Submission Number: 178
Date received: 14/03/14

TERN
Terrestrial Ecosystem Research Network

Goddard Building (Bld #8)
The University of Queensland
St Lucia, QLD 4072 Australia

TEL +61 7 3346 7021
FAX +61 7 3365 1423

EMAIL tern@uq.edu.au
WEB www.tern.org.au

Committee Secretary
Joint Select Committee on Northern Australia PO Box
6021 Parliament House
CANBERRA ACT 2600 AUSTRALIA
14 March 2014

Dear Committee Members,

Thank you for the opportunity to make public submissions to this important enquiry regarding sustainable and prosperous development of Northern Australia.

One of the major impediments to development of northern Australia is the variable and dynamic nature of the region's tropical, sub-tropical and arid environments. The extremes of wet and dry, the frequency and intensity of disturbances such as cyclones and fires, and our relatively poor understanding of how northern Australia's ecosystems function all pose fundamental problems for mineral, energy, agricultural, tourism and other industries trying to expand from the south.

Therefore, any serious attempt to support long-term social and economic growth in northern Australia must include coordinated, strategic investment in infrastructure that not only informs us about changes in the region's ecosystems, but also increases our understanding of their function now and in the future. This improved knowledge would enable communities and industries to plan, innovate and invest in this dynamic environment with greater confidence and success than has previously been possible.

As a step towards overcoming this impediment, the federally-funded Terrestrial Ecosystem Research Network (TERN) has enabled many partners (including every education and management agency based and working in Northern Australia) to invest in a number of different kinds of nationally-coordinated research infrastructure programs

for northern Australia's ecosystems. The resulting new data and insights are freely available online to all – scientists, management agencies, state governments, NGOs and community groups. Despite the relatively modest size of TERN's investment, in comparison to the magnitude to the task, the potential for this approach to deliver cost-effective benefits to the region's communities and industries is already clear.

Recent examples of the use of TERN infrastructure to improve northern Australia's development potential include (see links for more details):

- Delivery of best-available soil information for Australia's north, enabling more cost-effective and locally targeted investment into suitability for pastoral or agricultural applications
- Research aimed at increasing understanding of northern Australia's unusually acidic groundwater, and the implications for land use decisions
- Significantly increased understanding of cyclone impacts on tropical savannas and rainforests, and resultant improved capacity to manage for ecosystem resilience (e.g., better control of weed invasions after cyclones by NRM agencies)
- Dramatically improved accuracy and availability of satellite monitoring of the extent and intensity of fires across all of northern Australia to enable better management responses
- Improved remote-sensing quantification of grassland curing across northern Australia at the beginning of each fire season for better grazing management
- Experimental investigation of the impacts of different fire regimes on northern Australia's ecosystems
- More accurate estimates of reductions in carbon emissions due to fire management by Indigenous landholders for improved carbon outcomes
- Observations of how intensive agriculture modifies the carbon dynamics of tropical ecosystems
- Improved accuracy and confidence in estimates of agricultural pollutant runoff along the northern Queensland coastline
- Regular community briefings covering the latest TERN activities and findings relevant to the region (eg in Darwin on 24th March 2014)

Consolidation and strategic expansion of the nationally coordinated networks of ecosystem monitoring infrastructure that TERN has established and successfully trialled in northern Australia would be a cost-effective and efficient way to underpin the region's long-term development prospects.

I note Minster Hunt's submission highlighting the Government's plans to simplify environmental approval processes through the delivery of a "one stop shop" for environmental approvals, a single assessment and approval process for nationally protected matters and a desire to maintain environmental standards while doing this.

The Minister's submission also highlights that sustainable management and use of natural assets will be important in ensuring a strong future for businesses, communities and individuals in northern Australia. Delivery of this agenda in the context of balancing future development opportunities will require on-going implementation of an open data agenda including leveraging of the infrastructure of TERN, to ensure governments at all levels, industry and even land holders have full access to requisite environmental data, information and knowledge for wise decision making.

We would be delighted to have the opportunity to brief the Committee more fully on these topics at one of your hearings.

Yours sincerely,

Prof Tim Clancy
TERN Director