

Water rights and water wrongs: Balancing interests in water allocation

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INTRODUCTION

ASSESSING FUTURE WATER NEEDS

- Population projected to reach 35.9 million by 2050
- Predominantly urban
- Ecological footprint 7.8 global hectares per person

Water footprint

- calculated at 1393m³/cap/yr
- gross virtual water exporter
- considered to be 100% self-sufficient

- **Agricultural water use**

Agricultural exports account for net virtual water export, and Australian urban growth, consumption patterns, and climate shifts may see some cities running out of water.

MDB is overallocated

Current buyback techniques include

- purchase of properties with significant extraction entitlements,
- purchase of water through tenders,
- involvement in water ‘saving’ infrastructure schemes, with the water saved to be returned to the environment.

The irrigated regions of the Murray-Darling Basin account for a significant proportion of Australia's agricultural productivity

- **Industrial and commercial water use** in the Basin is not large - in 2004-2005 Basin manufacturing used 1% of water, and other industries (mining, electricity and gas, and service industries) 2%.



- **Household water use**

Represents 2% of water consumption
in the Basin

Water has been diverted from the
basin to supplement city supplies.

The rate of growth in the Basin, at 5% between 1996 and 2006, was markedly less than that of the rest of Australia at 12%, and the largest population growth occurred in major urban centres in the Basin.

• **The Environment**

- Flow
- Lack of flow
- Timing of flow
- Water temperature
- Water in floodplains, swamps, lakes and billabongs

To restore natural flows would require acceptance of natural scarcity, as well as natural overabundance. It would require acceptance that Australia's 'great' rivers can naturally run dry, and can also spread across hundreds of kilometres of flood plain.

• Cultural Flows

Fewer than 70,000 people but at 4% of the Basin population this was greater than the national average of 2%.

Minimal legal rights: *Members of the Yorta Yorta Aboriginal Community v Victoria* [\[2002\] HCA 58](#)

• Recreational Use

- **Hydroelectric Power**

Generates 33% of Australia's hydroelectricity

Environmental consequences

Affected by water scarcity

THE MURRAY-DARLING BASIN PLAN

Federalisation of water arrangements in the form of the *Water Act 2007* (Cth) - to provide for integrated management of the Basin's water resources. This includes both surface and ground water, water in overland flows, in watercourses, wetlands or aquifers

Three part process:

1. Guide to the Proposed Basin Plan

To be released 8th October 2010

2. Proposed Basin Plan

Formal consultation and submission
process

3. Basin Plan

Stakeholder engagement strategy

<http://www.mdba.gov.au/programs/engagement>

Objectives:

- To increase understanding of the Basin Plan issues and development process
- To create opportunities for people to provide relevant information to the development of the Plan
- To increase confidence in the planning and engagement process
- To acknowledge and value people's contribution to the planning process

Stakeholders include over 1000 stakeholder groups, grouped as follows:

- People living in the basin and the broader Australian community
- Industry, conservation, recreation and community groups
- Local governments
- Indigenous peoples

- Basin community committee
- Basin officials committee
- State government agencies and departments
– scientific, technical and policy
- Science and research communities

Stakeholder engagement to be:

- Transparent
- Inclusive and targeted
- Appropriate and adaptive
- Accessible and innovative
- Respectful
- Supportive

Provide for integrated management in particular by providing for:

- **Giving effect to relevant international agreements (to the extent to which those agreements are relevant to the use and management of the Basin water resources); and**
- **The establishment and enforcement of environmentally sustainable limits on the quantities of surface water and ground water that may be taken from the Basin water resources (including by interception activities); and**
- **Basin-wide environmental objectives for water-dependent ecosystems of the Murray-Darling Basin and water quality and salinity objectives; and**

- **Water to reach its most productive use through the development of an efficient water trading regime across the Murray-Darling Basin; and**
- **Requirements that a water resource plan for a water resource plan area must meet if it is to be accredited or adopted under Division 2; and**
- **Improved water security for all uses of Basin water resources**

- The ‘general basis’ on which it is to be developed is to give effect to relevant international agreements, and having regard to**
- (i) the fact that the use of Basin water resources has had, and is likely to have, significant adverse impacts on the conservation and sustainable use of biodiversity, and**
 - (ii) the fact that the Basin water resources require, as a result, special measures to manage their use to conserve biodiversity.**
- The Basin Plan must ‘promote sustainable use of the Basin water resources to protect and restore the ecosystems, natural habitats and species that are reliant on Basin water resources and to conserve biodiversity’.**

- The Act also prioritises critical human water needs: the Basin Plan must be prepared having regard to the fact that the Commonwealth and the Basin States have agreed:**
- That critical human water needs are the highest priority water use for communities who are dependent on Basin water resources; and**
 - In particular that, to give effect to this priority in the River Murray System, conveyance water will receive first priority from the water available in the system.**

The Basin Plan ‘will provide for limits on the quantity of water that may be taken from the Basin water resources as a whole, and from the water resources of each water resource plan area.’

The limits are expressed as ‘long-term average sustainable diversion limits’ These limits ‘must reflect an ‘environmentally sustainable level of take’, defined in the Act to mean:

- The level at which water can be taken from that water resource which, if exceeded, would compromise:**
 - key environmental assets of the water resource; or**
 - key ecosystem functions of the water resource; or**
 - the productive base of the water resource; or**
 - key environmental outcomes for the water resource.**

The Sustainable diversion level (SDL) will replace the MDBC 'Cap' on extractions, and will include groundwater extraction.

The SDL may vary from year to year, to take in storage levels, inflows, groundwater levels and recharge.

It *will* be set below the current level of use for both groundwater and surface water.

Reallocation techniques to ‘close the gap’ between current diversions and the SDL.

- **The Australian government is purchasing surface water entitlements (\$3.1 billion ‘Restoring the Balance in the Murray-Darling Basin’ program)**
- **Improvement of irrigation infrastructure with water ‘savings’ applied to close the gap (eg Northern Victorian Irrigation Renewal Program)**
- **Reducing entitlements to irrigators**

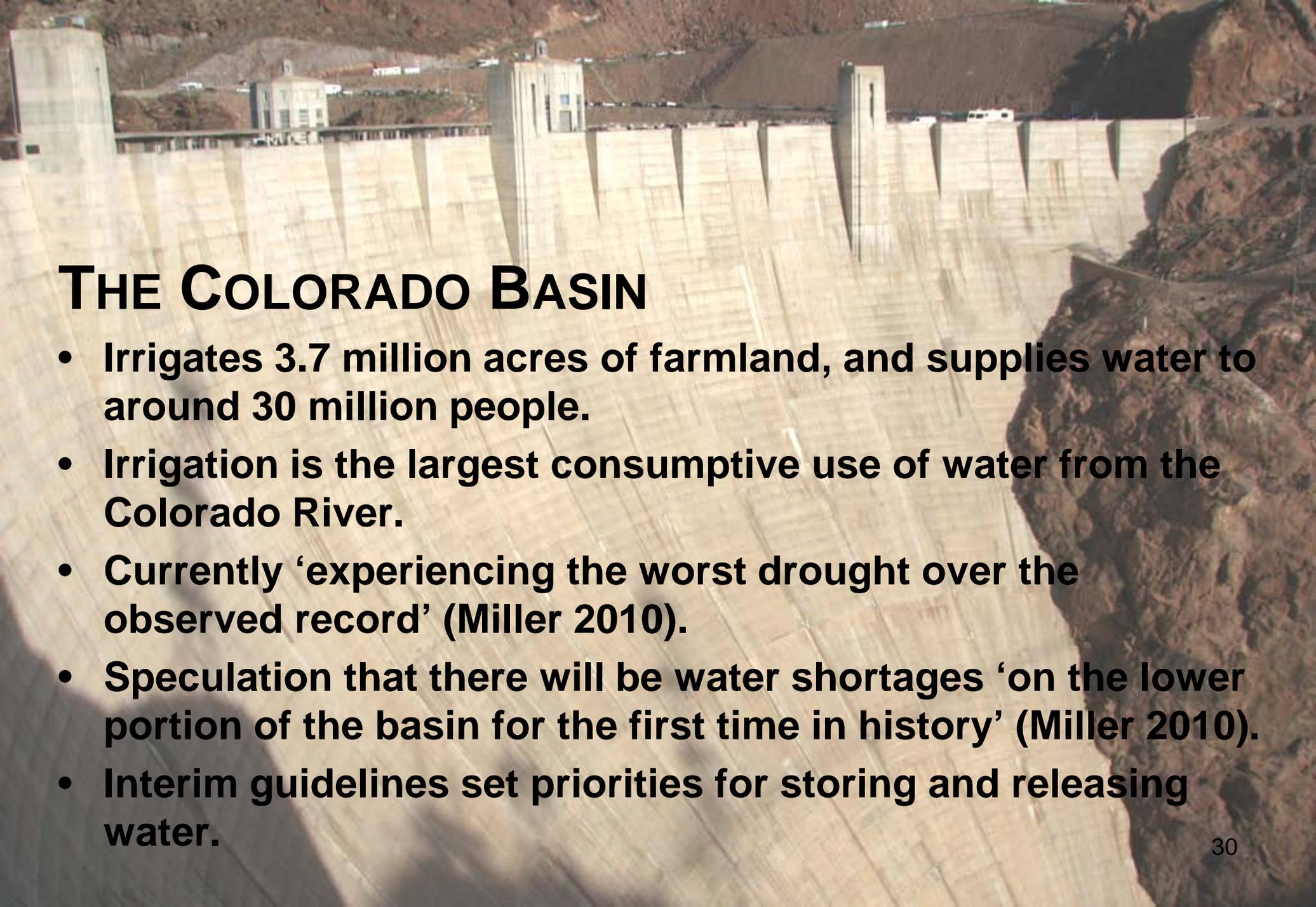
The Commonwealth Environmental Water Holder will:

- **Manage the entitlements obtained by the Government**
- **The entitlements will retain their original characteristics**
- **The Government will bear the charges relating to the holding and use of the water**

The risk of reduction in size or reliability of water will be borne:

- By water entitlement holders if the reduction is due to seasonal or long term changes in climate, or of periodic natural events (eg bushfires and drought)**
- By a government if the reduction is due to a change in policy**
- By water entitlement holders and governments, according to a formula, if the reduction results from improvements in knowledge about the environmentally sustainable level of take of water.**

After the Basin Plan is finalised, each State must develop a water resource plan that is consistent with the Basin Plan. These will replace current water resource plans (in all states but Victoria) as those plans expire. Victoria currently prescribes water sharing arrangements through regulation.



THE COLORADO BASIN

- Irrigates 3.7 million acres of farmland, and supplies water to around 30 million people.
- Irrigation is the largest consumptive use of water from the Colorado River.
- Currently ‘experiencing the worst drought over the observed record’ (Miller 2010).
- Speculation that there will be water shortages ‘on the lower portion of the basin for the first time in history’ (Miller 2010).
- Interim guidelines set priorities for storing and releasing water.



- **Water shortages are anticipated to increase with projected climate change and demographic changes (Christensen et al 2006)**
- **However, ‘[b]ecause the Colorado River is so tightly controlled and regulated, the problem of protecting the Delta’s ecosystems is ultimately one of institutional and social change.’ (Pitt 2000)**

CENTRALIZATION OF WATER GOVERNANCE

- **The role of the United States Federal Government in the administration of water is constitutionally limited.**
- **However, state governments' responses to emerging allocation issues have been criticised.**
- **local and Federal policies have been implemented in 'a quiet, unanticipated revolution.' (Getches 2001)**
- **There are a range of potential Constitutional powers, and funding 'steering mechanisms'.**

- **However, ‘Congress has shown no appetite for intervening in interstate water disputes in the absence of agreement of the affected states.’ (Abrams 2010)**
- **But the continuation of current trends towards a weak form of federalism dominated by current tools may be threatened by ‘the prospect of abrupt changes in natural resources law to adapt to climate change.’ (Fischman 2010)**

‘features of a more integrated and adaptive approach to water management include some aspirational and prospective elements. Thus, the evidence base for these institutional arrangements will itself remain uncertain and will need to allow for substantial institutional variations in different situations. ... During the next few years, pending a stabilisation of values and processes around a new system, the water policy domain will remain open to the unpredictable influence of stakeholder interests and of political leaders’ judgements concerning how to define the problems and how to allocate responsibilities for problem-solving.’ (Head 2010)



CONCLUSION

The capacity of a new, federalized water governance framework to deliver environmental benefits whilst retaining a viable irrigation industry in Australia will be assessed over the next few years. This will provide a new framework within which other jurisdictions can learn from the Australian experience by adopting or avoiding its innovations.