Decision thresholds for management actions

A NERP workshop

(University of Melbourne, May 2014)

By Carly Cook (MU), Kelly Hunt de Bie (UoM), and Prue Addison (UoM)

Managing natural environments involves difficult decisions about when to intervene to prevent undesirable changes. Intervening too early may result in unnecessary management actions, while intervening too late may lead to much greater costs or irreversible outcomes. Managers, therefore, need to be able to identify the most appropriate point to take action, and this is often referred to as a decision threshold (see Figure 1 for two examples).

Developing decision thresholds to guide management requires a good ecological understanding of the system, along with knowledge of the social, political and economic drivers at play. Striking the appropriate balance between these factors needs an active dialogue between scientists and managers to ensure appropriate decision thresholds are developed that take into account the constraints faced by management agencies.

Protected area management agencies within Australia (and several other countries) are working toward developing and implementing decision thresholds to guide management action. However, progress has been slow because there is little information sharing, virtually no coordination of effort, and ad hoc engagement between managers and scientists about how to identify and define decision thresholds. With this in mind we sought to bring together managers from across Australia and New Zealand to share ideas and accelerate progress toward the development of decision thresholds for protected area management.

Researchers at the University of Melbourne and Monash University facilitated a workshop funded by the NERP ED Hub with 14 managers from 10 different government and non-government protected area management agencies across Australia and New Zealand. The diverse participation by agency staff reflects the broad interest in this topic.

The workshop started with representatives from all of the agencies sharing their current progress towards developing and implementing decisions thresholds. We found widespread support for the idea of decisions thresholds as a management tool. However, agencies have different objectives for developing thresholds and are using different approaches. Some are only just beginning to explore the concept while others are implementing thresholds in specific cases. Some agencies were focussed on supporting day-to-day management decisions, others on building decision thresholds into existing monitoring, evaluation and reporting programs that would improve management outcomes and the transparency of management decisions.

The discussion revealed that decision thresholds can take many different forms (eg, a quota for sustainable harvest or culling over-abundant species) and that management agencies have developed decision thresholds for a least one management issue, generally in relation to managing threats to biodiversity rather than focussed on important species or ecosystems.

During the workshop, there was fruitful discussion around the internal obstacles faced by agencies in developing and implementing decision thresholds within their management context. Many useful suggestions were made about how to overcome some of these operational barriers. There were also numerous scientific knowledge gaps identified that need to be addressed to assist agencies develop decision thresholds grounded in the best available science. The similarity between the knowledge gaps faced by different agencies was striking, suggesting targeted research could make a significant difference to overcoming many of the obstacles. There was broad support for a collaborative research agenda to develop an approach to identifying decision thresholds that could be applied in a wide range of different contexts.

The most exciting development of the workshop was broad agreement on a general framework that sets out the key elements required to set decision thresholds. This framework would fit within the monitoring, evaluation and adaptive management frameworks already in place within the agencies. The next step will be developing a series of questions that need to be addressed at each step and a range of decision support tools that will assist agencies in answering those questions. There was strong support for testing this framework for establishing decision thresholds through a range of case studies, targeting issues of current concern to Australian and New Zealand protected area management.

All the participants agreed that the workshop was a great success and very timely for their management agencies. The opportunity to share progress, challenges and possible solutions was extremely valuable and will form the basis of major progress in developing decision thresholds to guide protected area management. We would like to thank all of the agencies and their representatives for making the time to contribute and for their productive contribution to this important topic. The workshop provided an exciting way forward for an issue that could make a significant contribution to the effectiveness of protected area management.

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Integrating socioeconomics into urban ecosystem services

A CEED workshop, (UQ, March 2014)

By Marit Wilkerson (University of California, Davis & former CEED Visiting Research Fellow)

Picture your ideal city park. Perhaps it has benches, well-maintained jogging paths, plenty of green lawn space to spread out a picnic blanket. Perhaps it has a ‘wilder’ feel to it, with dense pockets of native bush and narrow dirt footpaths that allow for uninterrupted bird-watching and respite from the city bustle. Now what if no human ever visited it? Perhaps the very ‘wildness’ that appealed to you has the local residents worried about homeless folks in the bushes, and they’d rather drive to the parky-park that’s several kilometers away. But maybe they cannot go to that parky-park because they only have one car for their large family and it can’t be spared for recreation. What service does that unvisited park provide to the local residents then? What services could or should it provide?

This workshop sprang into being because several of us in the CEED network started wondering how the context around an urban park matters. Specifically (but still very generally!), how does the socioeconomic context matter? And how does that influence the tossed-about idea of ecosystem services? We sat down to hash out these ideas over a two-day workshop in the beautiful new fifth floor space that CEED occupies at UQ. Our goal was to come up with not only the conceptual foundation for how to incorporate socioeconomics into urban ecosystem services but also to address it in an actionable way.

During the workshop, we sometimes felt we were talking ourselves in circles (really, how do you define a ‘service’?!), but we emerged from it with a rich array of ideas and key overarching messages that helped keep us on track. Our main take-home message was that socio-economic factors influence both the provision and realization/compliance of EPBC Act conditions for approval.

We are currently working on a manuscript that will expand these ideas over a two-day workshop in the beautiful new fifth floor space that CEED occupies at UQ. Our goal was to come up with not only the conceptual foundation for how to incorporate socioeconomics into urban ecosystem services but also to address it in an actionable way.

During the workshop, we sometimes felt we were talking ourselves in circles (really, how do you define a ‘service’?!), but we emerged from it with a rich array of ideas and key overarching messages that helped keep us on track. Our main take-home message was that socio-economic factors influence both the provision and realization/delivery of ecosystem services. Understanding that concept will help tailor green space policies and management strategies. In our opinion, that understanding and the actions that stem from it will enhance the effectiveness of city planners and managers’ efforts to bring ecosystem services to their city’s residents.

We are currently working on a manuscript that will expand these thoughts and give them some teeth. We’d like to stress that we are NOT creating a new framework (lots of those floating around in circles (really, how do you define a ‘service’?!)), but we emerged from it with a rich array of ideas and key overarching messages that helped keep us on track. Our main take-home message was that socio-economic factors influence both the provision and realization/delivery of ecosystem services. Understanding that concept will help tailor green space policies and management strategies. In our opinion, that understanding and the actions that stem from it will enhance the effectiveness of city planners and managers’ efforts to bring ecosystem services to their city’s residents.

Keep your eyes peeled for more! 🕵️‍♂️

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Discussing urban ecosystem services were (left to right) Kerrie Wilson, Jonathan Rhodes, Catherine Lovelock, Danielle Shanahan, Chris Ives, Matt Mitchell and Marit Wilkerson.

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Dbytes

Dbytes is EDG’s internal eNewsletter. It gets sent to members and associates of EDG each week, and consists of small snippets of information relating to environmental decision making. They might be government documents, research articles, blogs or reports from other research groups. Here are seven bytes from recent issues. If you would like to receive the Dbytes eNewsletter, email David.Salt@anu.edu.au

1. Senate committee report into offsets

A Senate committee issued the report from its inquiry into environmental offsets.


2. Drivers of practice change in agricultural land management

This ABARES study focuses on the key factors landholders consider when making decisions to adopt specific land management practices.


3. Auditors on capacity to manage compliance of EPBC Act

The ANAO issued a performance audit: ‘Managing Compliance with Environment Protection and Biodiversity Conservation Act 1999 Conditions of Approval’.


4. The Action Plan for Australian Mammals

CSIRO’s Publishing’s new The Action Plan for Australian Mammals 2012 book is now out and stock is available. The authors are John Woinarski, Andrew Burbidge and Peter Harrison.


5. Green Paper on developing Northern Aust

Minister Warren Truss issued a Green Paper on northern development and announced the members of a Northern Australia Advisory Group.


7. Effectiveness of Party Climate Policies
