

Chapter 7

Unregulated water interception activities

Introduction

7.1 This chapter begins with an overview of the types of water interception activities carried out in the Murray-Darling Basin (MDB or Basin) and includes a brief section on the risks posed by water theft in the MDB. The discussion then moves to a general overview of the efforts of the Commonwealth, State and Territory governments to regulate water interception activities.

7.2 The committee was particularly interested in the impact of floodplain harvesting in the Basin. This chapter concludes with a discussion of this issue, including an overview of the steps taken by the New South Wales and Queensland governments to regulate this activity.

Water interception activities in the Murray-Darling Basin

7.3 The *National Water Initiative* (NWI) recognises that a number of land use change activities have the potential to intercept significant volumes of surface and/or groundwater now and in the future. The NWI identifies farm dams and bores; intercepting and storage of overland flows; and large-scale plantation forestry as examples of activities that are of concern, many of which are undertaken without a water access entitlement.¹

7.4 Accurate current levels of water interception across the MDB are not available.² However, the CSIRO has been able to estimate the longer-term impact of some of these interception activities:

The Murray-Darling Basin Sustainable Yields Project estimated the additional water use of likely new commercial forestry plantations and additional small farm dams by 2030. Mainly due to the small increases in commercial forestry plantation area, it was estimated that impacts by 2030 would be small at the scale of large rivers and the whole Basin, although they may have considerable impact on streamflow at the local scale. The best estimate of the additional surface water use due to the expansion in commercial forestry plantations was 28 GL/year on average. Farm dam construction is controlled in different ways in different states, but further increases are likely in many regions. Likely new small farm dams by 2030

1 Intergovernmental Agreement on a National Water Initiative (NWI), paragraph 55.

2 Department of the Environment, Water, Heritage and the Arts (DEWHA), *Submission 1A*, Part 1 of the inquiry, p. 12.

were estimated by the Murray-Darling Basin Sustainable Yields Project to represent an additional surface water use of 170 GL/ year on average.³

7.5 The CSIRO's submission notes that the *Sustainable Yields Project* has also identified other water intercepting activities, namely stock and domestic bores, land use intensification, and changes in land management practices designed to improve vegetation growth and water retention in the landscape. However, the impact of these interception activities could not be investigated by the project due to a general lack of data.⁴

7.6 The Murray-Darling Basin Commission (MDBC) provided the committee with information from its 'Risks to Shared Water Resources' Program which investigated the risks to the MDB from climate change, bushfire, afforestation, groundwater extraction, irrigation return flows, and farm dams:

Initial investigations identified that annual stream flows in the Basin could potentially be reduced by between 2500 GL – 5500 GL over the next 20 years – 10-23% of annual stream flow. While there was a large degree of uncertainty about these impacts, further investigations have found that the main risks derive from climate change.⁵

7.7 The National Farmers' Federation (NFF) provided the committee with this assessment of the impact of unregulated water interception activities across the Basin:

Unregulated water interception activities could also refer to stock and domestic water rights or basic landholder rights as these are now more widely [known]. Such licences could fall into the category of unregulated; however, these rights are enshrined in state water legislation. In the majority of cases, these are unlicensed and unmetered due to the smaller individual volumes and the prohibitive cost of metering for small volumes. In some situations, like Victoria, such uses have been 'deemed' to account for the use as part of the water source water-sharing plan.

NFF understands that stock & domestic (farm dams) have little impact on surface water in Queensland due to the low stock carrying capacity per hectare of land. Queensland does require licensing of intensive livestock operations, however, these generally use water sourced from the Great Artesian Basin, which is undergoing a capping and piping program.⁶

7.8 The committee received limited information on the risks posed by water theft in the Basin. The CSIRO identified a number of ways in which water theft could

3 *Submission 2*, p. 5. See also: *Submission 1A*, Part 1 of the inquiry, p. 12.

4 *Submission 2*, pp. 5-6.

5 *Submission 4*, p. 2.

6 *Submission 13*, p. 9. The National Farmers' Federation (NFF) contend that with the implementation of floodplain harvesting legislation in NSW there is no 'unregulated' water interception activities in that State. The NFF also state that all flood plain harvesting in Queensland is regulated or authorised. See *Submission 13*, pp 8-9.

occur: through the greater than permissible run-off harvesting, or greater than permissible pumping of river water or groundwater. The CSIRO indicated that it is not aware of investigations into the prevalence of water theft and water volumes involved.⁷

7.9 The NFF indicated its support for an appropriate compliance program to address the theft of water, including monetary and water penalties. The NFF's submission notes that in many cases the issue is the detection of the action and the proof of theft. The NFF submission supports a significant investment in metering:

However, in reality a cost to benefit analysis should accompany the decision to install new meters to ensure that small volumes of diversion are not accompanied by a very expensive meter. In the latter case, it may be appropriate to deem the volume of water taken and use other methods to ensure compliance (eg satellite imagery or helicopter/plane assessment at peak irrigation times).⁸

7.10 The Queensland Department of Natural Resources and Water noted in its submission that it carries out the investigation and enforcement of illegal activities such as water theft, unauthorised works for storage, unauthorised diversion and pumping and meter tampering. The submission went on to highlight the assessment of the MDBC's Independent Audit Group (IAG) in its *Review of Preliminary Assessments of Risks to Shared Water Resources 2007*:

The IAG was impressed by the Queensland approach to ensuring compliance with water policy and regulatory controls and in dealing with reports of inappropriate or illegal water related practices...The Queensland approach to natural resource management compliance may well be a model for other jurisdictions to consider.⁹

7.11 Ms Sarah Moles gave the committee a different perspective on the issue of water theft, submitting that 'unscrupulous' landholders saw water theft as merely another input cost to production:

The current penalties for breaching licence conditions are totally inadequate and unscrupulous landholders regard them as merely another (affordable and tax deductible) input cost. Landholders affected by water theft believe penalties should be much more severe and many support reducing entitlements and/or access conditions as more effective deterrents and penalties.¹⁰

7 *Submission 2*, p. 6.

8 *Submission 14*, p. 8.

9 *Submission 12*, pp 4-5.

10 *Submission 1*, p. 6.

Regulation of water interception activities

7.12 Responsibility for the regulation of water interception activities rests with state and territory governments. In agreeing to the NWI, the parties acknowledged that if interception activities are not subject to some form of planning and regulation, they present a risk to the future integrity of water access entitlements and the achievement of environmental objectives for water systems:

The intention is therefore to assess the significance of such activities on catchments and aquifers, based on an understanding of the total water cycle, the economic and environmental costs and benefits of the activities of concern, and to apply appropriate planning, management and/or regulatory measures where necessary to protect the integrity of the water access entitlements system and the achievement of environmental objectives.¹¹

7.13 The NWI sets out a series of measures for parties to implement in relation to water interception activities.¹² According to the Department of Environment Water Heritage and the Arts' (DEWHA) submission, the NWI 'provides a framework for risk-based management of interception based on the level of allocation in a given catchment or aquifer'.¹³

7.14 Despite this framework being in place, it appears that jurisdictions have made little progress in relation to regulation of water interception activities. An assessment of the NWI in 2007 by the National Water Commission states:

Water interception activities (such as large scale forestry and farm dams) continue to be recognised by governments as serious challenges to water security, but action by governments to date has been neither concerted nor systematic.¹⁴

7.15 DEWHA's submission summarises the issues impeding the introduction of regulatory reforms:

- there is uncertainty within jurisdictions as to how to approach the requirements on interception;
- current jurisdictional responses to interception are variable and patchy; and
- where there is legislation, compliance does not appear to be adequate and policing is very sporadic.¹⁵

11 NWI, paragraph 56.

12 NWI, paragraph 57.

13 *Submission 1A*, Part 1 of the inquiry, p. 13.

14 National Water Commission, *National Water Initiative: First Biennial Assessment of Progress in Implementation*, 2007, p. 3.

15 *Submission 1A*, Part 1 of the inquiry, p. 13.

7.16 At the 26 March 2008 Council of Australian Governments' meeting it was agreed, as one of the projects of the forward work program to address water reform issues, to accelerate the interception commitments of the NWI and a national consistent approach to the management of interception, in line with those commitments.¹⁶

7.17 The MDBC provided the committee with some of the work that it had been done on the regulatory approaches to the management of interception risk factors in the Basin. In December 2006 the MDBC requested Basin jurisdictions report on the regulatory approaches, and identify potential growth, for the risks over which they have direct legislative control – farm dam construction, groundwater extraction, and afforestation. The MDBC summarised the key issues identified through the resulting reports as:

- approval for water use is not required in most jurisdictions for farm dams and groundwater bores for stock and domestic purposes;
- uncertainty in estimating the potential cumulative future impact on shared water resources due to lack of regulation of farm dams and extraction from groundwater for stock and domestic purposes;
- difficulty defining a sustainable yield for groundwater extraction;
- limited capacity in most jurisdictions to regulate water use for afforestation; and
- policy response development has been complicated by the use of different approaches and definitions in the regulation of the risk factors by the jurisdictions.¹⁷

7.18 The MDBC's submission also states that '[e]ach jurisdiction claims that existing regulatory mechanisms are sufficient to limit future growth in farm dam establishment and groundwater extraction'.¹⁸

7.19 The risks of water interception activities to the MBD were also considered as part of MDBC's 'Murray-Darling Basin Risks Strategy' (Risks Strategy). According to the MDBC, the Risks Strategy 'provides an objective operating framework and a broad process to ensure a consistent and flexible approach to the management of risk factors now and into the future'. The Risks Strategy involved annual assessments by Basin jurisdictions of priorities and responses to risk factors to the MDB and an annual review of these assessments by an Independent Audit Group.¹⁹

16 *Submission 1A*, Part 1 of the inquiry, p. 13.

17 *Submission 4*, p. 3.

18 *Submission 4*, p. 3.

19 *Submission 4*, p. 4.

7.20 Information from the MDBC suggests the possibility that the Risks Strategy may be continued under the Murray-Darling Basin Authority, for the purposes of implementing the Basin Plan:

The Basin Plan must include an identification of the risks to the condition, or continued availability of the Basin water resources, and the strategies to be adopted to manage or address these risks. The Risks Strategy may inform this task by delivering information and research into potential options to address the currently identified risk factors.²⁰

Harvesting of overland flows

7.21 One particular area of interest for the committee was the regulation of overland flows in the northern MDB. The investigation of, and the enforcement of penalties for, illegal water diversions is primarily the responsibility of the states and territories.²¹ This section of the report looks at the steps being taken by the NSW and Queensland governments to monitor the harvesting of overland flows.

7.22 Mrs Deborah Kaluder of the Australian Floodplain Association explained to the committee the impact that unregulated floodplain harvesting has on floodplain graziers:

Many of us have been directly affected by the loss of water across our land. We are seeing our incomes halved, our small communities diminishing, the local ecosystems deteriorating and, consequently, the biodiversity of whole riverine systems on the point of collapse...

Flood plain graziers depend on the water that flows down the inland river systems to grow the grasses, to feed the stock, to produce an income and to be economically viable. In terms of a grazing operation, the flood plains play an integral role in the long-term management plans of those who live along these systems.²²

7.23 Mr Terence Korn of the Australian Floodplain Association expressed concern at the inability of governments to successfully monitor and manage this practice.²³ In particular, Mr Korn indicated that policy development and implementation in this area has been poor or not resourced.²⁴ The committee also notes the evidence of Professor

20 Murray-Darling Basin Commission, *Risks to Shared Water Resources. FAQ: Murray-Darling Basin Risks Strategy*, May 2008, p. 2.

21 DEWHA, *Submission 1A*, Part 1 of the inquiry, pp 13-14. However, the *Water Act 2007* provides for a greater Commonwealth role through the Murray-Darling Basin Authority in the enforcement of illegal taking of water in the MDB, once the Basin Plan is in place and current plans expire.

22 *Committee Hansard*, 26 September 2008, pp 47-48. See also: Ms Sarah Moles, *Submission 1*, p. 6.

23 *Committee Hansard*, 10 March 2009, p. 38. See also: Mrs Deborah Kaluder, Australian Floodplain Association, *Committee Hansard*, 26 September 2008, p. 50.

24 *Committee Hansard*, 10 March 2009, p. 42.

Richard Kingsford who described the management of floodplains in Australia as 'very, very poor', going on to state that 'there is very little policy development and very little legislation that actually helps'.²⁵

7.24 The committee also recognises the distinction made by Mr John Clements of Namoi Water in his evidence to the committee:

...we don't agree with water theft. I do not think overland flows should be characterised as water theft: where they are a licensed activity, they are a licensed activity.²⁶

New South Wales

7.25 The New South Wales government has announced the development of a floodplain harvesting policy to bring these activities under the statutory framework of the *Water Management Act 2000 (NSW)* and to 'put a stop to the unconstrained harvesting of floodwater':

The policy will look at the types and capacity of floodplain harvesting activities, the volumes of water being extracted and the potential impacts on associated riverine ecosystems and downstream users.

Under the new draft Policy, the amount of floodwater available for commercial extraction will be capped and shared amongst existing users who will have to get a Floodplain Harvesting Access Licence.

...Works such as levees, banks and diversion channels already need approval from the NSW Government before construction begins. But from today, under this new policy, no additional works will be considered for approval to take floodplain water.²⁷

7.26 The new policy will only apply to water flowing across a floodplain that is not covered by other licences or landholder rights. In particular, the policy will not cover harvestable rights limits which allow landholders to capture and store 10 per cent of the rainfall runoff on their property without a licence.²⁸

7.27 The Inland Rivers Network (IRN) provided the committee with a copy of its submission in response to the NSW government's announcement of the development of a floodplain harvesting policy. Some of the key recommendations from IRN's submission include that the policy should:

25 *Committee Hansard*, 19 September 2008, p. 8.

26 *Committee Hansard*, 10 March 2009, p. 24.

27 NSW Department of Water and Energy, *Floodplain harvesting policy to provide security for NSW rivers and communities*, Media Release, 3 July 2008.

28 NSW Department of Water and Energy, *Floodplain harvesting policy to provide security for NSW rivers and communities*, Media Release, 3 July 2008.

- include explicit details on how environmental water regained through the adequate regulation of floodplain harvesting and water entitlement recovery will be provided with legal recognition and protection;
- ensure that there is a sunset clause within the policy for licences to enable a review of these licences;
- floodplain harvesting limits should be set according to sustainable levels of extraction, determined in light of best available science and climate change estimates, which may well mean ensuring floodplain harvesting is not only within MDB cap limits but below them;
- works licensed for flood control and without pending water extraction licence applications, should be treated as illegal in line with all other works not licensed for extraction; and
- floodplain harvesting extraction should be included within current water sharing plans.²⁹

7.28 The committee was also interested in the investigations that the New South Wales government has carried out on water diversions and floodplain structures. The NSW Department of Water and Energy provided the committee with the following information on its investigations of water diversion and floodplain structures in NSW:

A total of 39 water diversion and floodplain structures have been investigated by NSW Government during the past 18 months.

15 of these were investigated in August 2007 and, more recently, a further 24 structures under the joint Commonwealth-NSW Wetland Recovery Program.

3 of these structures have been identified as not operating in accordance with the conditions of their licence and 3 works have been constructed without approval, 5 were identified during the August 2007 investigations and only 1 under the more recent investigation.

Respective licensees have been requested to make appropriate modifications to comply with licence conditions or have been advised that their works are not approved.³⁰

Queensland

7.29 In Queensland, under the *Water Act 2000 (Qld)*, for areas where a water resource plan is in place, an authorisation is required to take overland flow water. Most works for taking overland flow require an approval under the *Integrated*

29 *Submission 9, Attachment: Inland Rivers Network, Submission to Department of Water and Energy on Draft Floodplain Harvesting Policy, 2008, pp 1-2.*

30 *Answers to Questions on Notice, 18 September 2008 (received 9 October 2008).*

Planning Act 1997 (Qld).³¹ The submission of the Queensland Department of Natural Resources and Water stated that overland flow is now regulated via water resource plans in the majority of plan areas, including all of Queensland's MDB catchments.³²

7.30 When questioned by the committee as to how water taken from overland flow was measured, representatives of the Queensland Department of Natural Resources and Water gave the following example from the lower Balonne:

...we have required registered professional engineers to survey the storages in that area, the largest within the catchment, and those surveys have had to be certified by those registered professional engineers: the volume had to be certified and how the water gets into the storages had to be certified. We have used measuring devices – and they are not the water meters for a pipeline that people are used to seeing; they are measuring devices that are based on the depth of water in storage—and from that information we can tell how much water has been captured by that particular storage.³³

7.31 One issue which the committee considered briefly in the course of its inquiry was floodplain development on the Paroo River in Queensland. Under Queensland legislation, the Minister has the power to put in place a moratorium on developments that increase the take of water resources from the catchment until the water resource planning process is complete. In 2001 a moratorium was put in place over the Paroo River catchment.

7.32 In August 2008 a case study released by Professor Richard Kingsford and Adam Roff of the University of New South Wales raised concerns about structures on the Paroo River that captured overland flow. The structures were approved as 'existing works' by the Queensland Department of Natural Resources and Water (that is, established or initiated at the time of the moratorium in 2001). The University of New South Wales case study stated that there was 'unequivocal evidence' that these existing works did not exist in July 2002.³⁴

7.33 The committee notes that the Queensland Department of Natural Resources and Water, in responding to a question on notice, asserts that the works in question are

31 Queensland Department of Natural Resources and Water, *Overland flow water: Fact sheet*, September 2008; Queensland Department of Natural Resources and Water, *Submission 12*, p. 4; and Mr Greg Claydon, Queensland Department of Natural Resources, *Committee Hansard*, 9 September 2008, p. 48.

32 *Submission 12*, p. 4. See also: NFF, *Submission 13*, p. 9.

33 Mr Scott Spencer, Queensland Department of Natural Resources, *Committee Hansard*, 9 September 2008, p. 52.

34 See R Kingsford and A Roff, *A case study: floodplain development on the Paroo River. The last free flowing river in the Murray-Darling Basin*, August 2008, pp 3-5.

not works that allow taking overland flow water.³⁵ The committee also notes the evidence of Professor Kingsford that he stands by the results in the case study.³⁶

Committee view

7.34 The committee notes that there are significant discrepancies between states in implementing their obligations.

7.35 The committee notes that the National Water Commission identified uncertainty within jurisdictions as to how to approach the requirements on interception. Similarly, the committee notes the work of the MDBC which found that a key issue in the management of interception activities was that policy response development has been complicated by the use of different approaches by the jurisdictions.

7.36 Clearly, this is an area which deserves further attention at the level of the Council of Australian Governments to clarify and direct the way forward to ensure States and Territories have a consistent and timely approach to regulation.

7.37 The committee's understanding of the evidence before it is that in cases where there is some regulatory regime in place in relation to water interception activities, there is inadequate monitoring and policing of these regimes. The committee thought that this issue was well demonstrated in relation to the harvesting of overland flows. While it appears that both New South Wales and Queensland are well advanced in policy development and implementation, the committee is not convinced from the evidence it has heard that compliance and monitoring of these regimes is adequate.

7.38 The committee strongly urges these governments to consider increasing resources to ensure adequate monitoring of the harvesting of overland flows.

7.39 The committee recommends that priority should be given to upgrading and modernising monitoring of water usage from the MDB.

7.40 The committee recommends urgent identification of unregulated water interception activities across the MDB. The relevant data should be used to inform the development of state policies regarding the regulation of usage of these activities.

Recommendation 12

7.41 The committee recommends that priority should be given to upgrading and modernising monitoring of water usage from the MDB.

35 Answers to Questions on Notice, 9 September 2008.

36 *Committee Hansard*, 16 March 2009, p. 17.

Recommendation 13

7.42 The committee recommends urgent identification of unregulated water interception activities across the MDB. The relevant data should be used to inform the development of state policies regarding the regulation of usage of these activities.

Recommendation 14

7.43 The committee recommends a study to be undertaken to better understand how the states monitor and manage the harvesting of overland flows and to provide policy development guidelines in this area for the relevant states.

