



Cave and Karst Bushfires Impacts-Australia 2019/2020

The purpose of this form is to record the current state[#] of caves and karst in bushfire affected regions in Australia. These karst (and related karst catchment headwaters off limestone) 'regions' are suggested to occur in the current 2019 – 2020 fire season across Australia, and as such this is *unique in our time*, requiring us to document changes more completely. The form could be used retrospectively for fires occurring in 2018 if data are available.

Such data are useful to provide a baseline against which future fire and other environmental effects can be assessed, to help identify impacts from the 2019-2020 bushfire and potentially to identify areas requiring further assessment, remediation or research. This response will need to be prioritised as a great swathe of landscape has been affected. Some of this landscape may yet be poorly known for karst values.

The responses will help us understand where well-understood fire effects have occurred - such as the spalling of bedrock. Other fire effects are more complex – for example, the effects of fire on bat populations[#] that could lead to a change in their location, number and diversity – and your data will help. Many fire effects are both poorly understood or identified – this is an opportunity to better understand our caves and karst. Be suggestive and opportunistic in any observations. This fire event may be unique in promoting future karst/landscape stewardship, from any information obtained from an individual observer/observation.

The form is designed to fit a single sheet of paper but can be added to, and has simple questions that can be completed during or after a cave trip.. Don't worry if there is more than one page per cave or area. Completed forms along with any other relevant information (photos* BEFORE AND AFTER if possible, annotated cave or surface surveys) should be photographed or scanned and submitted electronically or via post, to Bob Kershaw who is coordinating the collection of the data sheets. The data will be sent to the karst academics that are analysing the data in the first instance. Copies of the data will be eventually held by the ASF Librarian for future reference by anyone undertaking this type of research.

*Photos, or the included information of the photo, should include a GPS reference and the time of day, if not in the digital photograph Exif data, and the direction looking.

Please add an appendix for any additional input you value as notable (eg additional photos, survey data etc).

Some KEY TERMS explained

- 'current state' = the current 2019 – 2020 fire season
- 'burnt over' = fire burnt over the cave entrance or the cave as a whole
- 'effects on bat populations' = include death, injury, moved to other caves, reduced numbers or diversity
- 'patchy fire' = some areas over the karst are burnt while adjacent areas are not – think of spots on a dog
- 'photo-document' = photos taken to assist in description with person in photo for scale and location noted on a survey

Thank you from a group of individuals with extensive experience of cave and karst research and/or management. *Professor David Gillieson; John Cugley, ASF President; Andy Spate, AM ACKMA President; Professor Andy Baker; Andrew Baker, NSW NPWS Landforms and Rehabilitation Team; Nicholas White, Chair and Director, ASF Karst Conservation Fund; Associate Professor Russell Drysdale; Dr Stefan Eberhard; Tony Culberg, OAM KCF Director; Bob Kershaw, KCF Director*

WARNING

Be aware of potential dangers in your area of study including fallen and falling trees and branches, and trip hazards.

Cave and Karst Bushfire (2019-20) Assessment Form

Cave Number, Name(s) and Area Newly found Cave?	
GPS datum, accuracy, UTM grid reference	
Observation Date: dd/mm/yy	
Observations made by: (Name and contact details)	
Date of fire (if Known):	
Was the cave burnt over? (Y / N)	If not burnt, approximately how close was the nearest fire?

<p>SURFACE</p> <p>If burnt, describe the impacts (e.g. <u>vegetation</u> - is all vegetation burnt?; patchy fire?; understory fire or crown fire?; grass fire?; <u>ash</u> - how much ash is present and its colour, is it above and upslope of the cave?; <u>karst</u> - presence or absence of fresh spalling, calcining or cracking of limestone). Photos are great (try to link the photo-point to past photo etc). If not burnt, describe surface vegetation and karst condition for future reference.</p>	
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<p>CAVE</p> <p><u>Animals</u>. Please record any observations of cave critters e.g. bats, cave crickets, spiders, moths, local landscape, animals/plants etc. Approximate numbers and location are useful. If there is a change, please say e.g. bats not previously observed. Photos (referenced past/present). Annotate an existing cave map +/- surveys (all are useful). If not burnt, still describe (and photo-document) for future reference.</p>	
<p><u>Atmosphere</u>. Any evidence of fine-ash or dust deposition on surfaces in the cave. If yes, where? Annotated surveys are useful. Note if rain has since fallen over the karst area and how much rain has fallen (approx.)</p>	
<p><u>Hydrology</u>. Any evidence for ash being washed into the cave? If yes, where? Photos or annotated surveys are useful? Any evidence for sediment being washed into the cave?</p>	
<p><u>Other</u>. Any other useful observations e.g. are there any pre-fire data (and if so new fungal growth, new drip sites activated or old drip sites now stopped, new sedimentation, new entrance found, blocked entrance, etc) .</p>	

Photograph, scan or pdf this form and information and send to Bob Kershaw (rkershaw@ozemail.com.au) with any annotated surveys and photos. Send a copy to your club mapping coordinator.