Prioritisation processes that attempt to rank threatened species "recovery" based on expert opinion are inherently flawed and will lead to an illogical misallocation of conservation resources. There are better alternatives available, which incorporate the longstanding approaches of adaptive management and evidence-based decision support.

- Cost-benefit analyses are increasingly gaining momentum as The Answer to investing resources in threatened species management.

- The outcome of these analyses is a ranked list based on guesses by experts of costs and likelihood of success over long periods of time (e.g. 50-100 years). In theory, the cheapest and most feasible recovery projects end up at the top of the list and the most expensive and least feasible at the bottom. The proponents of these models claim that following this approach will 'minimise extinctions'.

- The simplicity of this approach is very seductive. However, it is not a realistic judgment of our ability to discern useful information from a complex system.

- The ecological world and the multiple factors that influence a species' fate in different ways over time cannot be accurately captured in a simple equation. Worse still, the underlying 'guesses' are invariably so inaccurate and biased that they prevent valid cross-species comparisons.

- Past history of biodiversity management demonstrates repeatedly that species' responses to management are often unpredictable.

- Yet, for these prioritisation models to have any meaning, they require that all input is correct, otherwise the ranking of species becomes grossly misleading.

- Furthermore, models require that all essential actions for each species be identified decades in advance. This is logically impossible if response to management is unknown and varies among sites, years, and threat abatement intensity.

- Prioritisation models are inherently prescriptive and by default 'lock-in' decisions at several levels. While some experts know the limitation of 100-year predictions and decline to provide guesses, others with less humility drive the system and their input is rarely questioned by model developers who also lack knowledge.

- Further, applying adaptive corrections to prioritisation input as field knowledge is gained (e.g. cost blowouts) invalidates the model outcomes, leading to a change in the ranking of species every few months.

- There is also an unquestioned assumption that unless a prioritisation model is applied, then conservation resources are not being used cost-effectively.

- In fact, for decades conscientious managers (who are all too aware of the limits to the available resources) have applied Cost-Benefit decisions to guide threatened species management on a day by day basis.

- Using a far more complex computer that can continually analyse and re-assess multiple factors changing through time – the human brain – professionals adjust management in an adaptive manner to optimise the use of resources. This ensures that resources are committed to actions that deliver the best conservation returns at any point in time, based on current knowledge of numerous, ever-changing factors.

- All costs and benefits cannot possibly be captured accurately or consistently by a static mathematical equation. There are a wide range of factors that influence 'cost-effectiveness' such as having the flexibility to take advantage of unanticipated conservation opportunities, which frequently are a major driver of successful management.

- These flexible decisions can also be transparently documented, peer reviewed and reported, along with outcomes. Transparency is not the sole domain of applying an equation and producing a list.

- Even the claim that prioritisation models 'minimise extinction' is false. The models require that all actions are implemented for each of a few species. This potentially uses up resources which could be allocated more thoughtfully and efficiently to many focussed actions that stabilise multiple species while we gain field evidence on how best to save them.

For these reasons, attempts to implement the outcomes of prioritisation models are failing. It is all the other factors that are not captured by static expert guesses that rightfully re-focus priorities and guide management toward more efficient and productive results. Success in threatened species management is better achieved by constant rebalancing of resources based on field evidence; adaptive implementation with transparent peer review; and acceptance that expert guesses should not dictate calcified decisions. This is readily achieved by adjusting organisational policy, philosophy and training. Prioritisation models as currently proposed do not accomplish threatened species management efficiently.

For a more detailed discussion see: http://www.publish.csiro.au/?act=view_file&file_id=AM10053.pdf

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