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Hawkesbury Institute
for the Environment

4 July 2019

To whom it may concern:

Submission Re: NSW Forest Monitoring and Improvement Program

We were pleased to see the announcement of the NSW Forest Monitoring and Improvement Program and appreciate the opportunity to make a submission regarding the draft plan. We would like to make the following points on this plan.

(1) We applaud the announcement of this program, and the commitment to transparency and accountability. The lack of funding to support monitoring and open data sharing in NSW forests over recent years has limited research on forest productivity and health. As a university-based research organisation with considerable expertise in tree physiology and forest ecosystem science, we welcome the opportunity provided by this program to strengthen our research in NSW forests.

(2) The Draft Plan gives relatively few details on what is to be monitored or how the monitoring will be achieved. Given this lack of detail, we would like to suggest some monitoring activities that we consider should be prioritised.

(3) Value of long-term permanent sample plots

While it is important to be responsive to emerging data needs, long-term repeated measurements of some key indicators should also have a place in the monitoring program. These datasets provide invaluable information on long-term trajectories as well as the opportunity to ground-truth remotely sensed monitoring. Here, there is no need to start from scratch because existing, yet inactive monitoring networks can be brought back to life. Existing data should be digitized as a matter of priority.

(4) Monitoring in National Parks and plantations

It is not clear from the draft plan whether monitoring will cover plantations and National Parks as well as production in native forests; e.g., the table at the end of the document only mentions monitoring sites in the RFA regions (point 1.5). These areas contain National Parks, yet it is unclear what role monitoring in National Parks will play and who will pay for it – it is not part of NSW forest lands. Monitoring in National Parks is important – for baseline productivity and biodiversity under zero management. In addition, plantations play an important role in meeting market demands, and thus help relieve or exert pressure on timber reserves in native forests. Monitoring programs should include productivity of plantations, documenting potential environmental/ global change impacts on productivity of this resource.

(5) Engaging citizen scientists to monitor tree health

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Tree death – from drought, pests, pathogens, and so on – is becoming increasingly important, but is currently poorly recorded. There are few publicly available records of where tree dieback events have occurred, and no system in place to track observations. To try and track tree death, we have recently launched a citizen science initiative, the Dead Tree Detective (www.tinyurl.com/deadtreedetective) which allows citizen scientists to contribute records of tree death. This initiative is currently unfunded – set up through the free tools available in the Atlas of Living Australia's Biocollect platform – but has garnered significant public interest and is now gathering important information on where the current drought in SE Australia has caused tree death events. This platform could be significantly expanded to improve monitoring of tree death.

(6) Remotely sensed information

Satellite remote sensing should form part of the monitoring program. Tracking of vegetation indices such as NDVI and EVI over time is straightforward and cost-effective. However, most of these datasets are at a relatively coarse scale and may not identify key indicators, such as tree dieback. Campaigns using UAVs to measure Lidar and hyperspectral reflectance at finer spatial scales should be used to supplement satellite data. Campaigns could, for example, be targeted at areas of tree dieback highlighted by citizen science monitoring.

(Signed)

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