

## ADAPTIVE MANAGEMENT AND THE DALY RIVER

Every day we make decisions without having all the information we would like, and so accept some risk. Dealing with uncertainty is a basic part of life, and one that we usually get better at with experience. Taking risks may deliver much greater benefits than sticking to the boringly certain. But the experience can sometimes be painful and the learning slow.

Without thinking about it too much, most of us soon learn to apply a few simple rules. We are less inclined to act, despite uncertainty, when the costs of being wrong are high. We may hedge decisions by sometimes investing in highly uncertain ventures, (like Lotto tickets) but put most of our resources into safer investments.

The same issues are at play in natural resource management. Delivering benefits from use of resources like water or land almost always involves some uncertainty. Natural systems are extraordinarily complex and it is difficult to be sure that a given intervention won't have an unpredicted consequence.

How should governments manage uncertainty so that they can have some confidence about delivering the greatest benefits to the greatest number over the long term?

Taking risks that involve irreversible damage to natural systems over significant areas, or damage the well-being of substantial numbers of people aren't options. But nor are the most obvious alternatives of doing nothing or delaying every decision until there is absolutely certainty.

An option that is increasingly being used is to accept that every decision involves some uncertainty, and then to act cautiously by breaking big decisions down into smaller pieces that we can learn from. Risk arising from uncertainty can be confined to relatively small change occurring over limited areas, so the potential cost of mistakes is minimised.

To speed up the learning, decisions are implemented as experiments to test the assumptions, information and ideas that were used in decision-making. Different approaches to dealing with a management issue are chosen, and the results of the different approaches carefully analysed to inform us and to reduce uncertainty about the next decision. This process is called **adaptive management**.

Adaptive management combines design, management, and monitoring to systematically test assumptions in order to *adapt* and *learn*. It is especially of value in situations where scientific knowledge is incomplete but where immediate actions are required – in other words, where doing nothing might conceivably be just as bad as or worse than intervening.

Adaptive management embodies a strong commitment to monitor the effects of decisions and to respond quickly and effectively to evidence of unwelcome change. It is about learning from decisions and using that learning to make better decisions in future. Adaptive management requires that those making decisions are capable of adapting to the knowledge gained and an acceptance by all of the need for flexibility and adjustment over time.

Adaptive management is more than just trial and error. Nor does it mean stopping research that will reduce uncertainties. Adaptive management is more than “suck it and see” with a bit of “continuous improvement” thrown in. It is a structured, carefully designed and rigorous approach to learning how natural systems respond to cautious interventions and is about adapting practice in response to the knowledge gained.

---

The Daly River Management Advisory Committee will play a central role in applying adaptive management on the Daly River. The Committee members will consider possible management actions and the level of uncertainty and risk involved, collaborate in the design of cautious management interventions, oversee monitoring arrangements, and evaluate results. In the process, they will learn not only about the way natural systems work, but also how different sectors are affected by their actions. They will learn about both the social and biophysical effects of decisions and the choices involved in improving the well-being of the regional and wider Territory community.