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Act early, act local to save threatened landscapes

Australians have been urged to “act early, act local” to save large tracts of the Australian landscape from shifting into radically-altered states.

A team of 26 leading ecologists from the *Innovative Research Universities (IRUs)* today released a list of the continent’s ten most highly-threatened environments.

They warn that these environments are all at risk of reaching ‘tipping points’ where they may change rapidly and irreversibly into alien landscapes, often dominated by introduced or unfamiliar species.

“In ecological terms, a tipping point is a threshold beyond which major change becomes inevitable. It often happens quite fast, such as when a rainforest is destroyed by fire, damaged coral reefs become infested by seaweeds, or invading weeds take over large expanses of savanna,” says *Professor Bill Laurance, Australian Laureate and Distinguished Professor of Conservation Biology at James Cook University.*

“When this occurs, it’s very difficult – if not impossible – to restore the original natural system.

“It means that, unless we act with speed and decision, there are Australian landscapes today which Australia’s grandchildren will never get to see.”

The IRU has published “*Protecting Australia’s most endangered landscapes*”, ranking landscapes according to the extent of their vulnerability and the scale of threats to them.

Based upon recently published peer reviewed research¹, it shows that Australia’s ten most endangered landscapes and their main threats, in order are:

1. **Mountain ecosystems:** threatened by global warming, fire and human impacts.
2. **Tropical savannas:** invasive plants and animals, huge bushfires, extreme events.
3. **Coastal floodplains and wetlands:** sea-level rise, human development activity and climate change.
4. **Coral reefs:** ocean warming, ocean acidification, overfishing, coastal runoff.
5. **Dry rainforests:** changing fire regimes, hotter temperatures, water regime changes.
6. **Murray-Darling Basin:** overexploitation, water regime changes, salinisation.
7. **Southwest dry sclerophyll forests and heathlands:** water regime changes, hotter conditions, extreme events.
8. **Offshore islands:** invasive plants and animals, extreme events, ocean changes.
9. **Temperate eucalypt forests:** hotter temperatures and changes in fire and water regimes.
10. **Mangroves and salt marshes:** hotter temperatures, rising sea-levels, water regime changes.

“Some of these changes are global – but many of them are also local – and can be mitigated by well-planned local action.”

“For example, in the case of rare higher-elevation rainforests that have been heavily fragmented in north Queensland, we can promote efforts to link up surviving forests by planting wildlife corridors.”

The IRU ecologists warn that in many ecosystems the shift towards tipping points is happening quite rapidly – and remedial action needs to be both prompt and effective.

“Australians naturally love the Australian landscape. It would be a great tragedy if future Australians do not get to see and enjoy it as we have seen and enjoyed it – simply because their parents neglected their responsibility to manage it wisely.”

The assessment of the 10 most vulnerable ecosystems are identified as a first step toward a coherent national plan of action.

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IRU Publication link – [“Protecting Australia’s most endangered landscapes”](#)

IRU is a network of seven comprehensive Australian universities, conducting research of national and international standing. The network has national reach, with a presence in every mainland State in Australia and the Northern Territory. Collectively the network operates in over 40 locations, with a focus on outer metropolitan and provincial cities.

¹ “The 10 Australian ecosystems most vulnerable to tipping points” is published in *Biological Conservation*, 144 (2011) 1472–1480, Elsevier, 2011. Its authors are William F. Laurance, Bernard Dell, Stephen M. Turton, Michael J. Lawes, Lindsay B. Hutley, Hamish McCallum, Patricia Dale, Michael Bird, Giles Hardy, Gavin Prideaux, Ben Gawne, Clive R. McMahon, Richard Yu, Jean-Marc Hero, Lin Schwarzkopf, Andrew Krockenberger, Samantha Settlefield, Michael Douglas, Ewen Silvester, Michael Mahony, Karen Vellam, Udoy Saikia, Carl-Henrik Wahren, Zhihong Xu, Bradley Smith, Chris Cocklin.