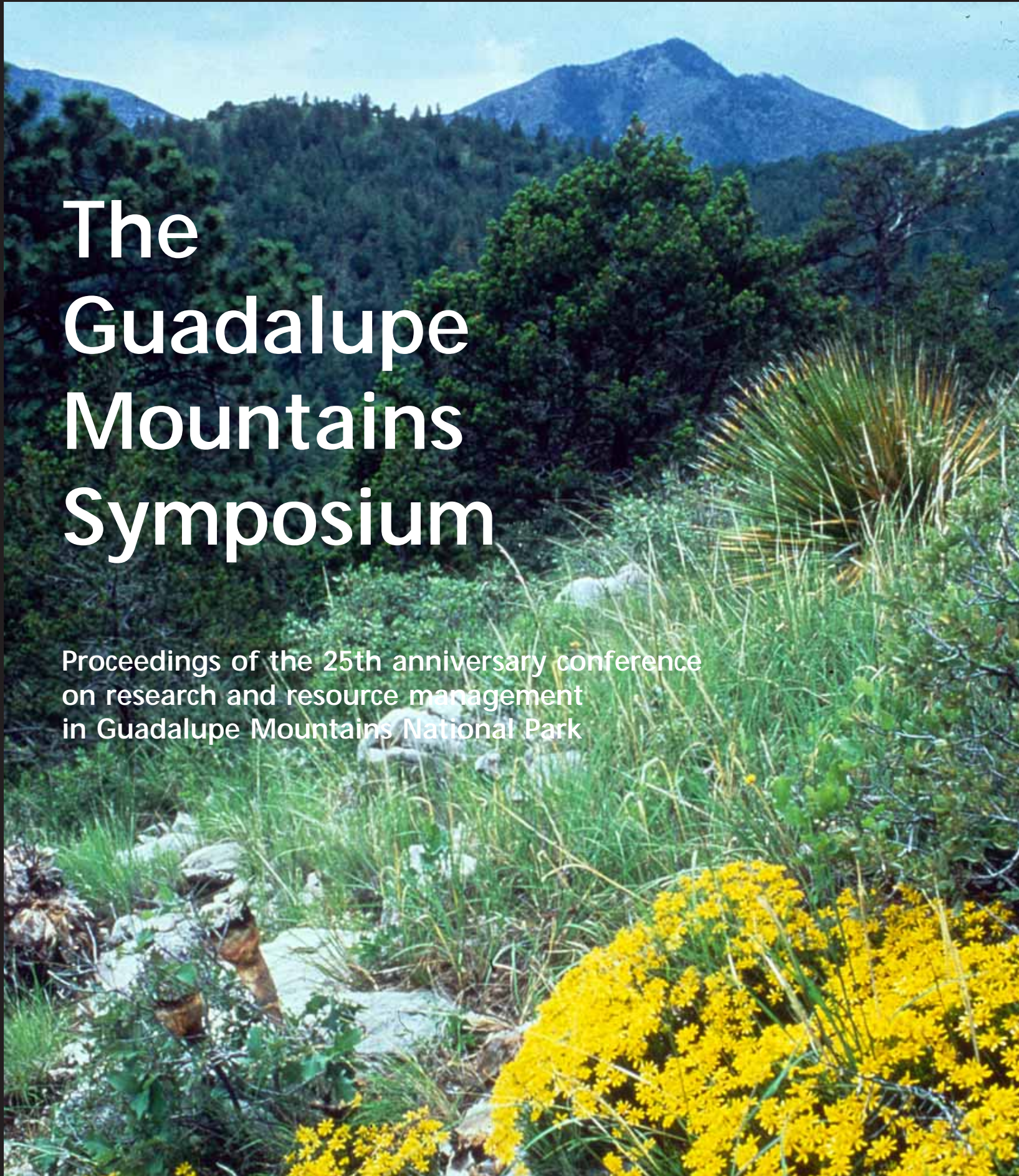


The Guadalupe Mountains Symposium

Proceedings of the 25th anniversary conference
on research and resource management
in Guadalupe Mountains National Park

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resource management in Guadalupe Mountains National Park



Editor's Message

The first Guadalupe Mountains symposium in 1975 was held primarily to present baseline research results about the new park and to enhance communication between researchers who were unaware of each others' projects. As the time approached to celebrate the park's 25th anniversary, 22 years of additional field studies and scholarly research had taken place. What better way was there to share results of that second wave of studies and, again, to facilitate communication between researchers of varied disciplines than to hold another symposium, this time in conjunction with the park's anniversary.

The 25th anniversary symposium was sponsored by Guadalupe Mountains National Park, the National Park Service, the Carlsbad Caverns Guadalupe Mountains Association, and Texas Tech University. Financial contributions of the National Park Service, universities, private organizations, and independent researchers provided support for the research presented at the symposium.

Readers of this volume will notice a wide range of presentation styles. This is because many presenters shared their knowledge of the Guadalupe Mountains from personal experiences and hand-written notes, and these presentations appear as transcripts in the symposium volume. Other presenters prepared papers, which appear more-or-less in the original form. Regardless of their form, we consider all of the symposium presentations as important summaries and significant documentation about the cultural and natural resources of the Guadalupe Mountains.

The presenters at this conference represent only a fraction of the research that has been accomplished since that earlier symposium and the inception of the park. Many other projects would have been appropriate for this symposium volume, but the investigators were simply not able to attend. However, additional research results and associated bibliographies may be reviewed over the Internet at <http://science.nature.nps.gov/permits/>.

One of the more important aspects of the gathering was to capitalize on the wealth of collected experience and knowledge, and to hold open forums about potential research, education, and management directions for the park. We encourage you to periodically revisit this volume and evaluate where we stand with the recommendations discussed during the forums. Furthermore, we encourage current and future park employees, researchers, and educators to use the knowledge herein, as we fulfill our roles as the present stewards of Guadalupe Mountains National Park's outstanding natural and cultural resources.

Proceedings of *The Guadalupe Mountains Symposium* are available electronically at www.nps.gov/gumo.

For a printed copy contact the senior editor by e-mail at fred_armstrong@nps.gov or write to Fred Armstrong, Guadalupe Mountains National Park, HC 60 Box 400, Salt Flat, TX 79847.

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The Guadalupe Mountains Symposium

Carlsbad, New Mexico

April 22-25, 1998

Proceedings of the 25th anniversary conference
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Guadalupe Mountains National Park

Preface

The papers included in this volume are part of a research symposium devoted to studies associated with Guadalupe Mountains National Park. The symposium was held in Carlsbad, New Mexico, on April 22–25, 1998. It was the second such research conference and focused on the park since its establishment in 1972. The first conference was presented in April 1975.

This second symposium was organized as a response both to continuing interest in the park's natural and cultural resources and as part of the 25th anniversary of the establishment of the park. Over 50 presentations, nearly 50 poster displays and exhibits, and 11 field trips were included in this conference.

At the time of this conference, each participant was promised a copy of the symposium proceedings. It has now been over five years since the end of this conference. And from nearly the beginning of my tenure as the superintendent of Guadalupe Mountains National Park in 2000, I have been aware of the commitment we made to publish and provide the proceedings to participants. It has been a more difficult undertaking than any of us probably expected. And while none of us on the park staff are happy with how long it has taken us, we are finally able to fulfill our commitment.

More importantly, we can now make available the significant work done on behalf of the park by so many researchers, scholars, and employees of the National Park Service. Research, learned thought, and writing will continue to contribute to the management of this park and the preservation of its fragile and increasingly rare natural and cultural heritage for all people to explore and enjoy.

It is also with sadness that we dedicate these proceedings to Dr. Garner Wilde who recently died in a tragic automobile accident. Dr. Wilde's work exemplified the passion many scientists, historians, educators, and artists have had for this park over the years. His work will guide us as we continue to study the natural and cultural history of Guadalupe Mountains National Park. And we hope his example will serve as a model for all those who come after.

—Ellis Richard, Superintendent
Guadalupe Mountains National Park
2000-2004

Welcome

I want to welcome all of you here to the second Guadalupe Mountains symposium. This event is a closeout for our 25th anniversary year and it comes some 23 years after the first symposium was held at Texas Tech University after they had done several years of work after the park was established in 1972. So this has been a long time coming; it has been a dream that Jan and I and several others have had in doing for a number of years, but other things always kept taking precedence. Even this year with our 25th anniversary activities, we had some thoughts about whether or not we'd do this; I said, "Yes, we will do this," and all these other people did all the work and have finally pulled it together. So, we really do appreciate all of you coming, because your presence is what will make this gathering and these proceedings invaluable for now and for the future.

During the next three days we plan to focus on the studies that have been associated with Guadalupe Mountains National Park and adjacent land resources, assimilate ideas and conversations related to future studies, and present the results of the many studies that have occurred in the past 25 years. This is a pretty exciting time to be here, and it's just wonderful that it has all come together. Where the first symposium presented the results of baseline biological studies that were done after the establishment in 1972, this symposium and convocation of scholars, resource managers, and interested public will focus on the much broader ideas of geological, cultural, and biological interest. So we have expanded our horizons over the decades and look forward to you all sharing the results of your studies. I hope that this will also stimulate from you all suggestions, ideas of areas where we need to focus our efforts and resources in the future on different projects and needs, and we will appreciate your suggestions related to things

that we are doing in the management of the resources of the park and the surrounding resources. This is a time where if you are ever going to be open and candid, we expect it now so that this can be the most productive gathering that it possibly can.

In assembling this, we will have the presentation of some 49 talks given by 52 speakers, three open forums, 30 posters, 19 exhibits, and 11 field trips. One of the tough parts here during our time will be picking and choosing, because there are some wonderful things being scheduled, and although you would like to be three or four people [so you can attend sessions simultaneously], it's not meant to be. All of you will receive a copy of the talks as the proceedings are published afterward, so you will be able to have everything that has been presented and some presenters who weren't able to make it will also be in the proceedings. We hope you'll take full advantage of this symposium for learning, sharing, and inspiring each other about the important resources of the Guadalupe Mountains and this very special national park. We really do appreciate your coming and look forward to the interface during the next couple of days.

Now I would like to introduce the honorable Mayor Perkowski. Mayor Perkowski will come and welcome you to the City of Carlsbad.

Thank you very much, Larry. It's a pleasure to be here today and it's a pleasure to have all of you in Carlsbad to participate in this symposium. I got the sheets and I found out what was going on, and I am going to apologize to you; I wish I could be here for all three days of it, but in my real life I am an assistant principal at a middle school and they make me be there most of the time because we have all those kids to take care of, but every chance I get I will be over here because I

think some of the speeches and some of the presenters and some of the projects that you are going to be working on over these next three days sound so interesting and really neat. I wish there was some way we could get our school children over here to hear some of this and to be part of this. But I know that that's not always possible.

For those of you that aren't from Carlsbad, I just want a few minutes to tell you a little bit about our community. It's a community of people who work together very closely to make things happen for the good of the community and the good of the area. That includes working with the National Park Service. It is a community that is highly dependent upon tourism and for many years was highly dependent upon extractive industries. We have finally diversified our economy enough that the extractive industry part of it has become a smaller section, but we still are very, very reliant upon getting the tourism here and bringing people that come in and go to the national parks and see the sights and do all the things that we have in Carlsbad. To say that this is a community that can work together, a very good example of that is working with Larry and Frank Deckert from the Caverns. When they had the budget crunch a few years ago, Carlsbad was the only community that could work together to get our national park open. It took the community coming up with the money to pay, but more than that it took the national park people that were willing to help us and work with us, and I know Frank and the people at Carlsbad Caverns were called and told them they didn't have to go to work if they didn't want to, even though we were trying to get the Caverns open, and every one of the people out there volunteered to go and volunteered to go out there and get paid and work even though they probably knew in the end they would get paid for this anyway

while the budget was getting done. We got the Caverns opened and it saved a whole lot of headache and heartache for the people living in Carlsbad and getting the tourism going.

It's great to see Ron Kerbo back in the audience. I have served with him on a task force on Lechuguilla Cave, and one of the questions we were asking was whether or not we were going to develop it and let people go down and see the cave and what was going to happen. Of course, as you all are probably aware, that committee came back with a report that said we did not want to open the cave to the public and we wanted to maintain the pristine atmosphere or the pristine situation that is there in the cave. One of the things that grew out of that was cooperation of the National Park Service with our congressional delegation, and we are, we hope, a minor step—but as we all know it is a major step—away from being designated as the community that will have the Cave and Karst Research Institute in Carlsbad. That has passed the senate. It's out of the House of Representatives Energy and Natural Resources Committee, and it's up for a vote on the house board in the near future, and then it will go to the president. We hope that we can continue to work and develop that into a major resource for the community and for the National Park Service and for the Guadalupe Mountains, as we look at all of the cave and karst formations in this area.

I apologize for the fact that the lake is not up. It's a little prettier when the lake is up, but at this time we are involved in an erosion control project where we have been passing water on to Texas. We have come into a problem with the erosion on the bank over here. We were about to lose our par 3 golf course. Plus we were putting a lot of extra dirt into the river against the dam, and we were

afraid we were going to lose it in the end. We didn't know what to do, and it's a project that now has become an erosion control project and recycling project. You may, on one of your breaks or if you get a little time, want to go look at this project because in the process of saving the bank and doing a good job with this the City of Carlsbad, the environment department and the State of New Mexico and a couple of contractors that are doing this, it has become a unique one-of-a-kind project in which we will be taking 300,000 old tires out of the environment and putting them in the bank of the river to stabilize this and make it where we can probably continue to have a par 3 golf course and not lose it to the Pecos River as the water comes down. We are pretty proud of that, and we do apologize for it, but it's something that had to happen.

I thank you again for letting me be part of your program today. I will hope to give back as much as I can and be part of it as we go along. Thank you for being here. I wish you good luck and welcome to Carlsbad.

LARRY HENDERSON: The project out there is quite impressive. They were funded with some equipment that bundles about 25 tires, compresses them all together in a big very heavy bundle, and then they inject that whole thing with cement, and it makes a very permanent way to recycle those tires. It's also going to provide an extension of our multi-mile walkway along the river. It will be a real asset to the local environment.

Note: LARRY HENDERSON was superintendent at Guadalupe Mountains National Park from 1990 to 1999. GARY PERKOWSKI was mayor of Carlsbad, New Mexico, from 1994 to 2002.

