

Australian Age of
Dinosaurs

museum
newsletter

December 2018, Issue 28



LOOKING TO THE STARS

PROTECTING THE DARK SKY

NEWS FROM THE JUMP-UP

MUSEUM STAFF 2018

This year has flown by. It seems like only yesterday when the 2017 visitor total climbed over 31,000, and now the 2018 visitor total has exceeded 36,500. Incredibly, 26% of the Museum's visitation was achieved in July, at an average of over 300 visitors a day.

The Museum team of 22 have continued to provide world-class customer service while showing great humour and camaraderie. These exceptional people make each experience unique and are a joy to work

with. As testament to all their hard work, the Museum has been listed as a 2018 Travellers' Choice Award Winner by TripAdvisor, an award presented annually to the top 1% of businesses that have maintained a Certificate of Excellence for over five years. This award lists the Museum in the top ten museums of Australia and top 25 in the South Pacific. This is a great honour and the perfect way to recognise our passionate and dedicated team.



2018 Australian Age of Dinosaurs team

Insert (L-R): *Karen, Stephen, Tanya*. Back row (L-R): *Ash, Tom, Kim, Susan, George, Felicity, Nicole, Steve R, Steve L*. Front row (L-R): *Sam, Bec, Grace, Trish*. Sitting (L-R): *Adele, Jamie, Sierra*. Not pictured: *Kate, Kelly, Naomi*.

NEWS FROM THE JUMP-UP

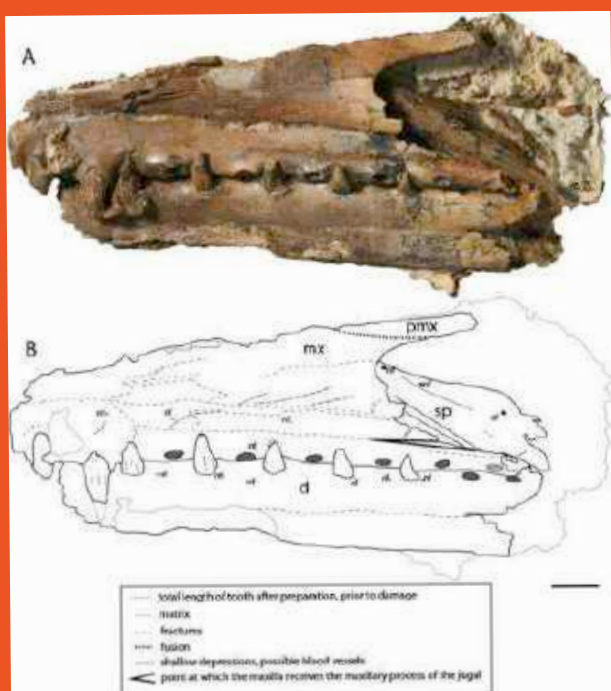
SIR TONY ROBINSON

On a whirlwind visit to Australia Sir Tony Robinson (*Blackadder*, *Time Team* and *Worst Jobs in History*) travelled out to the Museum to spend time with David and the Laboratory team to film part of his new TV series. It is expected to be broadcast around April 2019; updates to follow on Facebook.



A NEW PUBLICATION

Adele Pentland co-authored a paper with Dr Stephen Poropat on *Mythunga camara*, currently the most complete pterosaur specimen in Australia. Entitled *Reappraisal of Mythunga camara Molnar & Thulborn, 2007 from the upper Albian Toolebuc Formation of Queensland, Australia* the paper redescibes previously unrecognised features of *Mythunga*. The results of the paper also suggest that this pterosaur achieved a widespread distribution including dispersal within the Eromanga Sea region. Adele is working towards her PhD as a part-time student with Swinburne University.



CRETACEOUS CAFÉ SHADE SAIL

During 2018, as part of the Museum's consolidation project, the car park and entry road were sealed and a new welcome desk and architraves were installed. As the New Year approaches the much-needed outdoor shade sail to cover the Cretaceous Café seating area has also been completed. The architecturally designed shade sail fits seamlessly into the existing structure having been designed to provide as much shade as possible during the Summer months.



LABORATORY UPDATE

BY TRISH SLOAN

JUDY SITE: PROGRESS REPORT

During 2018 preparation of the fossils excavated from the Judy site has progressed quickly. The fossils within the plaster jackets, recovered from the site, are in excellent condition and the preparation of the shoulder girdles, femur, ulna (with metacarpal) and two articulated dorsal (thoracic) vertebrae is almost complete.

Another huge vertebra that was exposed in the field is now undergoing final preparation. This vertebra is remarkable because of its size as well as its undistorted and well-preserved condition.

The underside of the articulated neck has been completely prepared, revealing the delicate, super-elongated cervical ribs. Some ribs are as long as four vertebrae and overlap three cervical ribs. The extremely delicate articulated neck will be cradled soon in preparation for work to begin on the side and top sections of the neck.

As reported throughout the year, one of the most significant parts of the Judy site material is the astragalus (or anklebone). This astragalus is almost identical to *Diamantinasaurus* suggesting the Judy site material is most likely another

Diamantinasaurus. If proven, this will be the third such genus in the Museum's collection. The comparative fossil material between Matilda, Alex and Judy will provide a near-complete understanding of *Diamantinasaurus* anatomy – all that is missing are the tail, back feet and the front section of the skull.

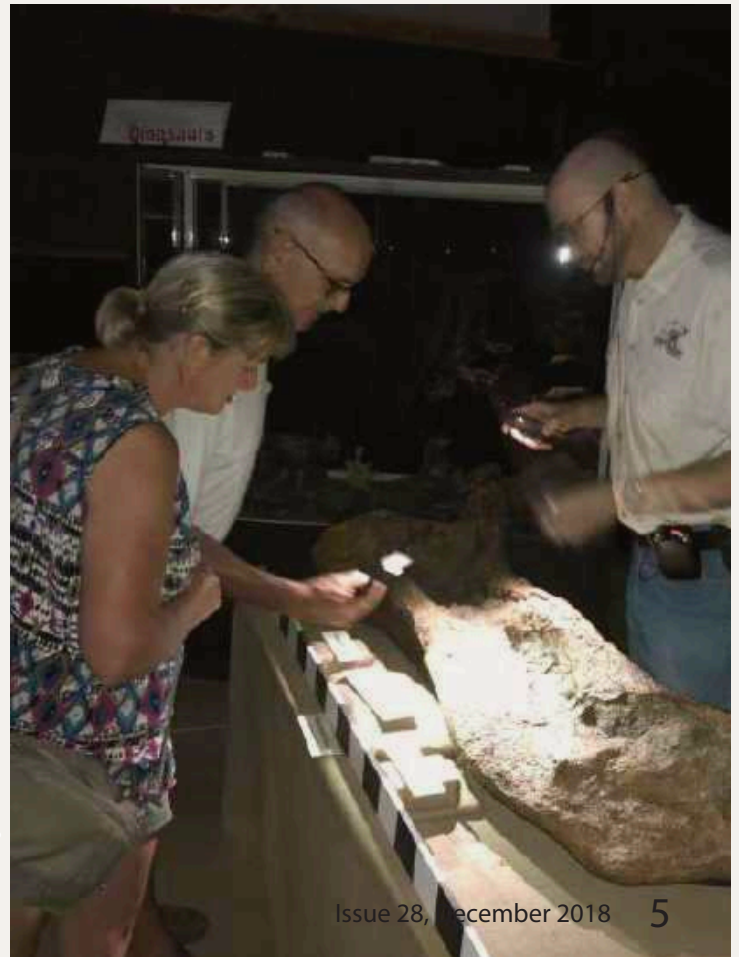
MATILDA SITE: PROGRESS REPORT

Preparation on *Diamantinasaurus* (from the Matilda site fossils) has also continued throughout the year, with only three small concretions left. One of these concretions contains the metacarpals and manual phalanges, which together make up the sauropod's front right foot. Now that all ten of Matilda's metacarpals have been prepared it appears that four of her metacarpals were originally interpreted incorrectly. All the published metacarpals are actually from the same foot: the front left foot. The same concretion also preserved a sternal plate, and we are hoping to compare it with those of Wade (*Savannasaurus*) when preparation is complete. Otherwise, portions of Matilda's sacrum and girdles are still being prepared, and will hopefully be completed by early next year.





Above: Honorary Technician Hugh Calvey works on the concretion containing the metacarpals of *Diamantinasaurus* from the Matilda site. Right: Neither power outage nor heat will deter our Museum Tour Guides. Steve leads a guided tour through the Lab during a power outage. Below: A collection of astragalus from the Judy site.





LOOKING TO THE STARS

PROTECTING THE DARK SKY

Outback Queensland draws visitors from all over the world to admire the natural environment, from the flat plains of the Channel Country to the mesa formations of the Vindex Ranges. As the Museum's position atop The Jump-Up is bereft of population and light pollution it is the perfect spot to stargaze.

From The Jump-Up, the Milky Way is visible to the naked eye as it arches across the night sky and extends as far south as the constellation of Crux. From its Galactic Centre, the Milky Way is brightest from the direction of Sagittarius; within the Orion Nebula stars are forming in clouds of red and green gas. As well as being home to

star-forming regions, the Milky Way also contains stars on the verge of ending their lives in seismic supernova explosions such as Eta Carina in the constellation of Carina.

The beauty of the Southern night sky can clearly be seen in the dark skies above The Jump-Up. To increase public engagement with the Museum while protecting these uniquely dark skies, the Museum is applying to the International Dark-Sky Association for the status of International Dark-Sky Sanctuary for the Australian Age of Dinosaurs at The Jump-Up.

OUR MISSION

The Museum has been operating on The Jump-Up for almost ten years and is focused on scientific research, education and conservation of Australian Natural History. The Museum is working towards becoming a sustainability champion to build a dynamic destination within Outback Queensland that will be the catalyst for ongoing growth and development across the region. As a tourism operator in natural areas, the Museum is committed to providing and developing well-managed sustainable practices and high-quality nature-based tourism experiences, now and into the future.

PUBLIC NIGHT-SKY VIEWING AREA

To this end, the Museum has set aside an area at the base of The Jump-Up, called the Public Night-Sky Viewing Area as the perfect place to enjoy some of the darkest skies in the world. The viewing area is free and open year-round (though camping is prohibited). The viewing area is one of many initiatives the Museum plans to implement to create sustainable summer tourism products that increase visitation, as well as appreciation for the natural beauty found only within Central West Queensland.

PROTECTING THE DARK SKIES

The extraordinary dark skies above The Jump-Up are an important natural resource that have been included in the Museum's policy development for several years. This includes the Environmental Policy (2015) statement to commit to "setting appropriate and challenging environmental improvement targets by regularly reviewing progress and continually improving upon minimising our operational environmental impact." Within the Museum's Charter for Sustainability and Responsible Tourism (2015) the Museum stated that "we will

WHAT IS LIGHT POLLUTION?

Light pollution is excessive, misdirected or obtrusive artificial (usually outdoor) light. This inappropriate or excessive use of artificial light can have serious environmental consequences for humans, safety, wildlife and our climate.

TYPES OF LIGHT POLLUTION

LIGHT TRESPASS

Light falling where it is not intended or needed.

SKYGLOW

Brightening of the night sky over inhabited areas.

GLARE

Excessive brightness that causes visual discomfort.

LIGHT CLUTTER

Bright, confusing and excessive groupings of light sources.

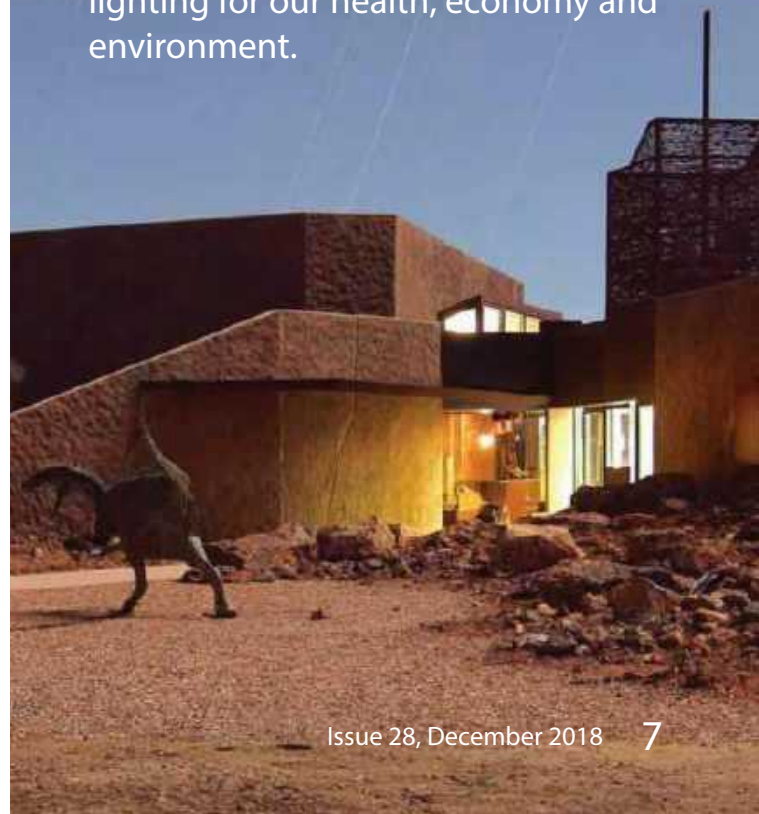
While artificial lights disrupt the natural day-night pattern there are practical solutions everyone can implement, to combat light pollution.

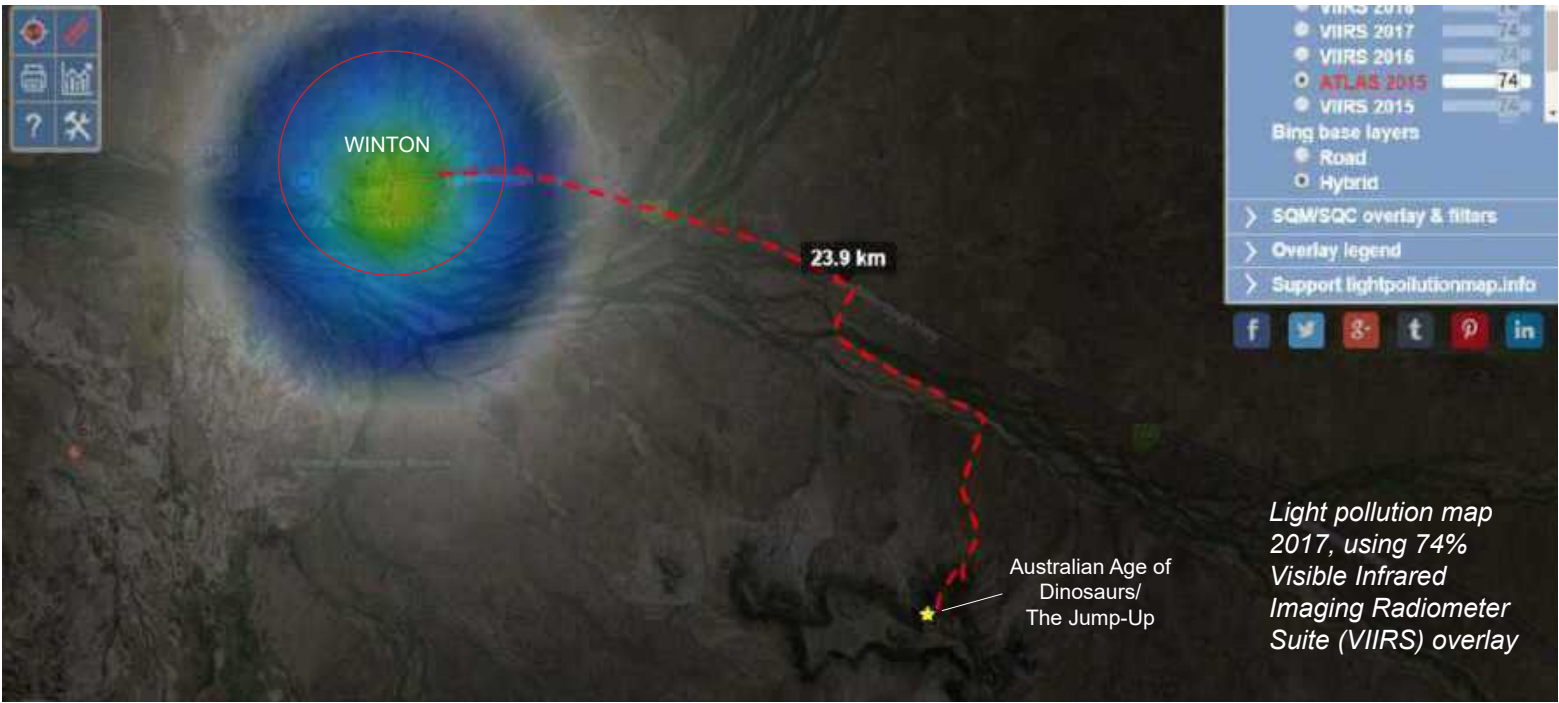
4 WAYS



YOU CAN MAKE A
DIFFERENCE

1. **INSTALL** lighting only when and where it is needed.
2. **USE** energy saving features such as dimmers and motion sensors on outdoor lights.
3. **SHIELD** your lighting so light shines down, not up.
4. **EDUCATE** your friends and colleagues about the importance of good lighting for our health, economy and environment.





Light pollution map 2017, using 74% Visible Infrared Imaging Radiometer Suite (VIIRS) overlay

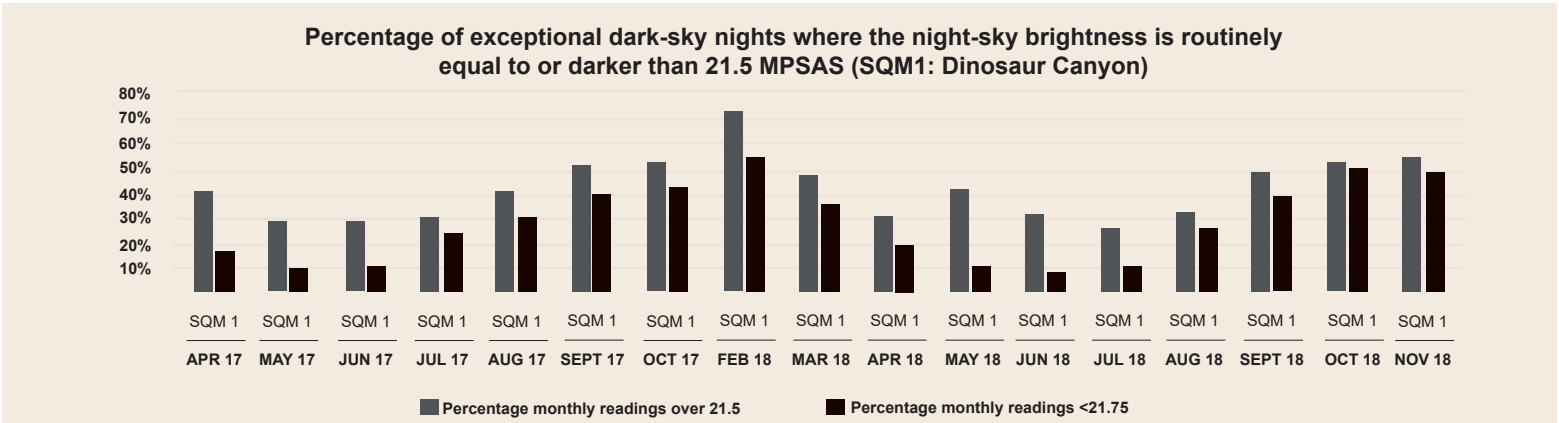
ensure that sustainability principles are a prime drive of the Museum’s development project and that energy efficiency options are considered thoroughly." Within this Charter the Museum went on to pledge to "... work with external agencies to ensure best practice in the management of our resources and ensure Staff and Volunteers have an understanding of the environmental factors that affect us."

From these documents the practical requirements necessary to protect the dark skys above The Jump-Up have been implemented through the identification of activity risks, mitigation measures, emission reduction plans, best-practice initiatives and improvements (including the planned accreditation of The Jump-Up as a Dark-Sky Sanctuary) within the Museum’s Environmental Management Plan (2018).

LIGHT READINGS

Light readings from Dinosaur Canyon and the Public Night-Sky Viewing Area have been recorded since 2017. Sky quality measurements have been averaged from 21:00 and 04:00 each night into monthly results. Over 17 months the percentage of dark-sky nights with results equal to or darker than 21.5 magnitude per square arcsecond (MPSAS) are displayed in the graph below. The darkest recorded night at Dinosaur Canyon occurred on 20 October July 2017 at 22.46 MPSAS. These results indicate that The Jump-Up is on par with the recently accredited International Dark-Sky Sanctuary, the Great Barrier Island in New Zealand.

To read more information about preserving the dark skies in your region , click [here](#).



NO BOUNDARIES

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AUSTRALIAN AGE OF DINOSAURS / THE JUMP-UP



Above: Seen from Earth, the central plane of our galaxy, the Milky Way, forms a dense stream of stars across the sky. Taken at the edge of Dinosaur Canyon using a NexStar 6SE Computerised Telescope with a D750 camera, wide-angle lens set on a tripod. Below: Foreground artificially lit on the Guardian of the Bridge statue at Dinosaur Canyon Outpost taken using a NexStar 6SE Computerised Telescope with a D750 camera with a wide-angle lens set on a tripod. Photos taken on The Jump-Up by Honorary Technicians Peter and Mary Carroll during the full moon event on 25 October 2018 to demonstrate the brightness of the night sky despite the presence of the Moon.



Never stop dreaming



Museum membership means subscribing to the acclaimed AAOD Journal. The AAOD Journals are a valuable addition to any library and have quickly become an unmatched repository of Australian palaeontological history.

The next AAOD Journal, Issue 16 will be released in February 2019.

While many members are up to date with their membership fees, to ensure you do not miss out on the next AAOD Journal and another year of quarterly newsletters please check your membership status [here](#).

HOW TO RENEW

Online through the Museum shop, select [Museum Memberships](#)

Email completed [form](#) to
museumfinance@aaod.com.au

Mail completed [form](#) to
AAOD Members, Australian Age of Dinosaurs PO Box 408 Winton Qld 4735

By phone 07 4657 0078

Help us to **preserve** Australia's unique natural history

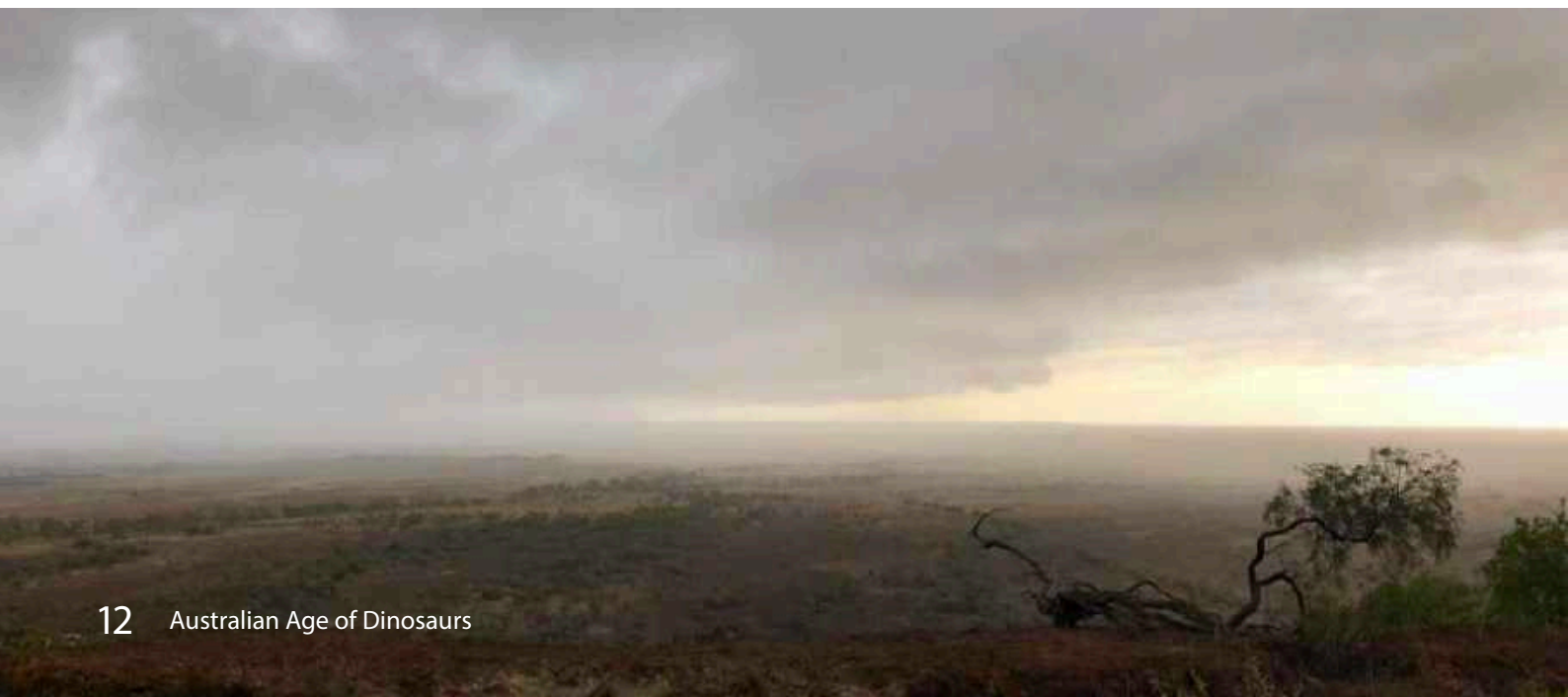
FROM DUST TO WATERFALLS

The Jump-Up is a spectacular place with picturesque views of Outback Queensland. Days before a great deluge of rain hit the Museum a dust cloud swept across the flat Channel Country. Covering the Museum in a thin film of dust, the dust cloud is but another by-product of a drought that continues to affect much of Australia. After eight months

without any substantial rain the Museum finally received 50mm in one day. The rain was enough to create waterfalls off the cliff into the Cretaceous Garden, creating short-lived streams through the gullies below. While this rain is happily received, much more is needed to overcome the damage of sustained drought.



Above: While a good start, the rain received in mid-December is nowhere near enough to break the back of the drought that has affected much of Queensland for the last six years. Below: dust clouds sweep across the Channel Country lifting top soil from dry paddocks.



ECOTOURISM



The Museum is committed to contributing to responsible tourism and to the economic, social and environmental well-being of Winton and Outback Queensland. Our aim is to take a leading role in defining best sustainability practice that to minimise the environmental impacts of the Museum's operations and set its own appropriate and demanding standards where none exist. The Museum is proud to announce that it has become an Ecocertified Nature Tourism operator through Ecotourism Australia. Apart from continuing to care for our unique environment, the Museum team is excited to keep collating and dispersing information about The Jump-Up's biodiversity, a program that started in 2009.



WE NEED YOUR HELP

The Jump-Up is like an island in the desert and home to many species not found on the surrounding plains. Its many habitats and microclimates make it richly biodiverse. The *Dinosaurs to Dunnarts* program seeks to document the flora and fauna of our beautiful 1,400-hectare site. Visitors are invited to help by sending us digital photos of what they find while on site. The animals and plants photographed will be identified by specialists assisting the program.

For more information about the program, click [here](#).

WHITLEY AWARDS

In October Museum Director Bill Wavish received the Certificate of Commendation for a Periodical at the Royal Zoological Society of New South Wales' Whitley Awards for issue 15 of the AAOD Journal. The Awards celebrate excellence in the publication of books, periodicals and other media that increase our knowledge of Australasian fauna – particularly its conservation. Congratulations to all the winners and a big thank you to the event organisers!



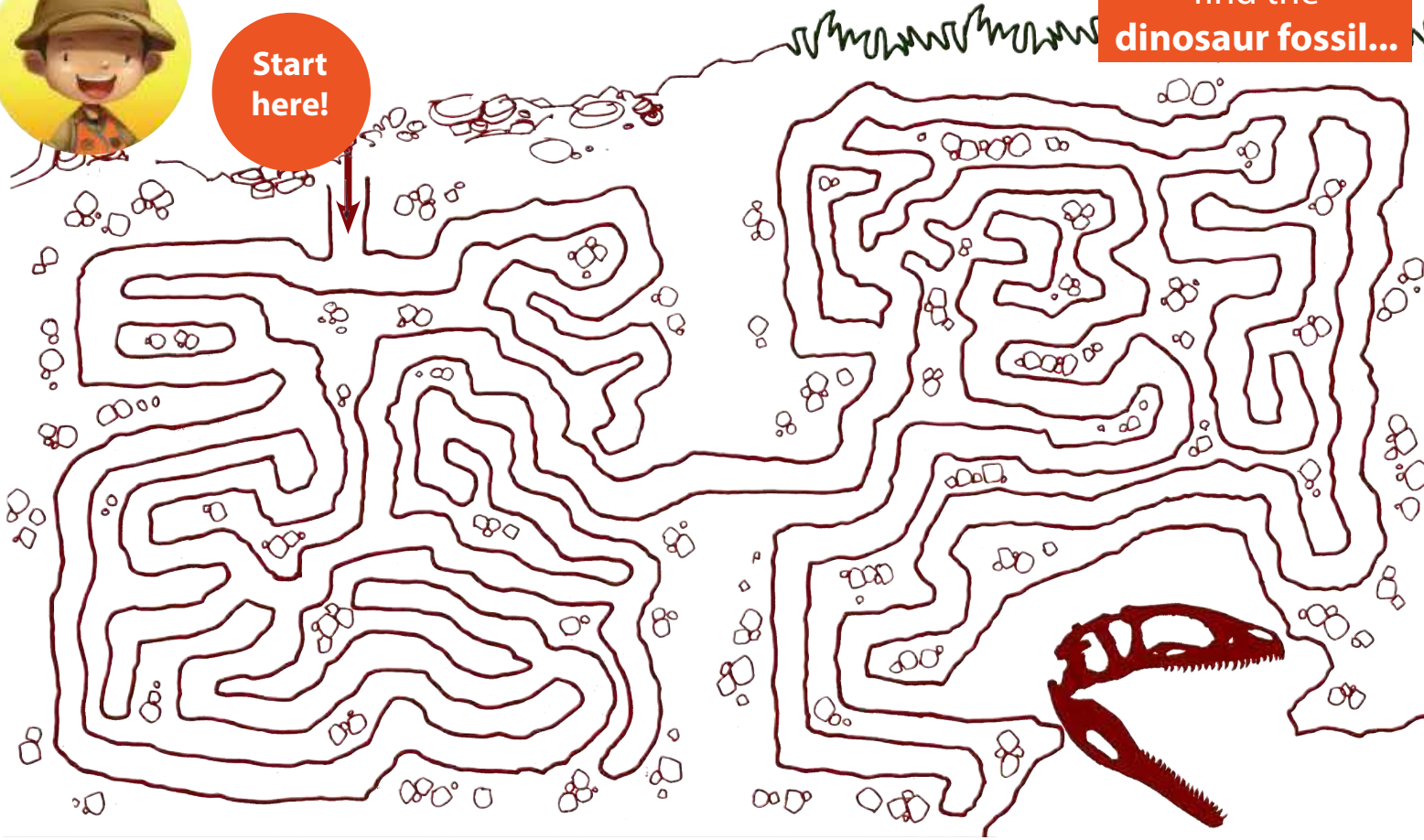
Right: Dr Arthur White and Bill Wavish

PALAEO PETE FUN



Start
here!

Help Palaeo Pete
find the
dinosaur fossil...



CHRISTMAS GIFT IDEAS



\$34.95
+p/h

*Christmas time is nearly here,
Our dinos send you lots of cheer.
May fun gifts bring smiles to all,
Whether flash, homemade, big or
small.*

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+p/h



*Our dinos are loved all year round,
In our store, dino gifts are found.
Friends, just explore here and here,
For goodies to love, use and wear.*



\$24.95
+p/h

Head to the Museum Shop
australianageofdinosaurs.com

