



# Conflicts over water for NSW



Director, Prof Peter Cullen

*As the competition over water hots up, there are more and more strident calls to 'zap the cap' and move away from the reforms that New South Wales is painfully edging towards.*

It is of little surprise that some irrigators would like to do away with water controls. Upstream irrigators would receive a licence to print money at the expense of downstream irrigators and the environment. The over-allocation of water in NSW has already led to a reduced security of supply, and it should be clear that this is not in the interests of irrigators.

From time to time the quality of the science underpinning the various reforms comes under attack.

Science is never complete, and we will never have perfect understanding. However, I believe that the science underpinning the NSW river flow objectives is good and appropriate to the issues at hand. If irrigators can see flaws in the science, then they should explain exactly what aspects are flawed so that we can debate the issue.

As I see it, the science revolves around three major propositions:

**Proposition 1.**  
**NSW rivers are degraded**

I doubt that there are many disputes about this. The Federal State of the Environment Report and the NSW State of Environment Report catalogue the problems. The NSW Rivers Survey, conducted by the CRC for Freshwater Ecology and NSW Fisheries, showed that our rivers have suffered major losses of native fish. It also showed that carp infestations were greater in more regulated streams. Added to this, the algal blooms in the Lower Murray in 1991 caused major dislocation to rural communities and tourism, as well as threatening human health.

In my view the community is well aware of the mismanagement responsible for this degradation to our rivers. Even Sydney residents are now aware that failed catchment management can have huge economic, environmental and social costs on the community.

**Proposition 2.**  
**Altered flow regimes are one of several important causes of degradation**

We have inverted the natural flow in many of our rivers. These rivers now run bank full in summer as they deliver irrigation water, and are at low flow in winter as the storages fill. The loss of small to medium floods is no doubt responsible for the failure of native fish to recruit, and this is probably one of the causes of the carp explosion, since the native fish do feed on young carp.

In some NSW valleys the water is grossly overcommitted, with not only serious environmental consequences, but also leading to a loss of security of supply to irrigators.

**Proposition 3.**  
**Restoring appropriate environmental flows will reduce degradation**

Reducing one of the major stresses, altered flows, will hopefully improve the health of our rivers. We do know that treating symptoms without addressing causes does not work; a fact that is amply demonstrated by our approach to salinity.

There are of course other stresses that must also be addressed, such as water regulators and weirs that stop fish migration, and agricultural chemicals that kill zooplankton and fish (probably leading to algal blooms). Dams with inappropriate release structures have been shown to release cold water that alters downstream temperatures for up to 300 km in NSW, with significant impacts on fish. Fertilisers and inadequately treated sewage effluent provide nutrients to promote algal blooms.

The CRC conducted a workshop in December 1997 to enable a group of 40 scientists, including CRC researchers and representatives from most states, to scrutinise the science behind the reforms. The scientists involved with setting the river flow objectives made presentations and were questioned at length by the audience. At the end of the day it was agreed that the science was appropriate and the work should proceed.

**Peter Cullen**  
**Director**

