

Committee Secretary
House of Representatives Standing Committee on
Climate Change, Environment and the Arts
PO Box 6021
Parliament House
CANBERRA ACT 2600
AUSTRALIA

19 June 2012

Dear Secretary

Re: Inquiry into Australia's biodiversity in a changing climate

We thank you for the opportunity to provide a submission to the above inquiry.

Background

The Atlas of Living Australia (the Atlas) is one of a number of national facilities funded through the National Collaborative Research Infrastructure Strategy (NCRIS) and the Education Investment Fund (EIF). These facilities can assist in the understanding of Australia's biodiversity in a changing climate.

Specifically - the Atlas, representing a partnership between CSIRO, Australia's Museum and Herbaria community and other biological collections, makes biodiversity knowledge accessible online to a national audience. Companion projects such as the Terrestrial Ecosystem Research Network (TERN) and the Integrated Marine Observing System (IMOS) concentrate on terrestrial ecosystems and marine environments respectively.

We note that the CSIRO has provided a full submission to the Inquiry and inform the Committee that the CSIRO is the host agency for the Atlas project. As such, this submission briefly provides information on the capabilities of the Atlas and its partners in context with other NCRIS facilities. We also note that the Atlas is working closely with CSIRO's Climate Adaption Flagship - exploring ways to discover and analyse biodiversity information for their use.

The Atlas and Data as Enabling Infrastructure

The Atlas has aggregated over 32 million occurrence records of Australian species and this important knowledge base continues to grow. These records are all fully and freely available for use by a national audience over the internet and through open licensing agreements. The Atlas provides rich and easy-to-use systems and analysis tools which are now in use by a

large and diverse audience – from school children through to National Resource Management (NRM) groups through to scientific researchers.

Clearly, in order to understand changes in Australia's biodiversity, an understanding of historical species distribution is required. The earliest record, courtesy of BirdLife Australia, dates as far back as 1629 with a sighting of a brush bronzewing - gleaned from the diaries of 17th Century Dutch navigators.

Importantly, the Atlas has combined data from Museums and Herbaria collections with significant data from highly organised groups such as BirdLife Australia. Australia's biological collections actually represent the most significant *potential* source of historical data – with over 60 million specimens held in collections Australia-wide and only about 20 per cent of these being digitised and therefore available via the Atlas. The Atlas has been funded for the provision of *infrastructure* and is now capable of mobilising collection data whenever additional digitalisation activities within institutions can be funded.

In the meantime, the Atlas and its partners have delivered new and innovative ways to progress digitisation. These include a "Rapid Digitisation" project" run by the South Australian and Australian Museums. Images generated by these activities are fed to a "Volunteer Portal" where members of the public can assist with the transcription of specimen labels (which include information on species distribution), field notebooks, and other interesting materials. The Volunteer Portal has been highly successful with over 16,000 specimens already fully digitised by over 100 volunteers.

These new data, along with the existing data as aggregated within the Atlas, can now be used to analyse the historical and *potential* distribution of species, given a range of existing environmental factors. Indeed, the Atlas has integrated a number of analysis tools that allow for the generation of predictive models that assert where a species is likely to occur, given a range of identified environmental factors. These models could be used with a range of *future* climate change scenarios that would then provide pointers to the impact of a changing climate on biodiversity. The Atlas does not currently have these climate change scenarios available, but would welcome the opportunity to incorporate these, as well as any additional analysis tools that would further allow impacts to be studied. Indeed, we are currently working with the CSIRO Climate Adaption Flagship to explore these options.

Furthermore, Australia now has a unique opportunity to combine these base species data with other ecological and marine data as being aggregated and made available through IMOS, TERN and other NCRIS capabilities.

Community Engagement

As well as the Volunteer Portal, the Atlas has built tools to assist in the overall challenge in capturing biodiversity data. These tools are already in use by scientists but have also been used in a number of "BioBlitz" activities, where members of a local community, supported by scientists, gather and conduct surveys of local biodiversity. These events have attracted well over 300 local residents in total and further engaged them in local biodiversity issues. The Atlas, its partners and groups such as motivated community members, NRM groups, non-Government Organisations and many others would welcome the opportunity to run more of these events.

Sincerely

Dr John La Salle
Director Atlas of Living Australia

The Atlas of Living Australia (ALA) project is funded by the Australian Government's National Collaborative Research Infrastructure Strategy (NCRIS) and the Education Investment Fund (EIF), with in-kind contributions from partner organisations.