

Dam shame

The hidden new dams in Australia



Source: Chris Lamey (2017)

Maryanne Slattery

Roderick Campbell

Audrey Quicke

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Level 1, Endeavour House, 1 Franklin St

Canberra, ACT 2601

Tel: (02) 61300530

Email: mail@tai.org.au

Website: www.tai.org.au

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Summary

The Murray-Darling Basin is suffering a drought, so politicians are talking dams. The Prime Minister claims credit for building many new dams, but most of these dams are not dams at all. The Water Minister says “bugger all” is being done to build dams and blames the states. The Opposition Leader claims “not one” dam has been built in six years.

Yet anyone who drives the Hay-Griffith road in the NSW Murrumbidgee Valley can see at least ten large, recently constructed dams. Some of these featured on ABC’s Four Corners. No precise numbers of new dams exist, but from data provided to the Senate it appears that at least 20 to 30 large dams have been constructed in recent years.

With so many new dams around, why are politicians reluctant to talk about them?

The answer is perhaps that the recently constructed dams in the Murray-Darling Basin do not help drought-stricken towns, struggling small irrigators or the wider public. They are built with taxpayer money on private land mainly for the benefit of large corporate agribusiness like Webster Limited.

New public dams would be subject to public consultation, including with stakeholders critical of the environmental and economic merits of such projects. By contrast, private dams receive minimal public consultation and can be approved and constructed based on environmental assessments commissioned from private consultants by dam proponents.

There is very little information about Australia’s new private dams. There is no public information on how many there are, how much water they hold or how much they cost taxpayers, despite Senate requests for this information. From publicly available information, it appears that just two of these dams cost taxpayers nearly \$30 million. Over \$200 million was spent on dam-related projects according to official data, although not all of this will have been specifically on dams.

The justification for these dams is to save water. The Department of Agriculture and Water Resources explains that new dams can save water where they replace shallower storages with greater evaporation, or where they are used to collect recycled irrigation water.

However, none of the three case study dams in this report save water in this way. They are new dams, not replacing smaller, shallower dams. Water stored behind their approximately eight metre high walls would otherwise be stored in public headwater dams around 100 meters deep.

Project documents are explicit that the new dams will divert normal irrigation water and 'supplementary water'. They are not constructed to simply recycle irrigation water. They increase both evaporation and irrigation water use.

Supplementary water is water that river operators cannot capture and that is surplus to consumptive needs. Supplementary flows are environmentally important because they are near-natural in terms of their timing, temperature and water quality.

Supplementary flows are also important for downstream users. Supplementary flows make up almost all the water that has historically gone from the Murrumbidgee into the Murray. With major dams now targeting this water, the Murrumbidgee could be disconnected from the Murray in most years. This has implications for all NSW Basin water users, who are already grappling with how to meet downstream obligations within the Murray's constraints and with no water coming down the Darling.

Taxpayers have paid for new dams that increase water use, damage the environment and exacerbate the problems of the Murray. While political leaders are reluctant to talk about these dams, their owners are not. Webster Limited considers that they "make good overall economic sense", which they probably do...to Webster shareholders.

As this report was finalised, news emerged of a Canadian pension fund "swooping" on Websters, with specific mention of a property with one of these new dams. The new dams that Australian taxpayers helped build appear to be highly valued by international investors.

Introduction

When Australia suffers drought, the calls for the government to build new dams are as predictable as dry weather. In July 2019 Prime Minister Morrison was asked by broadcaster Alan Jones when the government would build new dams, implying that none had been built for some time, and that was a bad thing. Mr Morrison responded with a list of 14 “dams that are currently or have been built since 2016”.¹ These ‘dams’ are listed below:

Table 1: Water projects listed by PM Morrison

Project	Description	State
Northern Adelaide Irrigation Scheme	Upgrade existing infrastructure, new recycled water plant, storage & distribution work. Under construction.	SA
South West Loddon Pipeline	Pipeline. Under construction.	Vic
Macalister Irrigation District Modernisation	Replacement of irrigation channels with pipeline. Under construction.	Vic
Sunraysia Modernisation Project	Existing channel upgrades. Under construction.	Vic
Mareeba Dimbulah water supply scheme upgrade	Existing infrastructure upgrades including pipeline construction. Under construction.	Qld
Nogoa Mackenzie Water Supply Scheme Efficiency Improvement Program	Existing infrastructure upgrades including channel system lining, new gauging stations and weir gates. Under construction.	Qld
Rookwood Weir	Construction of weir/dam. Construction not started.	Qld
Myalup-Wellington Project	Use of disused mine and weir to improve salinity in separate, existing dam. Project ‘announced’.	WA
Dungowan Dam upgrade	Dam upgrade. May not proceed, funding may be used for alternative water project.	NSW
Tasmanian tranche 3 Irrigation Scheme	Construction of irrigation schemes and several dams. Construction not started.	Tas
Southern Forest Irrigation Scheme, Record Brook Dam	New dam and pipeline distribution network. Construction not started.	WA
Emu Swamp dam	New dam, pipeline & access. Construction not started.	Qld
Hells Gate Dam	New dam, pumped hydro and solar farm. Feasibility study not yet completed.	Qld
Alstonville dam, Hughenden irrigation scheme	New dam/dams, still in design and business case phase.	Qld

Sources: See Appendix for sources and more detail.

Table 1 shows that of Mr Morrison’s list of 14 dams, six are not dams at all, but other kinds of water infrastructure. Of the eight that do involve upgrading an existing dam or building a

¹ Jones (2019) *Scott Morrison interview with Alan Jones*, <https://www.dailybulletin.com.au/politics/47038-scott-morrison-interview-with-alan-jones-2gb>

new one, none of them are under construction. More details on these projects are provided in the appendix to this report.

While the Prime Minister's list satisfied Mr Jones, it is at odds with statements from Water Minister David Littleproud, who claims that there have been just 20 dams built since 2003, of which 16 are in Tasmania. Minister Littleproud laid the blame at the feet of state governments who "are doing three-fifths of bugger all in terms of building water infrastructure".²

Opposition Leader Anthony Albanese also appears to contradict the Prime Minister, claiming that the Federal Government is "in its third term, their third prime minister, they haven't built a dam. Not one!"³

Meanwhile, different politicians blame excessive environmental approvals for thwarting new dams. NSW Deputy Premier, Barilaro said:

We've allowed, unfortunately, the vocal minority, often the Greens, the lefties, to stop us building dams.

If a couple of frogs have got to die to build a couple of dams, I tell you what, I'd rather support communities and families over frogs.⁴

Former Water Minister, Barnaby Joyce is also not a fan of frogs, as he explained to the Rural Press Club:

Admitting he was wearing the suit of state LNP MP Lawrence Springwood because he forgot his, Mr Joyce said some Australians were responsible for holding the country back because of their political views.

He said frogs and snails had prevented or stalled the building of dams and roads — and it wasn't right.

He said there were too many people whose "inherent desire is inertia," and would fight "kaftan by kaftan" to stop the country moving.⁵

² Littleproud (2019) *Media conference: Minister Littleproud, Tony Pasi MP and Interim Inspector-General Mick Keelty*, <https://minister.agriculture.gov.au/littleproud/speeches-and-transcripts/southern-basin-tour-pike-river-floodplain>

³ O'Keefe (2019) *Scott Morrison will promise to build a series of dams for our rural centres*, <https://twitter.com/9NewsAUS/status/1176424698923507712>

⁴ AAP (2019) *Dams over frogs says NSW Deputy Premier*, <https://www.9news.com.au/national/dams-over-frogs-says-nsw-deputy-premier/5e733de5-03c4-4508-ab24-915653e1865e>

⁵ Viellaris (2017) *Deputy PM Barnaby Joyce delivers post-Budget speech at Brisbane's Rural Press Club*, <https://www.couriermail.com.au/news/queensland/deputy-pmbarnaby-joyce-delivers-postbudget-speech-at-brisbanes-rural-press-club/news-story/ddb1d984eeb69bae13c7bdd803540051>

Joyce has long advocated for the construction of new dams and has often repeated his view that “water is wealth and stored water is a bank.”⁶

So are we building dams or not? Apparently unnoticed by all these leaders, many new dams have been built recently in the Murray Darling Basin. In the Murrumbidgee Valley, there are at least ten new dams that are visible from the Griffith to Hay road. Locals report that there are several more not visible from the road. New dams have been built in the Lachlan and Darling valleys and tens of dams are likely to have been built in the northern Basin.

These are not small dams - Most appear to be several square kilometres in area, four to eight metres deep. These dams are not a local secret. Some featured in footage on the ABC’s flagship current affairs show, *Four Corners, Cash Splash*.⁷

In this report we show that most of these dams have been at least partly funded by taxpayers, with each costing millions to build, if not tens of millions. Their funding, planning and construction has involved federal, state and local governments.

So why don’t our leaders talk about these publicly-funded dams? Why would the Prime Minister talk to Alan Jones about non-dam projects if there are many large, new dams he could talk about?

The reason politicians are unwilling to talk about these dams could be that they were not built for public use. They are on private land, for private use, mainly by large corporate agribusiness, such as Webster Limited. These dams contribute nothing to drought-stricken towns and they reduce water available for the environment and down-stream water users. It seems that there are dams that politicians are proud of, and others that elicit a dam shame.

⁶ Joyce (2014) *National Roundtable on Water Infrastructure*, <http://www.barnabyjoyce.com.au/News-and-Media/National-Roundtable-on-Water-Infrastructure/>

⁷ Rubinsztein-Dunlop (2019) *Cash Splash*, <https://www.abc.net.au/4corners/cash-splash/11289412>

New dams in the Murray Darling Basin

As politicians' comments suggest, there is very little information about the new dams in the Murray Darling Basin. The public, water managers and most politicians, do not know how many there are, how much water they hold or how much water they currently have in them.

Data provided by DAWR to the Senate includes 306 projects with the word 'storage' in the project description, excluding projects that related to retiring irrigation infrastructure and decommission of storages. The ten largest projects in terms of Federal funding and their project descriptions are listed in Table 2 below:

Table 2: Storage projects funded under efficiency program, top ten by Federal funding

Project description	Federal funding	Water to Cth (ML – LTAAY)
Redevelopment of surface irrigation layouts, installing or upgrading drainage, drainage reuse and storage facilities, and installing automation and/or sensing equipment	\$8,861,436	2,452
Redevelopment of surface irrigation layouts, installing or upgrading drainage, drainage reuse and storage facilities, and installing automation and/or sensing equipment	\$6,685,000	1,783
Lasering/ground work to reconfigure surface irrigation and on-farm storage	\$5,499,300	1,530
Construct storage, field modifications	\$5,022,162	775
On-farm storage upgrades	\$4,659,549	1,060
On-farm storage upgrades	\$4,615,583	1,060
New storage and pump station. Construct new channels, reroute existing channel. New tail water return drains. Upgrade existing ring tank and pump station, land levelling existing irrigation fields.	\$4,405,250	294
Storage replacement	\$4,085,683	1,000
Redevelopment of surface irrigation layouts, installing or upgrading drainage, drainage reuse and storage facilities, and installing automation and/or sensing equipment	\$4,000,000	1,173
Storage amelioration: embankment height.	\$3,660,712	307

Source: Data provided to Senate

From descriptions like those in Table 2 it is difficult to know which projects include a major new dam and which do not. Some descriptions make it clear that construction of new dams or storages was central to the project in question, while other descriptions include many other items. In case studies below, we examine examples of large new dams being constructed as part of projects with descriptions that do not focus on the storage.

Data provided to the Senate lists 37 projects that received more than \$1.5 million in Federal funding for storage-related projects. These 37 projects include 11 in the Murrumbidgee,

roughly the number of new dams that can be seen on the Hay-Griffith road. All other projects are in the northern Basin, where floodplain harvesting and storage of overland flows is common, so construction of new storages or expansion of existing private storages is likely to have been undertaken. While a precise number of major new private dams cannot be derived from the existing data, it is likely taxpayers have funded between 20 and 30 large new dams in recent years. Future Australia Institute research will examine this efficiency program spending in more detail.

HOW MUCH DID THE NEW DAMS COST TAXPAYERS?

New dams built in the Murray Darling Basin, including those in the Murrumbidgee, have been funded via the Commonwealth's \$4 billion water efficiency program, which is administered by the Department of Agriculture and Water Resources (DAWR). Despite a request from the Australian Senate, DAWR has not provided a comprehensive list of projects under the efficiency program, so we do not know how many dams have been built and funded under this program.⁸ Senator Rex Patrick has asked the DAWR how much money has been spent under the efficiency program to construct private dams. DAWR does not keep these records:

It is not feasible to separate out the costs for on-farm storages, which might include funding for upgrades or construction, from the full works package funded under each project. This would require a very significant commitment of departmental resources to locate and review every individual final report and related financial statement for more than 1500 individual projects going back to 2008.

Where private dams were constructed with [efficiency program] funding, these were generally approved as part of a broader package of on-farm works. These works involved, for example, the redevelopment of surface irrigation systems which included landforming, farm drainage, storage and reuse.⁹

While DAWR does not keep track of new dam spending, the 306 projects described as including 'storage', discussed above, received \$208 million in Federal Government Funding.

We do not know how many dams have been built, nor do we know the volume of water that they hold, or how much money they have cost. Perhaps more contentious still is the question of what the taxpayer was paying for. The answer is apparently to save water.

⁸ Note that a partial list has recently been made available and will be the subject of forthcoming Australia Institute research. Note also that the term 'efficiency program' covers at least 14 sub programs within water recovery efforts in the Murray Darling Basin.

⁹ DAWR (2019) *Answer to Senator Rex Patrick Question on Notice No. 4 (2 July 2019)*, <https://www.aph.gov.au/SenateQON>

HOW DO DAMS SAVE WATER?

The purpose of the efficiency program is to save water used by irrigation and share the water savings between the environment and the irrigator. Senator Patrick also asked DAWR how new private dams create a water savings. The Department responded:

Dams create water savings in two primary ways:

i) by replacing a shallow water storage with a deeper dam, where the evaporative losses from water storage is reduced; or

ii) by capturing, storing and enabling the reuse of irrigation water.¹⁰

DAWR's explanation has a basic logic. If a dam is being deepened and its surface area reduced so the volumetric capacity is unchanged, then, other things being equal, water will be saved as the water will be cooler and less will evaporate. Reuse of irrigation water is also a desirable way of saving water. However, neither justification explains how the construction of new private dams can save water.

New private dams will require more water to grow the same crop and are therefore the opposite of creating savings through water efficiency. In the southern Basin, including the Murrumbidgee, irrigators are allocated a percentage of their water entitlements based on how much water is stored in public headwater dams each year. The Murrumbidgee public headwater dams, Burrinjuck and Blowering, are 93 and 114 metres deep, respectively.^{11,12} On-farm dams are relatively shallow (4 to 8 metres deep). Evaporation is higher in shallow bodies of water, so on-farm dams will always have higher rates of evaporation than the deep public dams. A new dam will always have higher evaporation than no dam.

For most irrigators in the Southern Basin, it makes sense to keep their water in public dams, because any evaporation from these dams is socialised across all water users. The irrigator orders water attached to their licence and the river operator ensures that releases from the dam into the river can meet that order. The irrigator's water account is reduced by the amount of water they take from the river. If that water is then put into an on-farm storage, some will evaporate, but here the evaporation loss is borne by the irrigator alone. That is, if the irrigator keeps water in an on-farm dam, rather than in a public dam, he/she will need more water to grow the same crop.

¹⁰ DAWR (2019) *Answer to Senator Rex Patrick Question on Notice No. 4 (2 July 2019)*, <https://www.aph.gov.au/SenateQON>

¹¹ WaterNSW (2019) *Burrinjuck Dam: Fact Sheet*, https://www.watarnsw.com.au/__data/assets/pdf_file/0004/132574/Burrinjuck-Dam-Fact-Sheet.pdf

¹² WaterNSW (2019) *Blowering Dam: Fact Sheets*, https://www.watarnsw.com.au/__data/assets/pdf_file/0019/132571/Blowering-Dam-Fact-Sheet.pdf

An interesting contrast with DAWR's claim and this logic is the agreement by Basin Governments to reconfigure Menindee Lakes on the Darling/Barka River. The reasoning is that the lakes are an 'inefficient' water source because of high evaporation rates.¹³ Menindee Lakes are 12 metres deep at their deepest.¹⁴ They are in a hot and dry landscape, almost identical to the Hay Plains where the new Murrumbidgee dams are situated. Yet the Commonwealth Government is funding new dams in the Hay Plains under a water efficiency program, while reconfiguring Menindee Lakes on the basis they are inefficient because of high evaporation. It seems that private evaporation is efficient, while public evaporation is inefficient.

DAWR's second claim that dams save water by enabling the reuse of irrigation water is also problematic in the Murrumbidgee. Where information is available about the new dams, it is clear that they are built not simply to collect recycled irrigation, but mainly to divert water that would otherwise flow down the river and into the Murray. Three examples are discussed in detail below.

¹³ NSW Department of Industry (2018) *Menindee Lakes Water Saving Project: Fact Sheet*, https://www.industry.nsw.gov.au/__data/assets/pdf_file/0004/191308/menindee-lakes-water-saving-project-project-benefits.pdf

¹⁴ WaterNSW (2019) *Menindee Lakes*, <https://www.watarnsw.com.au/supply/visit/menindee-lakes>

Some new dams in detail

GLENMEA

One dam funded by the Commonwealth's efficiency program is on Glenmea, a large property on the Hay Plains owned by major agribusiness Webster Limited. In February 2019, Hay Shire Council agreed to a development proposal for the construction of a new 4,500 ML storage dam on the property.¹⁵ The Environmental Impact Statement for the Glenmea dam explains that the dam will be sourced by "supply, re-use, flooding and groundwater",¹⁶ and further:

The properties are supplied by separate irrigation pumps located on the Murrumbidgee River. The existing on farm irrigation infrastructure will be utilised to supply irrigation water to the Projects.¹⁷

Clearly the new dam on Glenmea will utilise far more than recycled irrigation water, negating DAWR's claim that this dam was built solely to reuse water. As a new dam, it is not creating savings by making the dam deeper to reduce evaporation, which also negates DAWR's claim.

Information about dams like Glenmea is scarce, particularly information on how they are funded. However, we can ascertain that this project was funded under the Commonwealth efficiency program by matching data from the NSW Water Register with the limited lists of efficiency program projects made available to the Senate.

The NSW Water Register includes all transfers of water entitlements from landholders to the Commonwealth Environmental Water Holder (CEWH). From this register, transfers of water from Glenmea to the CEWH can be identified and are shown in Table 3 below:

¹⁵ Tandou Ltd (2019) *Application for Development/Construction Certificate and Complying Development*, <https://www.hay.nsw.gov.au/Inside-Hay-Shire-Council/Council-Meetings-and-Reports>

¹⁶ Rich River Irrigation Developments (2018) *Environmental Impact Statement: Webster Southern Ag Pty Ltd Proposed Irrigation Water Storages at "Pevensey" & "Glenmea"*, Hay, <https://www.hay.nsw.gov.au/Inside-Hay-Shire-Council/Council-Meetings-and-Reports>

¹⁷ Rich River Irrigation Developments (2018) *Environmental Impact Statement: Webster Southern Ag Pty Ltd Proposed Irrigation Water Storages at "Pevensey" & "Glenmea"*, Hay, <https://www.hay.nsw.gov.au/Inside-Hay-Shire-Council/Council-Meetings-and-Reports>

Table 3: Water transferred to CEWH from Glenmea since the cap on buy backs

Category	Date	Volume (ML)	Price per ML (\$)	Price paid (\$)
Regulated River (Gen Sec)	24-AUG-2016	1,833	1,400	2,566,200
Regulated River (Gen Sec)	29-AUG-2016	3,832	1,400	5,364,800
Regulated River (Gen Sec)	12-APR-2017	398	1,500	597,000
Regulated River (Gen Sec)	14-JUN-2017	2,340	1,400	3,276,000
Regulated River (Gen Sec)	21-JUN-2017	3,546	1,500	5,319,000
Total		11,949	7,200	17,123,000

Source: WaterNSW (2019) NSW Water Register, <https://waterregister.waternsw.com.au/water-register-frame>

Table 3 shows that there were five transfers of water from Glenmea to the CEWH (via DAWR) since 2015. In that year a change to the Water Act meant that all transfers must be from the efficiency program, rather than water rights being directly bought from irrigators. The data was identified through the NSW Water Register and includes all of the sales to CEWH from a Water Access Licence (WAL) with the lot and Deposited Plan (DP) numbers for Glenmea (Lot 12 / DP 756 808).^{18,19}

Table 3 includes transfers of 1,833 ML and 3,832 ML. The list of efficiency program projects supplied to the Senate also records transfers that match these volumes. The Senate list describes these two projects in more detail, shown in Table 4 below:

¹⁸ Rich River Irrigation Developments (2018) *Environmental Impact Statement: Webster Southern Ag Pty Ltd Proposed Irrigation Water Storages at "Pevensey" & "Glenmea"*, Hay, <https://www.hay.nsw.gov.au/Inside-Hay-Shire-Council/Council-Meetings-and-Reports>

¹⁹ Lot and DP numbers are property identifiers in NSW.

Table 4: Murrumbidgee Efficiency projects for transfers of 1,833 ML and 3,832 ML

	Transfer 1	Transfer 2
ML (Nominal) transferred to CEWH	3,832	1,833
Program	OFIEP – Round 5	OFIEP – Round 5
Project funding (GST exclusive)	8,861,436	4,000,000
Water transferred to CEWH (ML LTAAY)	2,452	1,173
Entitlement class	General	General
Description of project	Redevelopment of surface irrigation layouts, installing or upgrading drainage, drainage reuse and storage facilities, and installing automation and/or sensing equipment	Redevelopment of surface irrigation layouts, installing or upgrading drainage, drainage reuse and storage facilities, and installing automation and/or sensing equipment
Project commencement date	07-Apr-16	07-Apr-16
Project completion date	01-May-19	16-May-19

Source: DAWR (2019) Answer to Senator Rex Patrick Question on Notice No. 4 (2 July 2019), <https://www.aph.gov.au/SenateQON>

Note, both projects are described as including dams, or “storage facilities”:

Redevelopment of surface irrigation layouts, installing or upgrading drainage, drainage reuse and storage facilities, and installing automation and/or sensing equipment.²⁰

The information about these dam projects shown in Table 4 raises a wide range of questions. Firstly, the water was transferred to CEWH (2016 and 2017) before the project was approved by local and State government authorities in late 2018 and early 2019, and therefore, before the water ‘savings’ that the projects would supposedly bring could be realised or verified.²¹

This adds to widespread scepticism around water efficiency projects and whether they really deliver the volumes of savings that have been transferred to the Commonwealth’s environmental account. This is not the first time public money has been spent and water

²⁰ DAWR (2019) Answer to Senator Rex Patrick Question on Notice No. 4 (2 July 2019), <https://www.aph.gov.au/SenateQON>

²¹ Rich River Irrigation Developments (2018) *Environmental Impact Statement: Webster Southern Ag Pty Ltd Proposed Irrigation Water Storages at “Pevensey” & “Glenmea”, Hay*, <https://www.hay.nsw.gov.au/Inside-Hay-Shire-Council/Council-Meetings-and-Reports>

rights transferred on paper while the physical works lag behind. For example, floodplain structures in the Condamine-Balonne were not decommissioned as planned under an \$80 million Commonwealth water purchase.²² An irrigator allegedly defrauded the Commonwealth of \$20 million by using money from the efficiency program to construct different storages to those approved.²³

Secondly, the “price paid” in Table 3 refers only to the water component of the transaction, which is estimated at market value. The payment for the efficiency component is higher than this, 1.75 times the market value.²⁴ This means that an additional \$12.8 million is likely to have been paid to Webster, if they received the full uplift of 1.75 times the market price. The amount paid for the project was significantly more than the estimated \$4,950,000 cost of the project estimated in the application development.²⁵

The other three transfers in Table 3 from Glenmea to the CEWH were not on the list provided to the Senate. Around half of the water recovered under the NSW efficiency program, about 250 gigalitres and over \$1 billion similarly does not make this list.²⁶ This curious omission will be the subject of future Australia Institute research.

BRINGAGEE AND KOOBA STATION DAMS

Two other new dams have been built in the Murrumbidgee valley near Griffith at properties called Bringagee and Kooba Station. These properties are also owned by Webster Ltd and the new dams were also funded out of the Commonwealth’s efficiency program. The combined storage of both properties is estimated to be 7,000 ML.²⁷ An Environmental Impact Statement to the Carrathool Council explains:

Bringagee is owned in conjunction with Kooba Station by Walnuts Australia Pty Ltd, and is managed by Webster Southern Ag Pty Ltd (the Proponent). The Proponent is

²² Slattery and Campbell (2018) *That’s not how you haggle*, <https://www.tai.org.au/content/thats-not-how-you-haggle>

²³ Brewster (2019) *One of Queensland’s largest irrigators expected to be charged with fraud*, <https://www.theguardian.com/environment/2018/apr/09/one-of-queenslands-largest-irrigators-expected-to-be-charged-with>

²⁴ Productivity Commission (2018) *Murray-Darling Basin Plan: Five Year Assessment*, <https://www.pc.gov.au/inquiries/completed/basin-plan#report>

²⁵ Rich River Irrigation Developments (2018) *Environmental Impact Statement: Webster Southern Ag Pty Ltd Proposed Irrigation Water Storages at “Pevensey” & “Glenmea”, Hay*, <https://www.hay.nsw.gov.au/Inside-Hay-Shire-Council/Council-Meetings-and-Reports>

²⁶ DAWR (2019) *Answer to Senator Rex Patrick Question on Notice No. 4 (2 July 2019)*, <https://www.aph.gov.au/SenateQON>

²⁷ SKM (2017) *Environmental Impact Statement: Construction and Operation of tow irrigation storages on ‘Bringagee’*, <https://www.carrathool.nsw.gov.au/sites/carrathool/files/public/images/documents/carrathool/Planning/Public%20Exhibition/DA2018-010%20Ad%20Bringagee%20EIS.pdf> (no longer available)

undertaking a large-scale redevelopment of the irrigation infrastructure on the two properties to enable modern furrow irrigation practices to occur in addition to modernizing the farm infrastructure.... The work is being undertaken with the assistance of the “On Farm Irrigation Efficiency Program” through the Department of Environment.

The primary purpose of the Bringagee storages is to increase on-farm storage capacity and improve efficiency of current irrigation operations, therefore raising farm productivity. Construction is expected to take about 3 months per site.²⁸

There was no water transferred to CEWH from the Bringagee or Kooba properties, but there are several other transfers for efficiency projects from Webster Ltd in the Murrumbidgee (from Glenmea), shown in Table 3 above. Given the other transfers had to have been made under the efficiency program, it is likely that some of them were for the new dams at Bringagee and Kooba.

The Environmental Impact Statement for the Bringagee and Kooba dams says:

The modernization program is being undertaken to improve the use of water resources available on the property which include general security and supplementary water pumped directly from the river.²⁹

The use of ‘supplementary water’ in these dams is significant. Supplementary flows are water flows that government river operators cannot capture and that are surplus to consumptive needs. They are additional to the End of System (EOS) targets that river operators must try to deliver to the end of each part of the river system.³⁰

²⁸ SKM (2017) *Environmental Impact Statement: Construction and Operation of tow irrigation storages on ‘Bringagee’*,

<https://www.carrathool.nsw.gov.au/sites/carrathool/files/public/images/documents/carrathool/Planning/Public%20Exhibition/DA2018-010%20Ad%20Bringagee%20EIS.pdf> (no longer available)

²⁹ SKM (2017) *Environmental Impact Statement: Construction and Operation of tow irrigation storages on ‘Bringagee’*,

<https://www.carrathool.nsw.gov.au/sites/carrathool/files/public/images/documents/carrathool/Planning/Public%20Exhibition/DA2018-010%20Ad%20Bringagee%20EIS.pdf> (no longer available)

³⁰ NSW Government (undated) *Advice to Water Management Committee: No. 2 Supplementary Water Access*, http://www.water.nsw.gov.au/__data/assets/pdf_file/0003/549417/policy_advice_2-supplementarywater.pdf

Supplementary flows

All three of the dams discussed here will access water from the river that previously went to the environment and then onto downstream users and will not be completely sourced by tailwater as explained by DAWR. Capturing supplementary flows in on-farm dams will increase water use and evaporation. This will impact users further down the Murrumbidgee and the Murray economically and environmentally.

Supplementary flows go from the Murrumbidgee into the Murray in most years. Supplementary flows exceed the EOS targets that river operators must try to deliver to the end of the Murrumbidgee, where it meets the Murray near Balranald, NSW. These targets are set under the Murrumbidgee Water Sharing Plan at between 200 and 300 megalitres per day,³¹ or between 73 and 109 gigalitres per year.

Historically, supplementary flows have meant that far more water flows from the Murrumbidgee into the Murray than the EOS targets. Basin Plan hydrological modelling estimates an historic annual average of more than 1,500 gigalitres.³² This extra three Sydney Harbours' worth of supplementary flow is what the new private dams are now targeting.

Supplementary flows have always been available for extraction if an irrigator holds a supplementary water licence. Historically this water has only been used opportunistically because there were no large on-farm storages to capture the water. Thanks to the taxpayer-funded new dams however, they can be diverted and stored on a large scale.

New dams that specifically target supplementary flows have the potential to stop the Murrumbidgee running into the Murray altogether in some years. While there is no data on their total capacity, it could be enough to divert all supplementary flow for many consecutive years, except for very large flood years.

This is damaging for the environment in the mid and lower Murrumbidgee. Supplementary flows are particularly valuable for the environment as they are near-natural flows. They occur at a time of year when high flows would naturally occur, are at the correct temperature and include nutrients and chemical traces that trigger native fish breeding.³³

³¹ NSW Government (2003) *Water Sharing Plan for the Murrumbidgee Regulated River Water Source 2003 [NSW]*, <https://legislation.nsw.gov.au/inforce/cbc48d17-0102-4a03-9259-f11dd3fe12f1/2002-1038.pdf>

³² MDBA (2012) *Hydrological modelling to inform the proposed Basin Plan: Method and results*, https://www.mdba.gov.au/sites/default/files/pubs/Hydrologic_Modelling_Report.pdf

³³ MDBA (2013) *Constraints Management Strategy*, <https://www.mdba.gov.au/sites/default/files/pubs/Constraints-Management-Strategy.pdf>

The Murray-Darling Basin Authority has prioritised adding environmental water to supplementary flows for efficient and effective environmental watering.³⁴

The targeting of supplementary flows will reduce the reliability of “Lowbidgee” supplementary entitlements, which make up nearly 50% of the CEWH’s water portfolio in the Murrumbidgee valley.³⁵ There will be less natural flooding in the mid-Murrumbidgee wetlands, some of the Murrumbidgee’s most valuable environmental assets.

Supplementary flows that reach the Murray River contribute to the Murray’s water availability. In addition to being available for users in the Murray, this water contributes to NSW’s obligation to deliver set volumes of water to South Australia. With no water coming down the Darling/Barka and the Murray constrained by the Barmah Choke, meeting this obligation is now difficult. Efforts to meet this and other water deliveries in Sunraysia have seen controversial and damaging strategies pursued by water managers.³⁶ Irrigators are suing the Murray Darling Basin Authority for \$750 million over these decisions.³⁷

Large-scale diversion of Murrumbidgee supplementary flows will reduce the reliability of Murray water licences, and therefore their financial value. With many landholders having mortgages based on the value of their licences, this could have significant financial implications.

These impacts have not gone unnoticed by local water users. This issue was raised in a socio-economic analysis commissioned by DAWR in 2018:

A few participants were concerned that regional planning and new developments and greenfield developments would impact the existing water supply networks and put more pressure on rivers and supply systems. They were also concerned that new developments would have an impact on existing agricultural industries (such as dairy) when water is relocated from traditional irrigation regions. Some wanted these developments stopped.³⁸

³⁴ MDBA (2015) *Basin-wide Environmental Watering Strategy*,
https://www.mdba.gov.au/sites/default/files/pubs/Final-BWS-Nov14_0816.pdf

³⁵ CEWH (2019) *Murrumbidgee catchment water holdings at 31 August 2019*,
<https://environment.gov.au/water/cewo/about/water-holdings>

³⁶ Slattery and Campbell (2019) *Southern Discomfort: Water losses in the southern Murray Darling Basin*,
<https://www.tai.org.au/content/southern-discomfort-water-losses-southern-murray-darling-basin>

³⁷ Secombe (2019) *NSW farmers’ class action on water*,
<https://www.thesaturdaypaper.com.au/news/politics/2019/09/28/nsw-farmers-class-action-water/15695928008846>

³⁸ Seftons (2018) *Independent Seftons’ report on the public consultation*,
https://haveyoursay.agriculture.gov.au/water-efficiency?tool=news_feed

The basic logic of the Basin's 'Cap' on water use (soon to be rebadged as Sustainable Diversion Limits (SDL)) is that an increase in water in one place will require a reduction of water elsewhere. The new dams will increase water take at those farms, so there should be a reduction of water use elsewhere in the Murrumbidgee. We don't know if the Cap is working, because MDBA no longer has an independent audit of Cap. If the Cap is working, the Commonwealth is heavily subsidising companies like Webster Ltd to increase their water use at the expense of other irrigators.

While water entitlements have been transferred to the Commonwealth to secure efficiency program funding, there is no audit of the supposed water savings. In some cases, transferred entitlements have been bought by new dam developers from other irrigators, sometimes irrigators in other valleys, making this effectively a private water buyback. This will be explored in future Australia Institute research on the efficiency program.

Conclusion

David Littleproud is right that “bugger all” is being done to build new public dams, and that the states play a major role in this. This is because the environmental and economic merits of major new public dams are dubious. The construction of public dams must go through an approval process that includes public consultation, usually run by the state government. This gives opponents of dams and lovers of frogs the right to raise concerns with projects that are potentially damaging and financially wasteful.

Private dams are different. Private dams undergo an Environmental Impact Assessment (EIA), undertaken by a private consultant commissioned by the proponent. These EIAs may not be subject to a public consultation process. The result is that publicly-funded, privately-owned dams have been approved and completed without a kaftan in sight.

Our political leaders like the Prime Minister, Water Minister and Leader of the Opposition cannot agree on whether we are building dams. DAWR cannot say how much taxpayers have paid for private new dams or explain how they create water savings. This is typical of the shambolic state of water management in the Murray-Darling Basin. Given their responses to such seemingly basic questions, a serious discussion seems impossible on harder topics, such as the merits of new public dams or other complicated and ambitious engineering works like the Basin Plan’s controversial re-engineering of Menindee Lakes.

While the public does not benefit from the new dams built in the Murray Darling Basin, corporations like Webster Ltd certainly do. They do not experience the same dam shame that our politicians do, responding to Four Corners *Cash Splash* with a statement:

Taking water allocations from the river and storing water in dams from licenced sources, which would otherwise simply run to the sea and be wasted makes good overall economic sense.³⁹

As discussed, the Murrumbidgee now barely runs into the Murray, let alone the sea. A new dam funded by government obviously makes great economic sense to the recipient, but very poor economic sense to other water users, the environment and certainly the taxpayer.

At least Webster Ltd acknowledge the existence of Australia’s new dams. Perhaps Alan Jones should direct his future questions on dams to them.

³⁹ Webster Ltd (2019) *Webster’s Response to ABC 4 Corners and Online Article and Program Containing the Predictable Fabrications*,
https://static1.squarespace.com/static/5770b8d4b8a79bc1087f2cfc/t/5d2572293a7a090001af8a1c/1562735150492/2019_07_10+Webster+Response+to+the+ABC+articles+and+program.pdf

Afterword

As this report was finalised, news emerged of a major Canadian Pension Fund buying a substantial stake in Webster Ltd, paying a price 57% above the previous share price. The company intends to split Webster's assets, with the Murrumbidgee properties and water to be transferred to a new private entity owned 50.1% by Chris Corrigan, the current Chairman, and David Fitzsimons, Board Member on 4 October 2019; and 49.9% owned by PSP Investments.¹ This entity will be named KoobaCo, centred on the Kooba property discussed in this report.

The assets that Australian taxpayers helped build appear to be highly valued by international investors.

Appendix: All the Prime Minister's dams

Project	Description	Location	Status	Cost (estimated)	Federal Funding ⁴⁰
Northern Adelaide Irrigation Scheme ⁴¹	Existing infrastructure upgrade and construction of a water recycling plant, pump stations, above and below ground storage and distribution network.	Northern Adelaide Plains, South Australia	Construction started April 2018. Not yet completed.	\$155.6 billion	\$45.6 million
South West Loddon Pipeline Project (Stage 2) ⁴²	Pipeline construction	Wedderburn/Newbridge, Victoria	In progress. Expected completion- October 2019	\$80.6 million	\$20 million
Macalister Irrigation District modernisation (Phase 2). ⁴³	Replacement of irrigation channels with pipeline	Tinamba, Victoria	In progress. Expected completion- October 2019	\$60 million	\$31.3 million
Sunraysia Modernisation Project (Stage 2) ⁴⁴	Existing channel upgrades	Merbein/Red Cliffs, Victoria	In progress. Expected completion- October 2019	\$6.1 million ⁴⁵	\$3.025 million

⁴⁰ Australian Government DITCRD (2019) *Water Infrastructure Projects*, current as of 16 September 2019.

<https://www.infrastructure.gov.au/infrastructure/water-infrastructure/nwi-development-fund/water-infrastructure-projects.aspx>

⁴¹ South Australia Water (2019) *Current Projects- Northern Adelaide Irrigation Scheme (NAIS)*.

<https://www.sawater.com.au/current-projects/nais>

⁴² GWM Water (2019) *South West Loddon Pipeline Project*.

<https://www.gwmwater.org.au/our-water-supply/current-projects/south-west-loddon-pipeline-project>

⁴³ Southern Rural Water (2019) *MID pipeline nears completion*.

<http://www.srw.com.au/mid-pipeline-nears-completion/>

⁴⁴ Lower Murray Water (2019) *Sunraysia Modernisation Project 2*.

<https://www.lmw.vic.gov.au/about-us/major-projects/sunraysia-modernization-project-2/>

⁴⁵ Stock and Land (2018) *The Federal government backs the next stage of Mildura irrigation upgrades*.

<https://www.stockandland.com.au/story/5468056/federal-government-money-for-smp2/>

Mareeba Dimbulah water supply scheme upgrade ⁴⁶	Existing infrastructure upgrades including pipeline construction	Atherton Tablelands, Queensland	In progress. Expected completion- February 2022	\$28.1 million	\$11.6 million
Nogoa Mackenzie Water Supply Scheme Efficiency Improvement Program ⁴⁷	Existing infrastructure upgrades including channel system lining, new gauging stations and weir gates.	Emerald, Queensland	In progress. Expected completion- September 2021	\$11.8 million	\$3 million
Rookwood Weir ⁴⁸	Construction of a weir	Fitzroy Basin, Queensland	Not under construction. Expected completion- mid 2024	\$352 million	\$176.1 million (pending bilateral schedule agreement)
Myalup-Wellington Project ⁴⁹	Inflow diversions into a disused mine and construction of a weir and pipeline system to improve salinity in Wellington Dam	Burekup, Western Australia	Project 'announced'	\$396 million	\$140 million (pending bilateral schedule agreement)
Dungowan Dam upgrade ⁵⁰	Dam upgrade or alternative water project	Ogunbil, New South Wales	Project may not go ahead. Funding may be spent on alternative water project	\$484 million	\$75 million

⁴⁶ National Partnership for the National Water Infrastructure Development Fund (2018) Schedule D: *Water Infrastructure Projects- Queensland*.

http://www.federalfinancialrelations.gov.au/content/npa/environment/project-agreement/NWIDF_Capital_Component_QLD.pdf

⁴⁷ SunWater (2018) *Nogoa Mackenzie Water Supply Scheme NWDIF Selma Channel Lining Update September 2018*.

https://www.sunwater.com.au/wp-content/uploads/2018/12/Nogoa-Mackenzie_Selma-Channel-Lining-Update-September_2018.pdf

⁴⁸ Queensland Government (2019) *Media Statement: Call out for Rookwood Weir construction- The Hon Dr Anthony Lynham*.

<http://statements.qld.gov.au/Statement/2019/9/25/call-out-for-rookwood-weir-construction>

⁴⁹ Government of Western Australia (n.d) *Myalup-Wellington Project*.

<https://www.agric.wa.gov.au/sites/gateway/files/Myalup%20Wellington%20project%20brochure%20web.pdf>

⁵⁰ Jamieson Murphy (2019) *Open to options: Dungowan Dam \$75m could be used on alternative water project*, The Northern Daily Leader.

<https://www.northerndailyleader.com.au/story/6225568/open-to-options-dungowan-dam-75m-could-be-used-on-alternative-project/>

Tasmanian tranche 3 Irrigation Scheme ⁵¹	Construction of irrigation schemes and several dams	Tasmania	Construction commences 2020. Target completion, 2025.	\$170 million ⁵²	\$100 million (pending bilateral schedule agreement)
Southern Forest Irrigation Scheme, Record Brook Dam ⁵³	Construction of a 15GL dam and pipeline distribution network.	Manjimup/Pemberton, Western Australia	Not under construction. Geotechnical studies and hydrological modelling complete.	\$80 million	\$40 million
Emu Swamp dam ⁵⁴	Construction of a 12,000 ML dam, pipeline and access road	Glen Aplin, Queensland	Not under construction. New lapse date for EIS evaluation report, April 2020.	\$113.6 million	\$47 million
Hells Gate dam ⁵⁵	Construction of a 2,110 GL dam, pumped hydroelectricity scheme and a solar farm	Upper Burdekin, Queensland	Not under construction. Feasibility study completed.	\$5.3 billion	\$54 million
Alstonville dam, Hughenden irrigation scheme ⁵⁶	Project is still in design phase. May involve construction of 1 or 2 dams	Hughenden, Queensland	Not under construction. Design and Business case underway.	Not costed	\$180 million

⁵¹ Infrastructure Tasmania (2019) *Infrastructure Tasmania Project Pipeline*.

https://www.stategrowth.tas.gov.au/__data/assets/pdf_file/0010/195760/Infrastructure_Project_Pipeline_2019.pdf

⁵² Michael McCormack (2019) *Media Release: Dam good news for Tasmanian irrigators*

<https://minister.infrastructure.gov.au/mccormack/media-release/dam-good-news-tasmanian-irrigators>

⁵³ Government of Western Australia DPIRD (2019) *Southern Forest Irrigation Scheme*.

<https://www.agric.wa.gov.au/waterforfood/southern-forests-irrigation-scheme>

⁵⁴ Queensland Government SDMIP (2019) *Emu Swamp Dam Project*.

<https://www.statedevelopment.qld.gov.au/coordinator-general/assessments-and-approvals/coordinated-projects/completed-projects/emu-swamp-dam-project.html>

⁵⁵ Townsville Enterprise (2019) *Key Projects: Hells Gates Dam Project*.

<https://www.townsvilleenterprise.com.au/key-projects/advocacy-tel/>

⁵⁶ Derek Barry (2019) *HIPCO irrigation project to be big part of Hughenden jigsaw*, The North West Star.

<https://www.northweststar.com.au/story/6307745/hipco-irrigation-project-to-be-big-part-of-hughenden-jigsaw/>

