



EERHPOLICYBRIEF

'Yes we can ...': Conservation values of the Kimberley tropical waterways and wetlands

Abbie McCartney¹ and Jonelle Cleland²

Conservation success in the Kimberley will depend on incorporating divergent sets of values...

The WA State Government has recently proposed the Kimberley Wilderness Parks ³. This ambitious plan will add to the conservation estate in the Kimberley to deliver the largest interconnected system of marine and terrestrial reserves. The plan will also consider conservation priorities for the vast network of waterways and wetlands in the region. Conservation priorities must be managed in conjunction with pressures to utilise the region's water resources for production and water supply. In the past, these competing interests have led to widespread debate and political controversy.

The State Government has recognised the contribution of experts in understanding the ecological values of the region, through its 'Kimberley Science and Conservation Strategy'. It also acknowledges that public consultation is an important component of conservation planning and decision making. What is not known is whether experts and the public hold divergent sets of values for conservation in the Kimberley.

Choice modelling can be applied to elucidate differences in expert and public preferences for the conservation of various environmental assets. Choice modelling is a survey based technique that is used to investigate the trade-offs that people are prepared to make between different goods or policies. In a choice experiment, respondents are presented with variants of the good or policy – described by a set of attributes – and are asked to choose their most preferred alternative. The appeal of choice modelling comes from the ability to identify the marginal values of the attributes and the willingness to pay for any alternative of interest.

The study

The broader West Australian community made up the public sample. The remote location and notions of wilderness associated with the Kimberley means it is likely to be of value not only to locals and visitors, but also to non-users who may consider it important in terms of its pure existence values.

¹ School of Agricultural and Resource Economics, University of Western Australia. E: Abbie.McCartney@uwa.edu.au

² School of Agricultural and Resource Economics, University of Western Australia. E: Jonelle.Cleland@uwa.edu.au

³ <http://www.dec.wa.gov.au/content/view/6171/2183/>



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An expert sample was drawn from a consortium of scientists working on tropical ecology and conservation. It should be noted that there is currently a concerted research effort on water management issues in Northern Australia and experts are dispersed across Australia.

Attributes were selected based on relevant knowledge bases. A knowledge base is the particular 'lens' through which an understanding of a topic is gained and, if appropriate, used for a specific purpose. The concept is being used in evidence-based policy to account for different sources of information and perspectives in complex policy settings, with the intention of improving policy and program development.

The resulting attributes were:

- Wild rivers: although the public may conceive most rivers in the Kimberley as being untouched and wild, experts strictly define wild rivers as those rivers which are undisturbed by the impacts of modern society.
- Iconic places: the powerful river systems, waterfalls, and gorges are all iconic features of the Kimberley. Iconic features are characterised by their visual aesthetics, rather than their ecological integrity.
- Representative ecosystems: experts have divided Australia into a set of bioregions based on geomorphic and ecological features. The Australian Government intends to increase the reserve area within each bioregion to include more representative ecosystems.
- Threatened species: There is limited information on the populations of threatened species in the Kimberley. However, for a limited number of species, there is an understanding of impediments to population stability. A topical issue is that of the threatened Freshwater Sawfish and its migratory constraints. A barrier on the Fitzroy River prevents upstream migration of the sawfish when the river is not flowing high enough and there has been lobbying to remove the barrier.
- Iconic species: Barramundi are associated with images of the Kimberley and have popular appeal. They are common and widespread throughout Northern Australia. However, as for the sawfish, there are constraints on upstream migration due to barriers on the Ord River.

The Results

There is an overall preference to choose programs that achieve an improvement in conservation, endorsing the State Government's increased commitment and investment in conservation planning for the Kimberley. However, there is a divergence between the values experts and the public place on specific components of the system.

Experts highly value components that are considered important for system integrity and species resilience, while the public have a relatively stronger preference for components with an iconic status.

The experts value the wild river, representative ecosystems and threatened species attributes most highly. Heterogeneity exists within the expert sample, driven by their individual experiences within the region and membership to conservation groups. In relative terms, the public typically place less value on these attributes than the experts.

The public value the iconic species and iconic place attributes positively. The experts, on the other hand, typically held monetary values for these attributes that weren't significantly different from zero.



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Knowledge factors can help to explain divergent values. In particular, an improved understanding of a management scenario can influence values. The public respondents received surveys with different amounts of background information about the Kimberley waterways and wetlands. With respect to the iconic species attribute, the higher amount of information led to lower willingness to pay values for improving the migration of Barramundi in the Ord River. With more information it appears that the public have recognised that Barramundi are not a critical species to conserve, given their present widespread status, and are thus valuing the attribute in a manner that more closely reflects the experts.

Implications

A systematic valuation of preferences is timely to offer insights into the Kimberley Wilderness Parks proposal, and to provide an understanding of peoples' values in the event of future debate over the water resources.

The divergence between public and expert values for the Kimberley indicates that wide stakeholder consultation is a necessity for policy success. It should be acknowledged that the public will want to see conservation outcomes that deliver protection for iconic environmental assets. However, it is also worth noting that resolving some differences between expert and public conservation priorities could be facilitated by awareness campaigns to educate the public on a proposed policy intervention.

The specific attribute value can also be used to inform management interventions. For example, there have been proposals to add a fishway on the Fitzroy River that would overcome the barrier to migration for the sawfish. The costs of adding the fishway could be compared to the value of the threatened species attribute, in terms of the willingness to pay for improved migration of the sawfish in the Fitzroy River, aggregated for the WA population.



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