



Water Theft Project Murray-Darling Basin

PROJECT DESCRIPTION, OBJECTIVES AND
METHODS - DISCUSSION PAPER NO. 1

Project Team

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Australian Government
Australian Research Council



Acknowledgement of Country

We acknowledge the First Nations of Australia as the custodians of Country, the land and waters. We pay our respects to all Elders past and present of the more than 50 First Nations that continue to protect and defend the land and waters in the Murray-Darling Basin where we are conducting this research.

We recognise that the theft of land and water in the settler-colony of Australia is first and foremost the result of dispossession of First Nations' Country. The lands and waters of the Murray-Darling Basin Country have never been ceded.

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Contents

Executive Summary 4

Background to the Water Theft Project 6

Project Originality and Contributions..... 10

Methodology and methods12

Benefit15

Communication of Results15

Conclusion16

References.....17



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Executive Summary

Fresh water is essential to life. Due to its increasing scarcity relative to use it is often identified as the 'new oil' or 'blue gold'. Its theft is, therefore, a profitable enterprise. Water theft is the unauthorized use and consumption of water before it reaches the intended end-user. It constitutes between 30-50 per cent of the global water distribution and commercialisation.

Australia is not immune from such illegal activity. Australia is the world's driest inhabited continent and with few exceptions water security is seriously threatened throughout. While some threats are undoubtedly climate induced, the theft of water is playing an increasingly significant role in undermining and compromising Australia's water security. Yet relatively little is known of the historical and contemporary context of water theft in Australia, and the parameters of the phenomenon remain under-researched.

This is the first of a series of briefing papers on the Water Theft Project focussing on the Murray-Darling Basin (MDB), Australia. This paper outlines the overall research endeavour. It introduces the project aims, the project methodology and methods, and its intended outcomes. Future papers in this series will provide detailed and substantive discussions of key concepts ('water theft'), policies ('laws and regulations' and the 'water market') and government and community responses to water theft issues (breaches of regulation, perceptions of water taking as 'folk crime', serious criminal offences).



Figure 1: Map of the Murray-Darling Basin (White, 2019).

Background to the Water Theft Project

This Australian Research Council (ARC) funded Discovery Project (DP230100630) is a first on several fronts. It is the first time the ARC has allocated resources to a green criminological endeavour and the first time it has funded research specifically devoted to understanding water theft in the Murray-Darling Basin (MDB) – the largest interconnected system of rivers in Australia. The MDB spans four Australian states as well as the Australian Capital Territory, covering approximately one million square kilometres or 14 per cent of Australia's land area. The Water Theft Project brings together qualitative and quantitative expertise across the disciplines of law, sociology, criminology, social policy and political economy to critically examine an issue of national Australian importance, namely the security, sustainability and equitable distribution of fresh water.

In November 2012, the Murray-Darling Basin Plan was established under the *Water Act 2007 (Cwlth)* to regulate the use of fresh water by industries and communities, and manage the health of the Murray and Darling Rivers and its riverine tributaries. It aimed to provide an equitable partnership and distribution of fresh water among the jurisdictions and the natural environment. The efficacy and efficiency of the Plan has been subjected to widespread debate and criticism over the last decade and is due to be formally reviewed in 2026 (Murray-Darling Basin Authority [MDBA], 2024). The Water Theft Project will inform the Commonwealth Government's review with original and innovative insights from extensive fieldwork and interviews with water users, consumers, regulators, politicians, policy advisors and water experts including, lawyers, ecologists, hydrologists, and environmental scientists.

In Australia, relatively little is known of the historical and contemporary context of water theft, and the parameters of the phenomenon remain under-researched. What is known is that 'overuse and variable source replenishment' has brought the problem of unauthorised water extraction to the national forefront (Australian Institute of Criminology [AIC], 2017:1). Australia is the world's driest inhabited continent where water security is seriously threatened. Freshwater, a necessity for life, industry and the production of food and fibre is

a precious natural resource currently imperilled, with unprecedented challenges for Australian governments (Department of Climate Change, Energy, the Environment and Water, 2024; Kelly et al, 2019).

Australia occupies 5.6 per cent of the world's land mass yet receives just over one per cent of the world's available freshwater resources (Water Services Association of Australia, 2020). Water shortages are endemic to most regions in Australia, including the MDB (see Figure 1), and water scarcity has been found to increase the probability of water theft (Loch et al, 2020). Water from streams and rivers formed in the Great Dividing Range collect in its network of 22 major river catchments that wind through the landscape to the river systems of two of Australia's longest rivers, the Murray River (in the south of the MDB) and the Darling River (in the north of the MDB) (MDBA, 2021).

While some threats to the river system are undoubtedly climate change-induced, the theft of water is playing an increasingly significant role in undermining and compromising Australia's water security (AIC, 2017). There is no clear or 'official' picture of who is stealing water, why, where and to what extent in the MDB and this project seeks to address this gap.

Concerns about the theft of water in the MDB catapulted to national headlines in 2017 following an Australian Broadcasting Corporation (ABC, 2017) *Four Corners* investigation and documentary that alleged that substantial amounts of water were being illegally diverted by large corporate agribusiness in the northern catchments of the MDB. Subsequent investigative media reports in response to water theft focussed public attention on an unfolding ecological, economic, political and social crisis along certain catchments of the MDB, involving the death of millions of fish, departure of farmers from generational family properties and financial loss of millions of dollars in commercial activity (see Clifford and White, 2021).

Official inquiries quickly followed, involving federal, state and local government agencies (see Matthews, 2019). For example, the MDBA (2018) developed *The Basin Plan Compliance*

Compact which requires the MDBA to prepare an annual report on progress made towards implementing the commitments of the Compliance Compact. The need for federal-level intervention was also reinforced when the South Australian Murray-Darling Basin Royal Commission identified ‘gross maladministration’, ‘negligence’ and ‘unlawful actions’ by Commonwealth officials and water administrators in spending billions of unaccounted-for-dollars in government subsidies and grants for river replenishment or buy-back schemes for commercial agriculture (South Australia Murray-Darling Basin Royal Commission, 2019).

The prosecution of irrigators in the MDB since 2018 has further exposed the seriousness of these issues as well as the inadequacies of existing regulatory frameworks and criminal law responses (Baird et al, 2021). Increasing concerns related to regulatory mismanagement of the MDB led the Australian Federal Minister for Water Resources to appoint a former Federal Police Commissioner, Mick Keelty as a ‘water theft sheriff’ in 2019, as part of a national inspectorate to oversee state and territory government water management and enforcement policies in the MDB and beyond (Clark, 2019). However, within ten months Keelty did not seek to extend his tenure as the Interim Inspector-General for the Murray-Darling Basin and has since been superseded and replaced by a new Inspector-General of Water Compliance (Environmental Defenders Office, 2021). The resignation of Keelty follows claims that the role lacked the ability to investigate matters of integrity, the juggling of the water portfolio between different government ministries, and the stepping down of senior Commonwealth and state government officials in recent years over regulatory and compliance failures (Slattery, 2019).

Since the implementation of the Murray-Darling Basin Plan, maladministration and regulatory inconsistencies in water metering, measurement, compliance and enforcement policies have been rife throughout the MDB (Australian Competition and Consumer Commission [ACCC], 2021; Independent Commission Against Corruption, 2020; The Senate, 2021). Public and political discourse surrounding the theft

of water has raised concerns about limited transparency, regulatory capture and political interference by states and territory governments and bureaucrats in the Northern MDB (Baird et al, 2021). A culture of over-extraction, mismanagement and malfeasance predicated on decades of exploitation and harmful water policy, has enabled the state-facilitated corporate theft of water (Baird, 2023; see also Discussion Paper 2). This includes the harvesting and impoundment of floodplain waters without a license and the excessive unmetered take of water in the northern MDB for the benefit of corporate irrigators. This, coupled with drought, has led to a significant decline of inland flows along the Lower Darling River, sparking the death of millions of native fish in fish kills reported in 2018, 2019 and 2023. The impacts extend beyond harms to the fragile ecosystems of the MDB with reports of decreased community well-being, cohesion and capacity in the rural and regional areas of the MDB and increasing public health and crime risks (see Australian Academy of Science, 2019; Legislative Council, 2021; Maloney et al, 2020; South Australian Murray-Darling Basin Royal Commission, 2019).

The Basin water markets allow irrigators to trade and transfer water rights across catchments to supplement their water supply in the short and long term, earn an income from water trading and expand crop production (ACCC, 2021). In the MDB, it has been widely reported according to the ACCC (2021) that the tentative and fragmented market structure between the Basin States, combined with a lack of regulatory oversight for trading conduct, creates opportunities for market manipulation and illegal activities. In particular, sophisticated and professional water intermediaries, such as brokers, real estate companies and exchange platforms, currently operate in a mostly unregulated environment and maintain the knowledge and resources (at least in principle) to exploit market flaws by, for example, concealing and manipulating water prices and insider trading. To date (at this time in writing), “the ACCC identified that while there was no evidence of actual misconduct, there is a strong perception that market manipulation has occurred” (Quinlivan, 2022:34).



This Water Theft Project will significantly contribute to understanding an under-researched area of criminological interest that is emerging as a phenomenon of both national and international concern (Brisman et al, 2018). It will identify and critically examine water theft through a rigorous investigation of the key factors, scope, characteristics, motives and contexts of offending and compliance in the MDB. It will critically analyse the governance arrangements, legislation, regulatory instruments and policy related to freshwater management and distribution in the

MDB; it will access the voices of officeholders, affected groups and communities impacted by water theft to understand the social, economic and environmental harms of water theft and, finally, it will develop a framework and policy recommendations of approaches for water theft prevention. Specifically, this project aims to examine the interaction of socio-economic, legal and political factors that have enabled the theft of fresh water in the MDB. This profiling of water theft will provide a foundation for conceptualising the prevention of water theft in the MDB and Australia more broadly.

This will be achieved by meeting the following **objectives**:

1. Provide a comprehensive profile of water theft in the MDB, including the social, economic and political contexts that permit or enable misconduct and identify the motivations of offenders.
2. Catalogue the socio-economic and ecological costs associated with water theft in the MDB, past and present, including harms to humans, non-humans and ecosystems.
3. Critically examine and compare existing national, state and territory policies for ensuring water security, regulation and compliance.
4. Propose models for future compliance, mitigation and crime prevention.

Research questions

1. What types of water theft are committed in different parts of the MDB?
2. What are the drivers and motivations for water theft offending?
3. What are the facilitating social, economic and political factors / enablers of water theft in the MDB?
4. What are the impacts of water theft on humans, habitats and non-human species?
5. Which theories and perspectives best explain water theft?
6. How is water theft detected and prosecuted by Australian state and federal agencies?
7. What more can be done to prevent water theft and its impacts?

Opposite: Darling Barka, 2020



Project Originality and Contributions

Despite water security being considered a national priority, subject to a raft of regulations, and constantly monitored by federal, state and local authorities, the theft of water in the MDB continues unabated with widespread social, economic and environmental consequences (Baird et al, 2021). The underlying factors that have led to water theft in the MDB have been subjected to scrutiny from numerous committees and panels, most of which have highlighted the urgent need for further in-depth analyses and action (Matthews, 2017; Commonwealth Environmental Water Office, 2020; Legislative Council, 2021; The Senate, 2021; see also White, 2019). Accordingly, this project will profile water theft in the MDB to identify those factors that enable water theft; critically examine existing policy instruments for water governance and regulation, including the application of criminal, civil and administrative measures; and explore regulatory prospects for its future prevention.

For all its importance to, and impact upon, social, economic and environmental health and prosperity, there has, until recently, been little criminological interest in crimes involving freshwater (White, 2003, 2019; Bricknell, 2010; Johnson et al, 2016; Brisman et al, 2016; 2018; Baird et al, 2021; Eman et al, 2019). The project will focus on water theft and comprehensively examine the different forms it takes in the MDB, including noncompliance by individual users with the terms of license agreements and systematic illegal diversion. Existing prosecutions indicate that water theft in the MDB involves both the taking of water from natural water courses and the stealing of harnessed or piped water by end-users (see Discussion Paper 2). The latter involves breaches of extraction and construction

conditions, illegally tampering with water meters, relaying false readings and contravening declared water restrictions. This project will propose a broader definition of water theft to include legal but harmful over-extraction and the unauthorised taking of water from broader surface water bodies, such as wetlands and floodplains located next to regulated water channels (Baird et al, 2021; Felbab-Brown, 2017). This definition and initial typology of water theft will be applied within a policy analysis of the existing policy and regulatory framework for water management in Australian states and territories.

A detailed investigation that harnesses the expertise of regulators, policy-makers, irrigators, farmers and relevant government officials will be undertaken to ascertain how situational and social crime prevention approaches and techniques could be mobilised alongside criminal penalties and regulatory mechanisms to address different types of water theft occurring in diverse social and environmental contexts. Preliminary research undertaken for this project has found that the structures of regulation and compliance management are often disjointed, miscommunicated and implemented with disparity and inconsistency between the Basin States. To date, studies have discovered irregularities with detection, investigation and enforcement as well as political interference leading to uncertainty and noticeable state-level differences in penalties and prosecution (see, e.g. Baird, 2023; Holley et al, 2020; White, 2021). These emerging issues, based largely on examination of secondary sources, unveiled a range of socio-legal, economic and environmental concerns requiring the much deeper and comprehensive examination proposed by this project.



The Water Theft Project examines uncharted issues of water theft through the theoretical lens of environmental, ecological and species harms and justice. It is thereby framed within the broad and burgeoning field of green criminology, a field in which the CIs in this project are nationally and internationally recognised (Bedford et al, 2020, 2022) and at the international forefront (White, 2008, 2014, 2018; Walters et al, 2013, 2018). Green criminology comprises – an area of substantial theoretical and empirical endeavour within the field of criminology – and involves ‘interdisciplinary criminological engagements’ (Brisman, 2014: 23) that collectively interrogate actions that damage, exploit and destroy the natural environment (Walters et al, 2013; White, 2008, 2011). As a whole, green criminology focuses on the nature and dynamics of *environmental crimes and harms* (that may incorporate wider definitions of crime than those provided in strictly legal definitions), *environmental laws* (including enforcement, prosecution and sentencing practices), *environmental regulation* (systems of administrative, civil and criminal law that are designed to manage, protect and preserve specified environments and species, and to manage the negative consequences of particular industrial processes) and *eco-justice* (the valuing of, and respect for, the planet, humans, non-human animals, plants, the hydrosphere and geological features and resources – all inextricably bound together within planetary ecosystems) (White, 2021). Specifically, this project comprehensively assesses the relevant policies and practices of regulation, compliance and enforcement of water theft for each of the

Basin States across the MDB through a lens that prioritises environmental, ecological and species justice (White, 2008, 2014).

Moreover, the use of green criminology permits the concept of ‘crime’ to be examined in its broadest sense to include harmful acts not necessarily prohibited or regulated by government legislation at the present time to highlight (avoidable) harms. This zemiological or harm-based framing (Tombs and Canning, 2021) focuses attention to legalised and systemic social and environmental harms associated with water mismanagement and malfeasance. It draws attention to differentiated forms of water theft, including state-sanctioned and facilitated theft through the harvesting and impoundment of floodplain waters without a license and the unmetered take of water in Northern NSW (Baird, 2023). With regard to research methodologies, methods and data sources, green criminological research is rich and varied (Heckenberg and White, 2020; Lynch et al, 2017). It is frequently exploratory and descriptive, employing social science methodologies such as case study research and critical policy analysis and often involves qualitative methods such as interviews and observation, as well as innovative methods associated with visual criminology. Green criminology has a social action research orientation, and it may draw on network analyses or critical discourse analysis to explore and interpret discourses of power, harm and justice related to the perpetration and victimology of crimes against and abuse and harms to the environment (White, 2021).

Above: River Murray, 2024

Methodology and methods

This ARC Discovery Project adopts a grounded theory approach to address the research questions through both qualitative data collection and analysis methods (thematic document analysis, interviews and field observations), and quantitative methods (administrative data analysis). Consistent with a green criminological approach, this ARC Discovery Project will initially involve ‘horizon scanning’ by scoping known

convictions and then traverse actions permitted by the state but identified by key stakeholders as posing threats to future water security and requiring regulatory and legislative intervention. The following phased research tasks are proposed although pragmatic considerations will potentially require adjustments to the phasing and some tasks may be undertaken in parallel.

PHASE 1

TASK 1: Document, data and policy analysis:

The project will analyse the qualitative and quantitative data to provide a comprehensive profile of water theft in the MDB, including the social, economic and political contexts that permit or enable water theft in the MDB, including data on drivers or motivations for offending, offenders, offences, impact, consequences and penalties. This will involve a systematic thematic content analysis of permit and compliance databases held by regulatory authorities in all Basin States and ACT. The project will systematically analyse all submissions to relevant official inquiries, media reports, agency annual reports, and summaries of prosecutions and court records. It will develop a profile of known offences and offenders. All documents to be reviewed are publicly available. Key informants for Phase 2 will be identified from within publicly available documents during this task.

PHASE 2

Task 2.1: Face-to-face interviews x 90:

CI's Bedford, Walters, White and the Senior Research Associate (Dr Baird) will conduct 100 face-to-face semi-structured interviews over the course of the project. Approximately 90 of these will be conducted in Phase 2, with 10 follow-up interviews in Phase 4. Interviews will be conducted with practitioners and others involved with water theft compliance, regulation, law enforcement, victimisation, prosecution and prevention across the MDB states (QLD, NSW, VIC and SA and ACT). These interviews will explore perceptions of agency stakeholders regarding the nature of strategic plans *vis-à-vis* crime prevention, harm minimisation and social and environmental restoration about forward planning and training and resource needs.

Task 2.2: Non-participant observation:

An imperative component of this research is to be *in situ* observing and interviewing at locations where water theft has occurred or where the MDB is experiencing drought (or floods). As such, a snowballing methodology will be deployed to capitalise on the hundreds of hours proposed in-the-field, driving the perimeters of the MDB and experiencing first-hand the contexts facing water users and regulators. Fieldwork in the MDB is essential to understand the contexts and complexities that operate in practice for the policymakers, administrators, and coalface officers responsible for developing and implementing Australian freshwater regulation, compliance and enforcement policies that seek to prevent water theft.

Ethics approval to conduct interviews and fieldwork was granted by the Deakin University Human Research Ethics Committee in September 2023 (2023-292).

Phase 1	Ethics, Literature and Policy Analysis	2023 July-Dec
Phase 2	Fieldwork	2024 Jan-Dec
Phase 3	Desktop Data Collection and Analysis	2025 Jan-May
Phase 4	Collation and follow up interviews (online)	2025 June-Dec
Phase 5	Finalise Analysis and Report	2026 Jan-June

PHASE 3

TASK 3: Case Studies: This research incorporates detailed case studies to address each of the four project aims. Where appropriate and suitable, interviews will be carried out with purposively sampled stakeholders familiar with particular cases of water theft/offenders. The intention is to ‘bring-to-life’ the experiences of perpetrators and victims of water theft to develop nationwide approaches to advance water security and prevent offending. The case studies will explore which kinds of water theft manifest under which kinds of circumstance. The discussion of specific cases during interviews will inform the case study research. Ethical considerations for the use of interviews in the case studies is covered through the discussion of ethical considerations for the interviews in Phase 2: Task 2. The case studies will draw upon information from de-identified participant transcripts, court records and other documentation available in the public domain.

TASK 4: Survey of MDB communities:

To complement interviews and in-depth selected case studies, this project will undertake online survey/s with key stakeholders as determined by the research in Phases 1 and 2. The sampling, recruitment method and survey content is as yet to be determined through Phases 1 and 2. It is anticipated that one survey will access the experiences of a convenience sample of community members (to be determined) who may be impacted by water theft in the MDB to ascertain perceptions of: 1. National, state and local policy and regulatory strengths and deficiencies; 2. Water theft offender motivations 3. Impacts and direct experiences of water theft on individuals, communities and ecosystems, and 4. What should be done to counter water theft and mitigate harms caused by it.

PHASE 4

TASK 5: Compendium of Water Management

Data: There are numerous reported sources of water management, compliance and enforcement data throughout the MDB jurisdictions. It is not clear, however, how these sources of data are established, maintained and aligned or how they are used. An important aspect of this project is to collate, compile and analyse the efficacy and utility of existing data holdings and to create a record of which agencies collect which data, how often, and where these data are held. Data are held by a range of agencies at local, state and federal level. A compendium of data holdings will be developed which indicates which agencies are responsible for collecting, analysing and storing data relevant to water management and related matters in the MDB. It will be a useful resource for future research and/or investigation of water theft in the MDB.

TASK 6: Follow up Interviews x 10:

Follow-up interviews will be conducted with practitioners and others involved with water theft compliance, regulation, law enforcement, victimisation, prosecution and prevention across the MDB States and ACT). There will almost certainly be environmental events and policy developments throughout the project duration and these interviews will allow for exploration of perceptions of these developments in light of the preceding research.

Developing Future Capability: PhD candidate:

The project will enhance research training through the recruitment of one non-ARC (Deakin University) funded PhD candidate. CIs Walters and Bedford will recruit and supervise a PhD focussed on water theft, water rights and water policy. This PhD is embedded in the Water Theft Project and will provide invaluable input into the proposed project.



Benefit

Economic, commercial, environmental, social and/or cultural benefits

Issues that challenge and compromise Australia's present and future national interests and national strategic assets pose risks that must be identified, examined and minimised. The theft of Australia's increasingly strained fresh water substantially threatens industry, agriculture, tourism, culture and unique flora and fauna. Its theft also compromises multi-million-dollar Australian industries within the MDB and devastates lives and livelihoods.

The Water Theft Project will provide a substantial and original contribution to criminological knowledge within an area where there is presently little or no formal data collection on water theft in Australia. This project will enhance public policy awareness and capability in strategic areas pertaining to national security, economic wellbeing and environmental and human health, and will identify water theft mitigation and prevention strategies for water regulators, providers, distributors, consumers

and ecosystems. This project not only uncovers the economic costs and impacts of water theft; but also highlights the deleterious consequences to public health – notably the lived experiences of victims; who have lost homes and businesses from unchecked, undetected and unregulated water theft.

Australian Government's National Science and Research Priorities and other priorities identified by government

The sustainability of water and soil is of immediate and critical importance to Australia and its place in the world, and is a strategic priority identified as a Science and Research priority by the Australian Government. This project will enhance knowledge and knowledge capability to enhance strategy and policy development and crime prevention and mitigation initiatives to meet key national security, economic, environmental and social objectives of the Australian Government.

Communication of Results

To enhance impact, the project findings will be publicly released as a free-to-download research report: *Water Theft in Australia: Securing the Nations' Future Freshwater Report* on Deakin and UNE e-prints. The report will be accompanied by a public communication strategy and news announcements to a global network of institutes, researchers and key stakeholders, a press release and media interviews, and a social media campaign. Reports will also be sent to each jurisdiction's Water Minister, Shadow Water Minister and other relevant stakeholders.

The final report will be officially launched at a colloquium – hosted by the UNE Centre for Rural Criminology. This will be a pivotal event convened by an esteemed cadre of academics and relevant stakeholders and located at the epicentre of purported water thefts and associated governance concerns within the MDB. All subsequent publications will target high quality open access free to download refereed journals to maximise the quality, reach and impact of the study.

Opposite: Hume Dam, 2020



Conclusion

This discussion paper has provided an overarching summary of the Water Theft project.

The project will provide a substantial and original contribution to criminological knowledge in an area where there is presently little or no formal data collection. It will identify water theft mitigation and prevention strategies that will benefit Australian communities, industries, water providers and regulators. Issues that challenge and compromise Australia's present and future national interests and strategic assets pose risks that must be identified, examined and minimised. The theft of Australia's increasingly stressed fresh water substantially threatens industry, agriculture, tourism, culture and unique wildlife.

This project will enhance public policy awareness and capability in these strategic areas pertaining to national security, economic wellbeing and environmental and human health. The project will enhance knowledge and knowledge capability to meet key national security, economic, environmental, and social objectives of the Australian Government.

Above: Salt Marsh, Coorong National Park, February 2024

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