Adapting our conservation objectives: The case of the disappearing freshwater wetlands of the Timor Sea drainage division

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Typically being very low-lying ecosystems of 0.2 to 1.2m above sea level, the future of the Freshwater Floodplains of the Timor Sea drainage division, and many others across Australia’s Top End, are seriously threatened by the impacts of climate change - rising sea levels and increased storm activity in particular. Predictions show that a sea level rise of 30cm would see approximately 75% of Kakadu National Park’s floodplain wetlands inundated with saline water, and when the scenario is extrapolated across Northern Australia there are several million hectares of highly important wetlands vulnerable to conversion to saline-dominated conditions.

These freshwater floodplains provide important habitat for a wide variety of reptiles, amphibians, mammals, fish and waterbirds. The high fertility of their soils supports the greatest vertebrate biomass and population density found within Australia, and the floodplains are essential habitat for more than 100 species of bird. They are relied upon as nursery grounds for the economically, culturally and ecologically important barramundi and as a whole are of immense environmental, economic and socio-cultural value. They are undoubtedly in a state of decline and their ability to continue providing these considerable ecosystem services is at risk.

Humane Society International has been the prime organisation for nominating Threatened Ecological Communities for protection under the federal Environment Protection and Biodiversity Conservation Act, or EPBC Act, since its inception in 1999. These listings see ecosystems classed as Matters of National Environmental Significance, providing protection at a landscape scale and requiring detailed assessment and federal Environment Minister approval for developments impacting upon them.

For the Freshwater Floodplains the benefits of such a listing may not seem obvious – rising sea levels not exactly following the required procedures before knocking off a bit of floodplain habitat. However, the additional and compounding effects of invasive plants and animals, over-grazing by cattle, land use intensification for agriculture and modification of natural flow regimes can be managed. By having the community listed under the EPBC Act these impacts are required to come under collective consideration along with sea level rise, and improved planning can lessen their impacts – in a way buying precious adaptation years that would otherwise be unavailable.

There have so far been two nominations for such a listing submitted by HSI, with an initial attempt running into boundary definition issues and the more restricted follow up nomination failing to persuade that sea level rise was threatening the floodplains at the required rate of the relevant climate change criteria, which is within 50 years. Having a community listed under this criterion would be significant as it is yet to have been achieved, and could open wider avenues for adapting to a shifting climate.

Though there have been communities listed due to impacts of climate change, an example lying in the Giant Kelp Marine Forests of South East Australia, classed as Endangered in 2012 following a 2009 HSI nomination. Climate change was a leading factor for this listing, as increasing water temperatures pushed the distribution of damaging sea urchins into the community’s range. A tight watch is now kept on other impacts on the Giant Kelp Forests.

Despite previous setbacks, HSI will continue to seek the latest data and work on further avenues to have the Freshwater Floodplains of the Timor Sea drainage division properly defined and afforded protection as a Matter of National Environmental Significance. Though worryingly the law that provides protection is itself under threat, with the Government intent on and in the final stages of devolving the Act’s powers to the states. HSI is a founding member of the Places You Love Alliance, a coalition of organisations uniting to limit the damage of this process.

So here’s hoping that a growing body of evidence and sustained political lobbying can first of all see these freshwater floodplains assessed and listed under the EPBC Act, and that the Places You Love Alliance is successful in their defence of this powerful and underutilised piece of biodiversity legislation.