

STATEMENT FROM AUSTRALIA'S NATURAL HISTORY MUSEUM DIRECTORS

**IMPACT OF FIRES ON BIODIVERSITY ON A SCALE NOT SEEN SINCE SPECIES
RECORDS WERE FIRST KEPT**

Loss is in the 'trillions' of animals due to climate change crisis

The Directors/CEOs of Australia's leading natural history museums today issued a joint statement in support of increased funding and co-ordinated national action to address the impacts of climate change on the nation's biodiversity following the bushfires which ravaged the continent over the past few months.

The Directors of the Australian Museum (NSW); Museums Victoria; South Australian Museum; Western Australian Museum; Queensland Museum; and Museum and Art Gallery of Northern Territory; whose natural science collections hold almost 60 million reference specimens said:

Natural history museums are among the most trusted public institutions playing a critical role in describing and conserving our natural history in Australia and connecting the natural environment with the public through education outreach and exhibitions.*

We now recognise human-induced climate change, alongside land clearing and habitat use, as the over-arching issue affecting Australia's unique wildlife as evidenced by more intense bushfires, drought, floods and the impact of warming oceans on the Great Barrier Reef and other marine environments.

Our museums hold invaluable reference collections for the nation – we are the 'ark' of information on Australian species with collections that date back as early as the 1850s.

Collectively they form an irreplaceable resource and provide unique insight into the composition and evolution of our natural history and a benchmark by which the devastation caused by the bushfires can be measured.

*The impact of the recent fires on Australia's biodiversity is on a scale not previously seen since record-keeping began in the mid-1800s. The estimate of the destruction to our biodiversity from the fires is in the 'trillions' of animals, when considering the total of insects, spiders, birds, mammals, frogs, reptiles, invertebrates and even sea life impacted over such a vast area.***

Australia's natural history museums are committed to finding out how species have been affected, to implementing and supporting programs to restore those species that can be saved, and to engaging the public in mitigation strategies.

Over the next few months, and once it is safe to do so, each museum plans to return to the field, working in collaboration with our national networks of museums and herbaria, state government agencies and universities to ascertain the impact of the fires and work to plan for the restoration of species where possible.

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Each museum will focus on examining the damage of the fires on existing field research sites and comparing the findings with our data sets, providing a longitudinal view.

In the longer term, our Museums will draw on our rich scientific expertise and data sets to provide conservation advice. We will also engage with the Australian public through citizen science and other activities and will work towards achieving the UN's Sustainable Development Goals for 2030.

Australia's leading experts across the natural history disciplines work at our state-based museums. Museum research scientists are in the field year after year describing and monitoring the biodiversity of different regions, including many endemic species present nowhere else on the planet. Additional funding for this research is urgently needed to allow museums to carry out this significant work.

The bushfire climate change crisis has reinforced that we have much to learn from our First Nations people and that First Nations understandings of our natural species and land management is to be respected, understood and embraced in our research.

The time to act is now and the nation's natural history museums are ready to respond.

Signed:

Kim McKay AO, Director & CEO Australian Museum (NSW); Lynley Crosswell, CEO & Director, Museums Victoria; Brian Oldman, Director, South Australian Museum; Alec Coles OBE, CEO, Western Australian Museum; Dr Jim Thompson, Director, Queensland Museum Network; Marcus Schutenko, Director, Museum and Art Gallery of Northern Territory.

ENDS#

*C. Dilenschneider, "In Museums we Trust. Here's How Much (Data Update)", 3 June 2019.

<<https://www.colleendilen.com/2019/03/06/in-museums-we-trust-heres-how-much-data-update/>>

***trillions estimate based on number of arthropods in 8 million hectares (Dr Chris Reid, Senior Entomologist, Australian Museum)*

Quotes from the state museum directors and a summary of each state museum's scope of research activity is attached.

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Australian Museum

“The impact of the bushfires on the NSW community, our wildlife and the landscape is devastating. Museums are resources for us all, providing knowledge and strategies to support effective responses to the increasing impacts of climate change. As Australia’s first museum, we are central in documenting, describing and conserving our species.

FrogID, our national citizen science project, is the first large scale, Australia-wide scientific mapping of the distribution of frogs across the continent. Providing unprecedented baseline data, with 147,000 frog calls verified, enables us to understand what has happened to our frogs due to the bushfires.”

Kim McKay, AO, Director & CEO

Collection

For over 190 years the Australian Museum has been at the forefront of Australian scientific research, collection and education. Founded in 1827, it was Australia’s first public museum, with an aim of ‘procuring many rare and curious specimens of Natural History’. In 1836, the Museum appointed its first taxidermist and, in 1837, the AM’s first catalogue was published with 36 Australian mammal species, birds, fish, shells, fossils, as well as Aboriginal and Melanesian cultural objects.

Today, there are over 19.5 million specimens in our natural history collections.

- *The Mammal Collection* comprises over 55,000 registered specimens of over 650 species. The majority of specimens are from Australia (29,000 specimens).
- *The Ornithology Collection* is the largest collection of its kind in Australia. It holds ~ 93,000 registered specimens. The collection has ~ 3,500 species and currently represents around 95% of all known extant bird families.
- *The Ichthyology Collection* ranges from large pelagic to remote aquatic and deep sea environments. It was ranked as the 4th most important type collection globally and holds 2041 types focusing on Australian and southern Asian waters.
- *The Marine Invertebrate Collection* includes over 9000 type lots and 2000 primary types, with particular strengths in Australian and Pacific waters.
- *The Entomology Collection* includes 4,679 Primary type specimens. The collection covers all major insect groups. Major additions to the collection resulted from regional forest biodiversity surveys in 1990s resulting in a good representation of the insect fauna of eastern NSW.
- *The Arachnology Collection* includes 3,976 types of which 1,107 are primary types.
- *The Malacology Collection* includes 10,298 type specimens. The collection covers all groups of recent Mollusca and fossils from the Tertiary onwards.
- *The Herpetology Collection* holds 628 primary type specimens of both reptiles and amphibians.

Major data sets – fire-affected areas

The Australian Museum Research Institute’s Mammal collection has extensive collections from areas heavily impacted by recent fires including microbats, dating from the 1980-1990s as well as extensive pre-fire sampling for some threatened species including the koala and brush-tailed rock-wallaby.

- *FrogID* have recordings from the past two years showing the impact of drought and fires as already evident. FrogID records have comprehensive coverage; there are more records in non-forested areas. 518 FrogID submissions with frogs recorded in (~audio surveys) resulting in

1,968 records of 44 species (incl. 7 threatened species) in burnt areas (NSW RFS; 2019- 11 Jan 2020). These are recent (<~2 years), geoprecise records of frogs at breeding sites. 1.5% of all our submissions and 3.4% of our frog records in NSW come from areas indicated as burnt.

- Extensive survey material donated by non-museum researchers (e.g. Wog Wog and Coolangubra; North Coast State Forests; Werrikembe/Carra).
- Extensive aquatic datasets (Sydney water survey material; large fresh-water aquatic datasets collected by EPA).

AMRI has *active sites* at: Newnes State Forest; NE Forests; multiple sites across Northern Tablelands; Jenolan Caves Karst Reserve; selected freshwater creeks and waterways at Shoalhaven-Clyde system and Cudgong; and, Estuarine in Northern NSW Rivermouths, Queenscliff Lagoon, Sydney Harbour and Associated Waterways. *Inactive sites* with past data sets include: most state forests and national parks within NE NSW and SE NSW; Nandewar Bioregion; Newnes and Wolgan State Forests; Mount Wilson, Blue Mountains; Mt Kaputar National Park; Coolah Tops; and, Cox's River.

Collaborative work in response to the fires

The AM will potentially be collaborating with: RBG, DPI, Office of Environment, Energy and Science, Macquarie University, UNSW, Bio platforms.

- Identifying species and locations on the lists circulated by the Commonwealth Dept. of Environment & Energy who released a preliminary list of threatened species known to occur in areas affected by bushfires (<https://www.environment.gov.au/biodiversity/bushfire-recovery/research-and-resources>)
- Undertaking a desktop survey based on known fire areas with data and expertise we already have (eg: Jodi Rowley's maps overlaying FROG ID data on the known fire affected areas).
- Developing a larger project involving survey/resurvey of fire affected areas and identifying lead scientists for each.

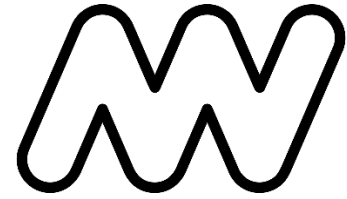
Longer-term work on climate change and biodiversity impacts

The AM has a very active and high profile citizen science program, with projects such as FrogID, Wildlife Spotter and Australasian Fishes, which will continue to engage the community in contributing data that helps understand the impact of climate change on biodiversity.

The combination of long-term historical museum voucher-based data and FrogID data (with >2 years of spatially and taxonomically accurate data with audio vouchers) will continue. FrogID will encourage people to record in burnt and unburnt areas and recordings after recent rains have spiked, allowing us to assess the impact of drought and fires on indicator species as well as engage the community in research informing biodiversity conservation and climate change understanding.

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Museums Victoria

“It is not an overstatement to say that we face an environmental crisis, and that our actions now will be critical to saving thousands of species and ecosystems under severe threat.

As we work together to better understand how we can create a sustainable future, Australia’s natural history museums will play a vital role in sharing the wealth of scientific insight and knowledge contained within their collections.”

Lynley Crosswell, Chief Executive Officer and Director

Collection

Museums Victoria has been collecting natural science specimens since 1854. Museums Victoria’s natural sciences collections contain 16 million specimens.

The Museum’s large faunal collections provide a detailed record of the biodiversity of Victoria across all major groups: birds, mammals, reptiles, amphibians, fish and terrestrial invertebrates such as insects. In addition, the collection has strong holdings from south-eastern Australia.

Major data sets – fire-affected areas

Museums Victoria’s faunal collections provide a substantial reservoir of data pertaining to the biodiversity of the regions which have been affected by the recent intense bushfire activity. This data will help inform the prioritisation of resources in the recovery phase to maximise the survival and recovery potential for our unique biodiversity, including threatened and vulnerable species.

Our team of research scientists, with expertise across all major groups, have compiled detailed datasets of biodiversity in many of the regions by the recent bushfires. These datasets focus on documenting our unique biodiversity through time, providing a foundation for understanding the impacts of these fires and optimising conservation management responses.

Collaborative work in response to the fires

Museums Victoria has commenced discussions with other agencies including the Victorian Department of Environment, Land, Water and Planning (DELWP), Parks Victoria as well as Taxonomy Australia and the Council for Australian Faunal Collections (CAFC) on how best we might bring our expertise and knowledge to the recovery phase.

We have several major fire-related projects underway and planned:

- Museums Victoria has recently commenced a project in the Little Desert National Park to examine the impacts of fire frequency on reptile and invertebrate biodiversity. Funded by the Ian Potter Foundation, this Museums Victoria-led project will partner with Parks Victoria and local community-based environmental groups. There is evidence that fire frequency may have a major impact on the recovery of ecosystems. This study will help inform fire management approaches, particularly pertaining to the frequency of control burns, etc.
- In 2016, funded through the Federal Government’s Bush Blitz program, Museums Victoria conducted a rapid biodiversity survey in the Croajingolong National Park and the Mallacoota

area of East Gippsland. The recent fires have devastated this region. This 2016 survey will provide vitally important baseline data to assess the impact of the fires and the recovery of biodiversity. Museums Victoria will also target the recovery of populations of several threatened species in the region, including Bell Frogs and Martin's Toadlets.

- Over the past 10 years Museums Victoria has conducted rapid biodiversity surveys in the Victorian Alps region and at Budj Bim, both of which have been impacted by the recent fires. This work will be important in targeting recovery responses.
- Following the 2014 fires in the Grampians region, Museums Victoria has continued to monitor the recovery of populations of Victoria's most-threatened mammal species, the Smoky Mouse and the Broad-tooth rat. This project will continue to map the distribution of these rare species across the State and gain better insight into the effects of climate change on their distribution.
- Museums Victoria's Dr Karen Rowe's research project, Listening For Nature, has been working with community groups to set up bioacoustics recorders to determine the species of birds in the landscape. This project has been applied to recently affected bushfire regions such as Bunyip State Forest and Wye River to help determine the recovery of bird species populations following bushfire.

Longer-term research and outreach on climate change and biodiversity impacts

Museums Victoria will continue to work with government agencies and community groups to build the baseline data of the distribution of biodiversity across the State. We will continue our critical research to document and describe this diversity. Research will also focus on the impact of climate change on habitat and the affect this may have might have on specific faunal groups. There are also opportunities for museum researchers to revisit areas which have been devastated by bushfire to monitor the recovery of biodiversity overtime. The application of our genomics expertise to mapping the genetic diversity of populations of faunal groups will contribute to the management plans for the protection and survival of a range of threatened and vulnerable species.

Museums have a major role to play in engaging the public with the environment and in highlighting the importance of protecting habitat and preserving biodiversity through our Citizen Science programs. These include:

- *Listening For Nature*, which assists communities to monitor the bird and frog fauna in their local environment;
- *RedMap* engaging people in monitoring marine life and the effects of a warming ocean;
- *Frog ID* (partnership with the Australian Museum)
- And through education programs and local community engagement programs following our fieldtrip programs.

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South Australian Museum

“Our key research focuses on animal responses to climate change and the development of effective conservation interventions. Recent key projects involve communities through citizen science programs enabling local participation in the generation of new knowledge and direct communication of research findings to end-users. This shows how museum collections and research inform contemporary and practical issues arising from climate change impacts on biodiversity and sustainability more generally.”

Brian Oldman, South Australian Museum Director

Collection

The South Australian Museum has been collecting natural science specimens since 1856, more than 150 years. The South Australian Museum holds over five million objects, of which two and a half million are natural science specimens. The particular strengths of the Museum's biological collections are:

- Extensive collection of the Australian fauna and of South Australia in particular gathered from a comprehensive state-wide survey program of over 30 years. These represent the only verifiable proof of the temporal distribution of animals, showing how distributions can change over time. The importance of the state-wide survey program is to provide an unparalleled 360 degree view of the biodiversity of South Australia's fauna, which can inform many of the actions that may need to be taken to assist animal populations to adapt to present and imminent climate change impacts.
- The largest collection of biological tissues in the Southern Hemisphere, which includes significant holdings of Australian native animals.
 - This collection is particularly strong in having tissues from specimens which are themselves held in natural history collections, allowing verification of identification and other details.
 - Detailed genetic profiles based on these tissues can inform a wide variety of conservation actions.
- Extensive collection of subfossils (owl pellets and bone deposits from caves), allowing the study of the pre- and post- European distribution of native animals in the State.

Major data sets – fire-affected areas

Our research has both a short-term and strategic emphases. In the immediate time frame our ongoing research on the conservation the native Green Carpenter Bee population in Kangaroo Island, led by South Australian Museum researcher Dr Remko Leijds, has provided pre-fire baseline data on their distribution and conservation status. Unlike introduced bees, the Green Carpenter Bee is a buzz pollinator - many native plants rely on it for pollination and seed production. Approximately 95% of Green Carpenter Bee habitat has been lost in the recent Kangaroo Island bushfire event. The first actions to assess its status are possible because of the several years of work that Dr Leijds has conducted on the population.

Strategically, we have been involving Citizen Scientists in regional studies of microbats and marsupial pygmy possums to establish the importance of remnant habitat patches in a largely agricultural landscape and to develop a strategic approach for assisted translocations. We have very recently received a tremendous boost in support for our fundamental research on the latter topic through winning a federally-funded ARC Linkage Project grant with Flinders University and several other partner organisations. Maintaining habitat on a regional scale and the use of translocations are important strategic responses to immediate (eg. bush fires) and long-term climate change impacts.

Collaborative work in response to the fires

The South Australian Museum is proud to host the Inspiring South Australia programme – a partnership to engage communities in science and improve science literacy. Inspiring South Australia has regional science hubs in fire-affected areas including Kangaroo Island and the Adelaide Hills and is working to explore bushfire recovery initiatives.

As an immediate response to the bushfire crisis, the Inspiring South Australia programme at the South Australian Museum expanded its 2020 SA Regional Science Small Grants to include applications for bushfire recovery events/activities that engage local communities in science.

Longer-term research and outreach on climate change and biodiversity impacts

The South Australian Museum is an institution that creates new knowledge through the rigorous and transparent application of scientific research. We have a strategic research focus on understanding how our fauna will adapt to climate change and we are developing approaches that will assist rapid and effective adaptation. Our research is supported by federal and local funding and has extensive citizen science involvement, delivering practical outcomes directly to those who manage the private and public conservation estate. Findings on biodiversity change are shared through myriad public engagement touchpoints including temporary exhibitions, public talks and social channels.

We own two competitions that provide opportunities for public response to environmental issues: *Australian Geographic Nature Photographer of the Year* includes an *Our Impact (depicting human impact on nature)* category while the *Waterhouse Natural Science Art Prize* encourages artists to make a statement about the scientific issues facing our planet, and offers a valuable platform for them to contribute to the environmental debate.

Additional comments

The Museum cares for a wealth of treasures with national and international significance – it is admired for its world class collections, which have been amassed over more than 150 years and encompass everything from fossils of the first known life on Earth to pieces of Martian meteorites. The Museum’s collections are still growing and used each day in scientific and cultural research.

The Museum is one of Australia’s most successful research museums, with 151 scientific papers and presentations in 2018/2019 and is a strong partner, with strategic relationships across the resources sector as well as with state and federal governments.

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Western Australian Museum

“We are horrified at the human impact of bushfires across Australia. Our thoughts are with all those who have been affected.

At the same time, we are hugely concerned about the impact of bushfires on our environment and biodiversity. The extreme nature of the fires has irretrievably destroyed huge areas of prime wild habitat and undoubtedly driven countless species of plant and animals to extinction.

The relationships between climate change and the extreme bushfire conditions is surely now established. There appears little chance that pre-2000 average temperatures will return. Even in the absence of bushfires, climate change – drying of the continent, extreme temperatures, salinity – will require adaption by species and possibly cause an increase in the extinction rate of species.”

Alec Coles, OBE, CEO

Collection

The WA Museum and its precursor bodies date back to the late 1800s and the biodiversity collections have been accumulated over the last 150 years, representing an almost continuous record of aspects of biodiversity of our state.

The Western Australian Museum has a collection of some 4 million natural science specimens, mostly from Western Australia, making it the most comprehensive historic, and continuing faunal collection from the western third of the country.

Major data sets – fire-affected areas

Western Australia has experienced significant bushfire activity in the Lower Southwest of the State, although in recent periods fires in the lower south east and the Kimberley have increased in number.

WAM staff have been carrying out targeted surveys on endangered black cockatoos throughout the south-west of western Australia for over 20 years and have an extensive database of both historical and current on the distribution, status, relative abundance, habitat preferences, food, movements and breeding requirements for all three species.

Of particular concern is the damage to the Stirling Range National Park. The WA Museum has a comprehensive dataset for this area where staff have been recording and monitoring terrestrial invertebrates for 25 years. A substantial area of this national park has recently been burnt. The Stirlings, because of their age and topography, represent Gondwana fauna with species that have evolved in isolation over millions of years. The loss of such fauna is devastating.

Collaborative work in response to the fires

Museum staff will continue to work with staff from the WA Department of Biodiversity, Conservation and Attractions to monitor threatened species of invertebrates in the Stirling Range National Park. These include trapdoor spiders and land snails.

Recently, WAM staff have been analysing nest tree mortality data and have identified fire as a major threat to the long-term conservation of Baudin’s Cockatoo and the Forest Red-tailed black Cockatoo in the Jarrah-Marri forest. Fire is the major cause of tree fall of actual nest trees and of future or

potential nest trees and hence the retention of the right type and number of hollow-bearing trees is essential to prevent the rapid collapse of bird habitat in the Jarrah-marri forest. An audit of nesting trees revealed an average age of 240 years with a span of 120 – 400 years.

Longer-term research and outreach on climate change and biodiversity impacts

Climate Change and biodiversity loss will be addressed in the new galleries of the WA Museum, to be opened in late 2020. This will also be a cornerstone topic in the planned Learning Program.

Black Cockatoos (all 3 species): The continuing net loss of actual nest trees by fire (over 50% per decade) is a key threatening process. Also, the impacts of climate change over the past 50 years has seen dramatic changes in the distribution, foraging ecology and breeding seasons of all three endemic black cockatoos in the south-west. The long-term plan of WAM is to continue to monitor populations, raise awareness of the status and conservation needs of these birds through information sheets, scientific papers and seminars.

Additional comments

WA Museum staff note that while fire has had a significant detrimental impact on the Stirling Range invertebrate fauna, populations of some species recover quickly after fire. This is most likely due to their occurrence in soil where the effects of fire are lessened, and/or when juvenile life stages are developing prior to their emergence as adults during winter.

Museum collections may now represent the only record of certain invertebrate species occurring in fire-devastated regions.

Many invertebrate species affected by fires in eastern and south-western Australia have yet to be named and described by taxonomists, due to the Australian forest ecosystems being mega-biodiverse and a lack of expertise and funding for many animal species. Support for rapidly undertaking taxonomic descriptions should clearly be a very high priority.

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Museum and Art Gallery Northern Territory

“MAGNT is an important repository of the rich biodiversity of Northern Australia and our near neighbours. While climate change is certainly affecting the prevalence and spread of species across our region, a further key challenge we face is the impact of invasive species on our native fauna.”

Marcus Schutenko, Director

Collection

MAGNT has been collecting specimens since its inception in 1970. We also hold specimens from as early as the 1930s. Most of our collections date from after Cyclone Tracy destroyed MAGNT’s first facility in 1974.

MAGNT holds approximately 700,000 specimens covering all faunal groups. Our focus is the fauna of tropical northern Australia and Central Australia, with particular strengths in fishes, reptiles, frogs, fossils and marine invertebrates.

Major data sets – fire-affected areas

Most of our biological specimens are databased (taxonomic and geographic information), with the data freely available on the Atlas of Living Australia. We also have an unparalleled collection of Australian vertebrate fossils from the late Miocene epoch collected from Alcoota in central Australia.

Collaborative work in response to the fires

MAGNT is not planning any action in direct response to the fires. However, we continue to work collaboratively with partners across Australia and internationally. We work to assist collecting institutions to our near north (e.g. PNG and Timor Leste) and for example recently hosted an international workshop connecting a dozen experts from Indonesia, Papua New Guinea and Australia to discuss the conservation status of freshwater fishes of New Guinea and add species to The IUCN Red List of Threatened Species.

Longer-term research and outreach on climate change and biodiversity impacts

Most of our current research is focused on the taxonomic and genetic identification of species (primarily fishes and marine invertebrates) endemic to our geographic region. These show a startling richness and variability of species – many unique to highly specific areas and thus particularly vulnerable to climate change or other disruptive impacts. We also collaborate with Indigenous ranger groups in field work and knowledge sharing, and such collaborations can inform strategies for land/water management and climate resilience.

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Queensland Museum Network

“Australia, in particular Queensland, is one of the most biologically diverse places on Earth. Recent and devastating bushfires around our country has seen enormous loss to our biodiversity and our unique species. Queensland Museum has been undertaking research that measures/identifies losses that can be found right on our doorstep in Lamington National Park. Through our role as custodians of the Queensland State Collection of more than 14 million objects, we are in a unique position to investigate the impacts and responses on species diversity to climate change phenomena.”

Dr Jim Thompson, CEO

Collection

Queensland Museum has been collecting and documenting the natural and cultural history of Queensland and Australia since 1862: 158 years. Queensland Museum has 14 million biodiversity specimens. Queensland Museum has a large and strong collection of vertebrates and invertebrates including mites and spiders, insects, and parasites. Together our collection tells the life story of one of the most biodiverse regions in the world – Queensland.

Queensland Museum also holds specimens of a number of extinct, threatened and endangered species, there is concern a species of spider from Kangaroo Island described by Dr Michael Rix may be extinct after all its known habitat was burnt in recent bushfires.

Queensland Museum’s earth sciences collection is one of the largest collections in the southern hemisphere, with some of the most iconic Australian dinosaurs and marine reptiles. Basic knowledge of these species that inhabited our regions over vast geological time has many applications for science, climate projection and land management.

Major data sets – fire-affected areas

Lamington National Park was one of the areas badly affected by bushfires in Queensland. Queensland Museum researchers have been working since 2006 as part of the IBISCA-Queensland Project which established permanent plots within Lamington National Park, to identify which animal and plant groups are likely to be most sensitive to climate change and which ones can best be used as indicators for monitoring such change. See *Memoirs of the Queensland Museum - Nature* Volume 55, Part 2.

<https://www.qm.qld.gov.au/About+Us/Publications/Memoirs+of+the+Queensland+Museum/MQM+Vol+55>

Collaborative work in response to the fires

Queensland Museum staff and our partners work collaboratively on plants, invertebrates and vertebrates to map and clearly document patterns of highest endemism in priority areas, information that can potentially be used to inform adaptive fire management.

Queensland Museum has close and ongoing partnerships in Queensland studying these areas with:

- Griffith University, University of Queensland, James Cook University, and Central Queensland University,
- The Federal Government (ABRS) Bush Blitz surveys which aim to describe and document Queensland’s biodiversity and heritage.

Longer-term research on climate change and biodiversity impacts

As the home of the largest reef system on earth – the Great Barrier Reef – Queensland Museum is a leading institution on corals of the Great Barrier Reef. Researchers are also studying the effects of climate change on wider marine life. Queensland Museum have a number of partnerships focusing on the Great Barrier Reef including the establishment of a coral bank.

Additional comments

Like museums around the world, Queensland Museum is in the position to use our collections and knowledge to empower public engagement and awareness of climate change to start a conversation based on scientific research and historical records.

Our goal is to investigate the impacts and responses by species to climate change phenomena, from the perspective of small changes in distributions (time frames of several years), to medium term habitat shifts at the landscape level (periods spanning 20–100 years), to long term changes at the evolutionary level of geological time scales (millions of years). We are in the position to be able to use our collection to understand past and current change and to learn how we can mitigate future consequences.

The climate change debate is not about whether climate change occurs, but about the rate at which it continues to occur and the extent to which human civilisation is changing greenhouse gas levels (through over-population, industrialisation, fossil fuel consumption, other pollution, land clearing) that are causing the present, rapid changes to our climate patterns

The impacts of climate change in Queensland is one of the biggest environmental challenges the state faces.

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