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DEPARTMENT OF POLITICAL SCIENCE

EARTH IS THE MOTHER AND THE WATERWAYS ARE THE VEINS THAT FLOW THROUGH HER

A qualitative study on the trend of personification in river management

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Abstract: This thesis look at the trend of personification of rivers by examining the unprecedented legislation the Yarra River Protection (*Wilip-gin Birrarung Murron*) Act 2017 (hereafter Yarra/Birrarung Act) and the well-established Environmental Water Manager, the Victorian Environmental Water Holder (VEWH). The aim of the thesis is to contribute with knowledge on why there is a trend of personification in river management and what implications that brings. Drawing on theories of co-management, property rights and legal rights, a theoretical approach is developed. The theoretical approach is applied in a qualitative content analysis of key informant interviews. The results indicate that the Yarra/Birrarung Act and the VEWH were motivated by pressures on rivers, ambitions to integrate management and similar developments elsewhere. The Yarra/Birrarung Act was also motivated by community engagement and reconciliation with the Traditional Owners the Wurundjeri whereas the VEWH was also motivated by water management arrangements already in place as well as severe droughts. The outcomes of the Yarra/Birrarung Act were the recognition of the river as an entity and the creation of a voice through a council to speak on behalf of the river. The main outcome of the VEWH was a statutory corporation with legal personality to hold and manage environmental water entitlements. The conclusions show that the Yarra/Birrarung Act and the VEWH apply very differently to the theoretical approach. However, there are elements of the Yarra/Birrarung Act that indicate on a new direction in the trend of personification of rivers.

Keywords: *river management, water resource management, trend of personification, Yarra, Birrarung, Victorian Environmental Water Holder, legal personality, guardianship model, market environmentalism*

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1. INTRODUCTION

Late 2017, in the state of Victoria, Australia, a ground-breaking legislation about a new management of the Yarra river, or the Birrarung¹ was enacted. The legislation is ground-breaking in many regards – it created a voice for the river through the establishment of a council to speak on behalf of the river and it gave rise to a number of Australian and Victorian Firsts² with the inclusion of the Aboriginal tribe Wurundjeri's language and worldviews (Victoria State Government 2019).

But why are rivers of interest for political science? Fundamentally, rivers have always been crucial to humankind. The rise of the first great civilisations began around rivers (Mauch and Zeller 2008) and traditionally, people have lived close to rivers or other fresh water bodies to ensure water supply. Technical developments, however, has made people less dependent on the proximity of a river or other fresh water bodies. Despite that, half of the world's population today live within 3 km from a fresh water body³ (Kummu et al. 2011).

Historically, rivers and communities have been firmly connected (Mauch and Zeller 2008). With time, however, the relationship between people and rivers have changed (Kummu et al. 2011). Recently, new water resource management models have emerged and form a trend of personification⁴ of rivers, which may be interpreted as a reaction to the unravelled relationships between people and rivers. That trend of personification can be divided in two; (1) the creation of Environmental Water Managers (EWMs) and (2) the creation of rivers as legal persons. The EWMs are organisations with legal personality to hold and manage water property rights for the environmental benefit of rivers and other waterways. The second part of the trend, however, is more recent, and the first example of a river acquiring legal personality was the Whanganui river, Aotearoa⁵ New Zealand, in 2017 (O'Donnell 2019). These novelties in water resource management are of obvious interest for political science. It is of great interest to find sustainable water resource management models, especially in the context of increasing pressures on rivers due to environmental issues such as climate change.

¹ Birrarung is the name of the river in the Aboriginal language Woi-wurrung

² First legislation in its kind

³ Rivers and lakes

⁴ 'The attribution of human form, nature or characteristics to something' (Oxford English Dictionary 2005)

⁵ Aotearoa is the Māori name for New Zealand

One of the two cases of study, the Yarra River Protection (*Wilip-gin Birrarung Murron*) Act 2017 (hereafter the Yarra/Birrarung Act), is also a case of a new river management model and could be argued to be an example of a personification of a river. Even though the Yarra/Birrarung Act may have points in common with the EWMs and other rivers with legal personality, one obvious characteristic distinguish it from the others – the Yarra/Birrarung Act does not create a legal person (Clarke et al. n.d.). It is interesting to see if this unprecedented approach to personification of rivers may contribute to sustainable river management models in the future which is why the legislation is chosen as one of the cases of study.

The aim of this thesis is to explain why this trend of personification of rivers exists and what implications it brings. This will be done by examining two cases; the most recent example of a personification of a river – the Yarra/Birrarung Act – as well as the EWM operating in the same state – the Victorian Environmental Water Holder (VEWH). Consequently, that will produce more in-depth knowledge of personifying river management models.

The rest of the thesis is organised as follows: first, prior scholarship on rivers as legal persons and EWMs as well as the thesis' contribution are presented (chapter 2); followed by the theoretical approach linking theories of co-management, property rights and legal rights (chapter 3); then, the specified aim and research questions are presented (chapter 4); thereafter, the design of the thesis, the data gathering and analysing methods as well as the ethical considerations are outlined (chapter 5); followed by a presentation of the results and an analysis of those (chapter 6); and finally the conclusions (chapter 7).

2. LITERATURE REVIEW: Personification of rivers

Rivers have all along history been personified in different ways, for instance by connecting characteristics of a community and a river. The Rhine river is one such example where the river and the surrounding communities were referred to as romantic (Mauch and Zeller 2008). But it is not until recently that rivers, or nature more generally, have been constructed as legal subjects in law which illustrates a trend of a personification. In water resource management, this trend of personification can be divided in two: firstly, rivers as legal persons (2.1) and secondly, market environmentalism in water resource management (2.2) (O'Donnell 2019). The most recent example of this trend, however, the Yarra/Birrarung Act, distinguish itself from the two sub-groups, and testifies to a new interpretation of personification of rivers (2.3). The singularity of

the Yarra/Birrarung Act justifies further investigation that seeks to contribute with more knowledge about personifying river management models. The two sub-groups of the trend as well as the Yarra/Birrarung Act is treated below.

2.1 Rivers as legal persons

Already in the 1970s, Christopher D. Stone (1972) advocated that nature should be given legal rights of its own. It would take decades, however, until the first examples. In 2008, Ecuador vindicated constitutionalised rights for Mother Earth (*Pacha Mama*) and two years later, Bolivia conferred legal rights on nature by the enactment of the Laws of Rights of Mother Earth (*la Ley de Derechos de la Madre Tierra*) (Daly 2012; O'Bryan 2017; O'Donnell and Talbot-Jones 2017). In 2017, the Whanganui river, in Aotearoa New Zealand, became the first natural object to acquire legal personality (O'Bryan 2017). During that same year, three other rivers was conferred with legal rights (O'Donnell 2018; O'Donnell 2019). All four river examples are treated below.

In March, the Whanganui river acquired legal personality through the enactment of the *Te Awa Tupua* (Whanganui River Settlement) Act 2017 (hereafter Whanganui Act) (O'Bryan 2017). As a legal person, the river becomes the subject of rights and duties and thus have legal standing⁶, the right to enter and enforce contracts and the ability to own property (O'Donnell and Macpherson 2018; O'Donnell and Talbot Jones 2017, 2018; O'Donnell 2019). Although it may seem fictional to give rivers legal personality, this has long been the case for other non-human entities, as for instance corporations (O'Donnell and Talbot-Jones 2018; Stone 1972). The legislation recognises the Whanganui Māori's⁷ rights over the river and incorporates Māori world views and language. The legislation also creates a guardian to speak and act on behalf of the river, the *Te Pou Tupua* (O'Bryan 2017; O'Donnell and Macpherson 2018; O'Donnell and Talbot-Jones 2018). The legislation does not, however, create water property rights and the possibility for the guardian to affect water use is limited (O'Bryan 2017).

Just days after the Whanganui Act in the state of Uttarakhand, India, the High Court of Uttarakhand gave the Ganges and Yamuna rivers legal personality as legal minors (O'Donnell 2018; O'Donnell and Talbot-Jones 2018). State government representatives were appointed guardians. There was, however, significant conflation of concepts like legal rights with human rights and legal persons with human persons which caused challenges of implementation.

⁶ The ability to sue and be sued

⁷ The Indigenous people of Aotearoa New Zealand

Because of how the court decision was phrased, the guardians also feared to stand responsible for the rivers' activities, for instance in case of flooding. Due to the challenges of implementation as well as the apprehensions of the guardians, the court decision was appealed four months later (O'Donnell 2018; O'Donnell and Talbot-Jones 2018).

The fourth river to be given legal personality was the Atrato river, Colombia (Clarke et al. n.d.; O'Donnell 2017b). The ecological state of the river was being degraded due to mining practices and therefore communities of Indigenous and afro-Colombian people around the river initiated an action guaranteed by the Colombian constitution to stop those mining practices. Legal standing eventually was enabled by the Constitutional Court of Colombia which ruled in favour of the plaintiff. Consequently, the Atrato river was recognised as a legal person with an appointed guardian (Clarke et al. n.d.).

Prior to those four examples of rivers as legal persons, however, there have been other developments of personification in water resource management. This is discussed in the following section about market environmentalism.

2.2 Market environmentalism in water resource management

Water markets are established on the theoretical presumption that they will (1) resolve the market failure⁸ caused by public good properties⁹ of water resources and (2) efficiently produce the maximum benefit. In water markets, water property rights are created and traded between users on a market (O'Donnell 2019). Until recently, the environment was excluded which leads to inefficient management. Consequently, for example in Australia, the US, Canada and Mexico, the environment has been integrated in the water market in order to efficiently manage the water resource. Environmental water markets are established on the same theoretical assumptions as ordinary water markets. Water property rights to environmental water¹⁰ are created and can be transferred between EWMs that hold and manage water rights for ecological benefits. EWMs are organisations with legal personality which enables legal standing, the capacity to hold water property rights and the ability to enter and enforce contracts. These properties raise the question whether the EWMs creates a form of legal personhood for the aquatic environment which is why

⁸ 'Failure on the part of the market system to provide the optimum level of production or quality of product or service' (Oxford English Dictionary 2000)

⁹ Non-rival and non-excludable use

¹⁰ 'The water regime provided to achieve environmental objectives' (National Water Commission 2010)

the EWMs have been used as comparison to rivers with legal personality (O'Donnell 2017a; O'Donnell 2019).

Late 2017, the most recent example of a personifying river management model, the Yarra/Birrarung Act, was enacted. However, it does not seem to fit completely in either of those two sub-groups of the trend of personification of rivers which mandates further investigation and motivates for it to be one focus of this thesis.

2.3 A new interpretation of personification of rivers

In September 2017, the Victorian State Government enacted Yarra/Birrarung Act that recognises the Yarra/Birrarung river as 'one living an integrated natural entity' and equips it with a voice through the Birrarung Council to speak and act on behalf of the river. The river, however, is not recognised as a legal person. Despite that difference, the Yarra/Birrarung Act have points in common with the four rivers acquiring legal personality during the year of 2017. Just like the others, the Yarra/Birrarung Act establish a guardian, the Birrarung Council, with advisory and advocating functions (Clarke et al. n.d.). In common with the Whanganui Act, the Yarra/Birrarung Act also incorporates Indigenous perspectives through the participation of the Aboriginal Victorians and Traditional Owner's¹¹ (TOs) the Wurundjeri and through the use of their language Woi-wurrung in the bilingual title and preamble (O'Bryan 2017; Victoria State Government 2017).

Since the Yarra/Birrarung Act is unprecedented, the most recent and least investigated case in the trend of personification of rivers, further investigation is motivated. Legal personhood for rivers is a new, ground-breaking development and the practical consequences of the development are largely uncertain (O'Donnell 2017b). It is therefore interesting to investigate the Yarra/Birrarung Act case more closely, since it got in common many aspects with the other river cases, except from the lack of legal personality.

In Victoria where the Yarra/Birrarung river flows, the EWM operating since 2011 is the VEWH. It is an independent, statutory corporation with legal personality which enables standing, the ability to enter and enforce contracts and to hold and manage environmental water entitlements for the environment (O'Donnell 2012; O'Donnell and Macpherson 2018; O'Donnell and Talbot-Jones 2018). It is unclear whether the VEWH represents the whole aquatic environment or the

¹¹ 'Member of an Aboriginal community having certain ancestral rights and responsibilities in relation to a particular tract of land or area of sea' (Oxford English Dictionary 2015)

rivers of Victoria in which they hold environmental water entitlements (O'Donnell 2012), however, they act as a guardian of the environmental water in Victoria (O'Donnell and Talbot-Jones 2018). Since EWMs have previously been used as a point of reference in order to learn more about the new developments of legal personality for rivers (O'Bryan 2017; O'Donnell and Macpherson 2017; O'Donnell and Talbot-Jones 2018) and since the Yarra/Birrarung Act and the VEWH operate in the same state, the VEWH will be the point of reference in this thesis.

In the chapter that follows the theoretical approach is presented.

3. THEORETICAL APPROACH: Co-management, property rights and legal rights

Rivers are an example of a Common-Pool Resource (CPR) which is a resource system from which it is difficult to exclude actors to take benefit of it because of the important size of the resource (Ostrom 1990). The theoretical approach thus start by presenting theories about co-management of CPRs (3.1) followed by theories on property rights of CPRs (3.2). The second section creates a bridging from co-management to property rights and then to legal rights for nature, presented in the final section on how the environment is constructed in law (3.3).

3.1 Co-management of Common-Pool Resources

Until the 90s, rational individuals were thought unable to manage CPRs for the collective good and the common was thus thought doomed to over-exploitation (Ostrom 1990). To solve that tragedy of the commons¹², the common had to be transformed either to public or private property. This pessimistic view of individuals' ability to coordinate and cooperate was not shared by everyone and in her ground-breaking work, Elinor Ostrom (1990) shows a number of cases where groups of individuals have succeeded in self-organising the sustainable management of a CPR. From her study of both successful and failing cases, she discerned eight design principles crucial to the successful management of a CPR (Ostrom 1990). These design principles have been reviewed by other scholars, but basically remain the same and read as follows: (1A) clearly defined boundaries between CPR users and non-users; (1B) clearly defined CPR boundaries; (2A) congruence between operational rules and social and environmental conditions; (2B)

¹² 'A term popularized by Garrett Hardin in his 1968 paper with the same name. The tragedy of the commons is the biological and economic over-exploitation of common-pool resources (CPRs) when there exists no property rights by users over a CPR, or flow of benefits from a CPR' (Grafton et al. 2011)

proportionate benefits for users based on their effort; (3) collective choice arrangements where affected users can change operational rules; (4A) monitoring of users; (4B) monitoring of the CPR; (5) graduating sanctions depending on severity of the offense; (6) conflict resolution mechanisms; (7) recognition of rights to organise by governmental authorities and (8) nested enterprises where governance activities are organised in multiple layers (Cox et al. 2010; Ostrom 1990, 2010).

Those examples of groups of individuals successfully managing a CPR have been put under the broad label co-management (Berkes 2002; Carlsson and Berkes 2005). Co-management is often defined as sharing of power and responsibility between the state and the community, however, there exists a plethora of definitions (Carlsson and Berkes 2005; Zurba et al. 2012). Those definitions have in common that co-management (1) is about the management of resources; (2) is made in partnership with public and private actors; and (3) is a process rather than a fixed state (Carlsson and Berkes 2005).

The success of the co-management approach is explained by the logic that solving CPR management problems is more effectively done in partnership (Carlsson and Berkes 2005; Zurba et al. 2012). By the co-management of a CPR, tasks are allocated on different levels and scales, where are found different skills and knowledge, hence increasing the efficiency of the management. By collaborating, resources such as information, knowledge, and technology are exchanged. Although it may be costly initially, costs are likely to be reduced in the long run given the increased efficiency of the management. Furthermore, risks are dispersed in the co-management system which increase its resilience. (Carlsson and Berkes 2005). Finally, the sharing of tasks, resources and risks improve conflict resolution and problem solving mechanisms and enhance learning and power sharing (Carlsson and Berkes 2005; Zurba et al. 2012).

The next section will treat another management approach to CPRs; management by the creation of property rights.

3.2 Property rights of Common-Pool Resources

By the creation of property rights, the incentives to care for and invest in a CPR are expected to increase and thus result in good management. Basically, there are two property rights systems; (1) community based management regimes for CPR (CBMR); and (2) tradable environmental allowances (TEA). The two systems are in many regards each other's opposite but have in

common that they create property rights and set an access limit to the CPR (Rose 2002). The two regimes are treated below.

CBMR are common property rights systems that usually have evolved over a long period of time. The resource access limit as well as the entitlements to the resource are usually based upon established community practices. Trading of the entitlements, especially with users outside of the community, is limited. CBMR are more often found for relatively small CPR systems since shared community norms and practices are prerequisites for its functioning. Since the CBMR typically evolve over a long period of time, the regimes tend to be complex which usually fits well with the dynamics of the CPR. This complexity, however, adapts worse to commercial changes (Rose 2002).

TEA regimes differ more from traditional co-management approaches than the CBMR. TEA regimes usually involve the CPR users to a lesser extent than is usually presumed by a co-management approach, which is why TEA regimes are referred to as systems of shared management (Tietenberg 2002). Contrary to CBMR, where the resource access limit is usually decided by the community itself, the resource access limit of a TEA regime is usually set by governmental authorities. Furthermore, in a TEA regime the resource access limit is more likely to be based on conventional science than on established community practices. In a TEA regime, access rights are created, allocated to the CPR users and traded between users in a transferable system (Rose 2002; Tietenberg 2002).

The theoretical assumption of a TEA regime predicts it to maximize the sustainable value of a CPR since the tradable access rights would flow to their highest valued use (Rose 2002; Tietenberg). To allow for this, the TEA regime needs to be simple so that trade occur in the way that theories predict it to. The simplicity of a TEA regime is expected to respond well to commercial changes whereas that same simplicity, however, fits worse to the often dynamic CPRs. Furthermore, TEA regimes are more suitable to large CPR systems. This is to do with the market properties of the TEA regimes – for a market to work properly, a large number of users is preferred (Rose 2002).

The last section of this chapter treat how the environment historically has been constructed in law – from a legal object to a legal subject.

3.3 Environment constructed in law

Already in the 1970s, Stone (1972) argued that legal rights should be extended to include nature. Stone's ideas were revolutionary at the time which can easily be understood given that it was not until in the 1960s that the environment was first recognised as a concept in law. The environment then has been translated into a legal object, which is how the environment traditionally is constructed in law, and more recently, into a legal subject (O'Donnell 2019). What that actually means is depicted below.

The environment as a concept in law is translated into a legal object in order to control and limit actions with an impact on the environment. This is how the environment generally is protected in modern environmental legislations. But since the environment as a legal object depend on others for its protection, it is legally weak. It has no voice and is not expected to speak for itself (O'Donnell 2019). This is what Stone (1972) argued against when he advocated for nature to become a legal subject and a holder of legal rights.

More recently, there are examples of nature constructed as legal subjects, as for instance rivers with legal personality (O'Donnell 2019). A legal subject is 'the subject of rights and duties. To confer legal rights or to impose legal duties, therefore, is to confer legal personality' (Smith 1928 in O'Donnell 2019, p. 22). As a legal subject, the environment is implied to have intrinsic value and start to count jurally (Stone 1972). For something to count jurally, three criteria must be met: (1) a holder of legal rights has legal standing in its own rights; (2) the injury of the holder of legal rights is considered independently; and (3) a holder of legal rights benefices of favourable judgments (O'Donnell and Macpherson 2018; O'Donnell and Talbot-Jones 2018; Stone 1972). To enable nature to exercise its legal powers, a guardian is appointed to speak and act on behalf of nature. This is referred to as the guardianship model (O'Bryan 2017; O'Donnell and Talbot-Jones 2018; Stone 1972).

This legal construct of the environment, however, is not perfect. Even though a legal subject does have real legal powers, the environment needs someone to act on its behalf, which is not always the case. Would the environment have someone to act on its behalf, funding is yet another prerequisite to enable the environment to exercise its legal powers (O'Donnell 2019). A more fundamental problem is how to know what the environment's interests are in order to adequately act on its behalf. Furthermore, it is unclear what the duties of the environment are and what the consequences would be in case the environment cause injury on other legal

subjects, as for instance the injury on people if a river flood (Burdon and Claire 2016; Stone 1972). So even though a construction in law as a legal person equips the environment with legal powers, there are significant issues that cannot be overlooked.

Based on the literature review and the theoretical approach, the following section will specify the aim and research questions of this thesis.

4. AIM AND RESEARCH QUESTIONS

For over ten years now, there is a trend of personification of rivers in water resource management. The trend may be divided in two sub-groups: (1) legal personality for rivers and (2) market environmentalism in water resource management (O'Donnell 2019). The enactment of the Yarra/Birrarung Act is neither a case of the first nor the latter, but the river is referred to in legislation as 'one living an integrated natural entity' and is equipped with a voice through the Birrarung Council (Clarke et al; O'Bryan 2017), which suggest that this too is a case of personification. The general aim of this thesis is to through an examination of this unprecedented case in comparison with the VEWH, the regional EWM in Victoria, learn more about why this trend of personification of rivers exists and what implications it brings. Such a comparison is motivated since the Yarra/Birrarung Act and the VEWH are operating in the same state and have overlapping responsibilities over the Yarra river. In prior scholarship, new developments of rivers conferred with legal personality have also been compared to EWMs (O'Bryan 2017; O'Donnell and Macpherson 2017; O'Donnell and Talbot-Jones 2018). Deduced from the general aim of this thesis, five more specific research questions are operationalised.

1. What are the motivations behind the enactment of the Yarra/Birrarung Act?
2. What are the outcomes of the Yarra/Birrarung Act?
3. What were the motivations behind the creation of the VEWH?
4. What are the outcomes of the VEWH?
5. Is there scope for conflict and/or compatibility between the Yarra/Birrarung Act and the VEWH?

In this chapter the research design and methods used for gather data as well as for analysing data and ethical considerations is presented.

5. RESEARCH DESIGN AND METHODS

In this chapter, the research design and methods used for gathering data as well as for analysing data and ethical considerations is presented.

5.1 Research design: Comparative Case Study

This thesis is designed as a comparative case study (Esaiasson et al. 2017) where the most recent and yet unprecedented case in personification of rivers, the Yarra/Birrarung Act, is compared to another, more common case of the same trend – the VEWH. These two cases have been chosen for comparison to discern if the Yarra/Birrarung Act share similar characteristics with the VEWH to help understand what implications the Yarra/Birrarung Act might bring. If they would not share similar characteristics, that could indicate that the Yarra/Birrarung Act marks a new direction in the trend of personification of rivers. Given the singularity of the Yarra/Birrarung Act, the results are not to be generalised on other personifying river management models, but aims to contribute with another piece of knowledge to the puzzle about personification of rivers.

5.2 Gathering Data: Key Informant Interviews

Since the Yarra/Birrarung Act was enacted just over a year before the writing of this thesis, key informant interviews seem to be the most suitable method of data gathering (Esaiasson et al. 2017). By interviewing those with expertise of the Yarra/Birrarung Act and/or the VEWH, the deepest and most nuanced knowledge possible will be provided (Lilleker 2003), given the time and resources available. Ultimately, the interview answers may add supplementary support to the theories presented in theoretical approach, or, if the answers would show little conformity with previous theories, may sow the seeds for other research inquiries or even new theories (Esaiasson et al. 2017).

The interviewees were chosen based on the principle of centrality and thus the ultimate goal was to include all those with expertise in the Yarra Act and/or the VEWH (Esaiasson et al. 2017; Lilleker 2003). Such a goal is largely unrealistic, yet again given the time and resources available. In the end, however, 18 people agreed upon an interview. These were located by two main strategies: (1) by contacting people mentioned in the media, in publications from public agencies or governmental authorities or authors of academic articles and (2) asking interviewees for other potential interviewees, the so-called ‘snowballing’-strategy (ibid.). The sample successfully included representatives from a wide range of relevant groups of interest (for the full list of interviewees, see Appendix 3). Concerning the Yarra/Birrarung Act, the different perspectives

from the interviewees seem to appropriately cover existing viewpoints and hence approach a theoretical saturation. That can be concluded as new perspectives became rarer after having conducted a number of interviews and since the already mentioned perspectives became repeated more frequently (Esaiasson et al. 2017). Regarding the VEWH, however, the interviewees' answers seem to draw a less complete picture. There are different explanations possible. Firstly, the Yarra/Birrarung Act was more topical than the VEWH at the time of the interviewing. Secondly, some interviewees had failed to notice that the thesis was about the Yarra/Birrarung Act *and* the VEWH. Lastly, it was more difficult to locate people to interview about the VEWH. This is probably to do with the fact that the VEWH, at the time of the writing of this thesis, was less topical.

The interviews are semi-structured (Esaiasson et al. 2017), which means that they were guided by a set of questions (see Interview Guide in Appendix 6) which, however, was not always strictly followed. This allowed for the interviewer to adapt the questions to the different interviewees in order to make the most of each interview. It also allowed for the interviewer to follow up, sometimes unexpected, answers of the interviewees (ibid.). Due to the lack of experience, though, the opportunity in being flexible and ask counter questions was not fully taken, mostly due to fear of asking leading questions.

The interview questions were of changing nature from quiet direct questions to more open ones (see Interview Guide in Appendix 6). Hopefully, the varying nature of the questions helped in identifying all motivations and outcomes of the Yarra/Birrarung Act and the VEWH so that the operationalised interview questions served the aim to answer the research questions and thus succeed in meeting a high level of validity. The validity is also affected by the reliability of the interviews. The reliability problems of this study concern miscommunication and misunderstanding between the interviewer and the interviewee as well as information loss when the recorded interview is transcribed to the written transcript (Esaiasson et al. 2017). In an attempt to minimize the loss of reliability between the recorded interview and the transcript, all transcripts were sent to the interviewees so that they could clarify potential misunderstandings (Esaiasson et al. 2017; Lilleker 2003). The interview answers may also have been affected by so called interviewer effects. The interviewer is a student which was mostly felt by the goodwill from the interviewees to assist in the study. This may perhaps have resulted in that the interviewees adapted their answers to what they thought the interviewer wanted to hear (Esaiasson et al. 2017).

The interviews with the 18 interviewees varied in duration from 20 to 70 minutes and resulted in a 102 pages' transcript.

5.3 Analysing Data: Qualitative Content Analysis

Content analysis is a method used to analyse text in both quantitative and qualitative research. A qualitative content analysis is used to interpret the meaning of a text by examining parts, the whole as well as the context (Esaiasson et al. 2017; Hsieh and Shannon 2005). The purpose of this study is to understand what the interviewees consider as the motivations and outcomes of the Yarra/Birrarung Act and the VEWH. A qualitative content analysis seems the most suitable (ibid.).

To adequately take on the data of this thesis, two different types of qualitative content analysis were used to allow for a combination of both predetermined and undetermined categories (Esaiasson et al. 2017; Hsieh and Shannon 2005). Those two types are (1) direct content analysis and (2) conventional content analysis (Hsieh and Shannon 2005).

The direct content analysis is a deductive method where categories are derived from existing theories and applied on the text. The strengths of the direct content analysis are that it can enrich, refine and extend existing theories (Hsieh and Shannon 2005). In this thesis, three categories are deducted from the theoretical approach (chapter 3) to be applied on the interviews. These three are (1) the Co-management, (2) the Market-based and (3) the Legal rights for Nature categories. Key words from the theoretical approach is put under each category so it becomes clear in what each category consist and so that the content of the interviews can be systematically categorised under those, see the theoretical tool presented in Figure 1.

<i>Co-management category</i>	<i>Market-based category</i>	<i>Legal rights for Nature category</i>	<i>Open category</i>
Collaboration	Allocation of property rights	Count jurally	
Community	CBMR	Guardian	
Conflict resolution mechanisms	Common/individual property rights	Holder of legal rights	
Learning	Entitlements	Intrinsic value	
Partnership	Maximize sustainable value	Legal person	
Power sharing	Resource access limit	Legal personality	
Problem solving	Shared management	Legal power	
Reduce costs	TEA regime	Legal rights of its own	
Resilience	Trade among users	Legal standing	
Resource exchange	Tradable access rights	Legal subject	
Self-organisation	Transferable system	Voice	
Sharing of responsibility			

Figure 1. Theoretical tool

The direct content analysis, however, is not the most suitable when little previous research is done on the subject (Hsieh and Shannon 2005), which partly is the case of this study. Then the conventional content analysis is a better fit which gets the categories inductively from the text. This allows for the analysis to get closer to the interviewees actual answers and to capture new and unexpected reasoning (Esaiasson et al. 2017; Hsieh and Shannon 2005). Evidence of new and unexpected reasoning is put under the Open category, see Figure 1. Next follows a description of how the analysing process was carried out.

Two copies of all interviews were printed. The interviews were read one at a time. Firstly, the interview was read to understand the ensemble of it. Secondly, a summary was made of each interview to get a better overview. Thirdly, the interview was reread as a whole and motivations¹³

¹³ Motivations were identified when interviewees said or implied that something was a driver/reason/motivation/other synonyms to the Yarra/Birrarung Act and/or the VEWH

and outcomes¹⁴ were identified and highlighted. All motivations and outcomes were then summarised. Fourthly, the interview was reread once more and content consistent with the predetermined categories were highlighted in three different colours whereas content inconsistent with the predetermined categories were highlighted in a fourth colour for the inductive category, the Open category. Lastly, the two copies of the interviews were compared to see how motivations and outcomes related to the categories.

5.4 Ethical Considerations

Ethical considerations are important in research projects involving humans. Participation in a study should be voluntary and based upon sufficient information (National Health and Medical Research Council 2018). Taking that into account, all interviewees who agreed on assisting in this thesis were sent a Plain Language Statement (see Appendix 4) together with a Consent Form (see Appendix 5). Participants in research projects should also be informed about whether their details will be kept confidential (National Health and Medical Research Council 2018). The interviewees had the option of being anonymous or letting their profession be reported in the thesis. All the participants agreed on the latter (Esaiasson et al. 2017). All participants also agreed on having their interview recorded (Lilleker 2003).

Since the study include representatives of the Wurundjeri, special consideration is required. The Australian Institute of Aboriginal and Torres Strait Islanders Studies (AIATSIS) (2012) lists guidelines for research that is somehow related to Australian Indigenous peoples. The researcher must recognise the diversity of Indigenous peoples as well as their traditional knowledge (see Appendix 1) (AIATSIS 2012).

In the following chapter, the findings from the interviews is presented.

¹⁴ Outcomes were identified when interviewees said or implied that something was a result/outcome/consequence/other synonyms of the Yarra/Birrarung Act and/or the VEWH

6. RESULTS AND ANALYSIS

Firstly, the motivations (6.1) and outcomes (6.2) of the Yarra/Birrarung Act are presented followed by the motivations (6.3) and outcomes (6.4) of the VEWH. The chapter is concluded with a section treating the Yarra/Birrarung Act and the VEWH in concert (6.5).

6.1 Motivations for the Yarra/Birrarung Act

From the multiple motivations that came into the interviewees' minds, five main motivations were identified. Those are (1) pressures on the river, (2) community engagement, (3) fragmentation of river management, (4) new river management arrangement elsewhere and (5) reconciliation. Those are treated thematically in the following sections based on the Co-management, Market-based, Legal rights for Nature and Open categories. The motivation pressures on the river, however, commence this chapter since those were not intuitively linked to a category in particular, but rather general.

The Yarra/Birrarung river have since the European settlement experienced a degradation of its state. Those historical pressures, from for instance industrial development, have caused an incremental decline of the state of the river. More recently, other pressures, mostly due to climate change and urban development, has also affected the river. All those pressures and the poor state of the river forms the underlying motivation for a need of new management arrangements.

6.1.1 Co-management category

From the interviews, it was understood that there had been community engagement for new management arrangement for the Yarra/Birrarung river. That the legislation eventually came into being is perceived as bottom-up policy making. Two Environmental NGOs, Yarra Riverkeeper Association and Environmental Justice Australia engaged with the community and the TOs in conversations and workshops and thus empowered those community voices. The community engagement was felt by the incoming state Labour government which made an election promise to enact legislation for the Yarra/Birrarung river.

Academic 2: There was just a lot of community interest. People wanted this, they've probably been wanting this for a really long time. So it was not a top down thing, that's a really important thing to know. This is not government saying "Hey, let's have better river governance!". It was community pushing for it and the government listening.

Another main motivation of the Yarra/Birrarung Act was to overcome the fragmented management which had historically been the case. Therefore, there was a need for agencies and councils to align their activities by starting to collaborate.

Water Policy Manager: There were numerous entities all wanting to, or who had responsibility to manage different parts of the river or the lands that are adjacent to the river, and so the driver for the [Yarra/Birrarung] Act was really to have all of those management agencies be working together.

The last motivation within the Co-management category is the will from governmental authorities for reconciliation with the Wurundjeri. The Wurundjeri have been marginalised in management since European settlement and by Wurundjeri participation, it enables for the Wurundjeri to fulfil their responsibility of caring for Country¹⁵ in general, and for the Yarra/Birrarung river in particular.

Academic 1: It's also part of what, you know, what their [the Wurundjeri's] obligations are to Country, to the Country as Traditional Owners of the Country and through it the Yarra flows [...] it is you know really important for them to be able to you know participate in that management cause it's an obligation they've you know had for thousands of years.

6.1.2 Market-based category

None of the main motivations fits into the market-based category based on the theoretical tool (see Figure 1, chapter 5.3).

6.1.3 Legal rights for Nature category

Simultaneously with the community agitation for new management arrangements of the Yarra/Birrarung river, Aotearoa New Zealand conferred the Whanganui river with legal personhood. A river guardian was created to act on behalf of the river. The development inspired the drafting of the Yarra/Birrarung Act.

Academic 2: This concept of them [the councillors of the Birrarung Council] being the voice for the river has really come from legal developments in New Zealand, like the Whanganui river, *Te Awa Tupua*, looking at what role Traditional Owners of Māori and Iwi tribe [...] their role with the river because the river has been given legal personality.

¹⁵ A term used by First Australians that 'encompasses an interdependent relationship between an individual and their ancestral lands and seas' (Common Ground n.d.)

6.1.4 Open category

As mentioned, a motivation for the legislation was to have reconciliation with the Wurundjeri so that they could fulfil their responsibility to care for Country. A motivation of the Wurundjeri is thus reconciliation with Country. Since it is not reconciliation with humans, it is better situated in the Open category than in the Co-management category.

Birrarung Councillor/Yarra Riverkeeper: The Wurundjeri, they're really charged with the need to look after landscape, look after the river. They had that responsibility, that obligation, but they could not do it [...] so that reconciliation with Traditional Owners if you like is reconciliation with land.

There are speculations that the legislation stem from a perspective different from those perspectives that traditional management relies on. This could be argued to be placed in the Legal rights for Nature category, since those theories about legal rights for nature are focused rather on the perspective of nature than on traditional anthropocentric¹⁶ perspectives. But due to the absence of legal personality in the outcome of the legislation, the motivation is categorised into the Open category.

Birrarung Chairman/Academic/VEWH Commissioner: I think the Yarra River Protection legislation [...] comes from a somewhat different place. [...] But they [the Yarra/Birrarung Act and the VEW] are both part of a trend [...] towards thinking about the environment differently and our relationship with the environment differently. [...] The Yarra River Protection legislation comes from a different place [than the VEW] ... [...] it kind of comes from the river's perspective.

In conclusion, there were five main motivations found whereas four of them, (2) community engagement, (3) fragmentation of river management, (4) new river management arrangement elsewhere and (5) reconciliation were categorised in varying extents under the Co-management, the Legal rights for Nature and the Open category. None of the motivations were categorised in the Market-based category. In the next section, the outcomes of the Yarra/Birrarung Act are presented.

¹⁶ 'Regarding humanity as the central or most important element of existence, esp. opposed to God or the natural world' (Oxford English Dictionary 2016)

6.2 Outcomes of the Yarra/Birrarung Act

Among the numerous outcomes that were raised during the interviews, three of them seem the most significant. Those are (1) the enactment of the Yarra/Birrarung Act, (2) the Birrarung Council and (3) the 50 Year Community Vision and the Wurundjeri Policy Document. Those are treated thematically in the following sections based on the Co-management, Market-based, Legal rights for Nature and Open category.

6.2.1 Co-management category

A major outcome of the enactment of the Yarra/Birrarung Act was the recognition of the Yarra as ‘one living an integrated natural entity’. That recognition has its origin in Wurundjeri perspectives.

Lawyer: The idea of the river as an integrated and living natural entity, which is in the purpose in the [Yarra/Birrarung] Act, also was a consequence, direct consequence of Wurundjeri involvement in the drafting.

The Yarra/Birrarung Act gave rise to a range of Australian and Victorian Firsts relative to the involvement of the Wurundjeri. Two examples are that the legislation is bilingual in its title and preamble and that the Wurundjeri held a speech, partly in Woi-wurrung, in Parliament.

Water Officer: Being able to present that [Yarra/Birrarung] bill to Parliament and you know speaking our language, you know it was history, not only for Wurundjeri but Aboriginal people, and we’re very honoured that the first time this has happened in Australia, it happened on our traditional Country.

There are concerns, however, that the degree of co-management will decrease as the management process of the Yarra/Birrarung river progress.

Lawyer: Non-governmentals were central to whole thing happening, and to the design of it, but I increasingly see a situation where non-governmental actors and community actors are marginalized in the governance and the management of the public management going forward.

The Birrarung Council is established as the independent voice of the river through its advocacy and advisory functions. It is composed by twelve people that represents different interests and expertise. A minimum of two seats are required for Wurundjeri representatives which is the first time in Victoria that Aboriginal representation is mandated. The current composition of the council has three Wurundjeri representatives. The Wurundjeri perspectives are expected to challenge other, more established perspectives on the river and its management.

Academic 2: To have Wurundjeri people on the Birrarung Council is really important because of the perspective on the reality that they're going to be bringing is going to challenge the other perspectives that exist around what the river is and where the river is, what people's obligations and relationship with the river should be.

The power of the Birrarung Council, although independent, will depend on support from the government, in accordance with one of the design principles of co-management (see principle 6, chapter 3.1). There are concerns that the government may restrain their powers.

Interviewer: Do you think that the Birrarung Council can and will be the voice of the river?

Strategic Town Planner: [...] It's largely going to be determined by what powers and authorities they are given, and that's going to rely on mainly the state government. My understanding of the current state government is that they will give them some powers, but certainly my experience with state governments, and all governments creating external bodies, they tend to hold them to the extent that they won't overrule the state government.

The mission of the Birrarung Council is to champion the vision of the community and the Wurundjeri. In order to do that, the council is led by two policy documents that were developed with the purpose to give a voice to the aspirations of the community and the Wurundjeri. Those two policy documents are the 50 Year Community Vision and the Wurundjeri Policy Document.

Birrarung Chairman/Academic/VEWH Commissioner: It [the Birrarung Council] described its purpose, its mission if you like, as championing the community vision and Traditional Owner aspirations for the Yarra river.

6.2.2 Market-based category

None of the three major outcomes fits into the Market-based category.

6.2.3 Legal rights for Nature category

With the Yarra/Birrarung Act, the Birrarung Council is established as a guardian and a voice for the river, in accordance with the Legal rights for Nature category. The council, however, has no legal powers. There are thus concerns that the voice may be ignored due to the lack of legal teeth.

Strategic Town Planner: That'll be my concern, that they're reduced to just being a voice, and can't do anything with that voice and everyone can just ignore them.

Despite its lack of legal powers, it would be possible in theory for the Birrarung Council to take legal action on behalf of the river. Although this is estimated as unrealistic.

Lawyer: In theory, the Birrarung Council as a separate, statutory entity could act as a person in litigation but it doesn't really have the resources of its own to do it.

A common critique to theories about giving legal rights to nature is the fundamental problem in knowing what the interests of nature are (see chapter 3.3). This problem was addressed in the interviews.

Lawyer: The identification of the interests of the river, I think, is actually one of the more pressing conventions of this exercise [...] ... You're going to have conflicting understandings of what the interests are and there's a whole range of interests.

But as mentioned earlier, the mission of the Birrarung Council is to be led by two policy documents stating the community's and the Wurundjeri's aspirations for the river. That raises the question if the Birrarung Council is actually the voice of the river or rather the voice of the community and the Wurundjeri.

Manager Community Engagement: Here's what the community aspirations for the river is [...]. This is what Melbournians wants for the river and the role of the Council is to support that.

6.2.4 Open category

The process leading up to the enactment of the Yarra/Birrarung Act was perceived as inclusive of Wurundjeri perspectives, and inclusion of other perspectives is typical for a co-management approach (see 6.1.1 and 6.2.1). The outcome of the inclusion of those perspectives, however, may result in something not previously seen in river management, which motivates a categorisation in the Open category. The inclusion of Wurundjeri perspectives and language may result in an ontological¹⁷ shift in river management.

Academic 2: The Yarra river, or the Birrarung, as it's known in ancestral language, wasn't being acknowledged as a legal person but it was being recognized as a whole, living integrated natural entity which was a big [...] which is a really big ontological shift.

An example of the implication of such an ontological shift is how the relation to the river may change. Traditionally, western law has been based on a transactional rather than relational relationship with the river. The legislation encourages reconceptualization of the relationship to the river with inspiration of Wurundjeri perspectives.

¹⁷ 'A theory or conception relating to the nature of being' (Oxford English Dictionary 2004)

Birrarung Councillor/Academic: Wurundjeri construct their relationship to the river as relational rather than transactional. So it's an ongoing, enduring, two-way process between the Traditional Owners and the river. They care for Country, they look after Country, they look after the river and they see it as a co-responsibility, a moral responsibility of theirs to look after the interests of the river. So from that perspective, that's a really profound difference to the way that white Australians have traditionally thought about their relationship to water which has been more transactional, it's been a resource management kind of framework, it's been about what can we get from the river, rather than what do we want for the river.

How the river was conceptualised in the Yarra/Birrarung Act is distinct from what is done with the creation of a legal person. Legal personality could be seen as an evolution of the legislation, but constructing the river as a legal person is not necessarily how TOs perceive the river. The legislation is more about giving the river status as a spiritual and cultural entity.

Birrarung Chairman/Academic/VEWH Commissioner: We're on a bit of a pathway, I think, through different way of thinking and a different relationship with the environment which is less about establishing property rights to exploit and then needing to establish property rights for the environment itself in order to constrain over-exploitation [...] to one [pathway] which, I think, the Yarra river protection legislation is trying to define the river not so much as a legal entity with property rights, as somehow an entity that has status with us in a, more of a cultural and spiritual sense.

From the interview with a Wurundjeri Elder, it demonstrates what a spiritual connection with Country could be.

Wurundjeri Elder: As an Elder, when I'm on Country [...] I never get bitten by snakes because I know they are there, they are protecting me. There's volcanic, volcanic rock or flood plain where I can sit down, I touch everything I can possibly touch, cause I know they [the ancestors] were there. All those thousands of years ago. So I get a very special connection when I'm on Country.

Another testimony from a Wurundjeri representative emphasises why the river should be recognised as an entity and have its own voice.

Water Officer: The river should be given a voice because it's more than just a river. It's a sacred place for Wurundjeri people, waterways are the bloodline for all Aboriginal people [...] She [a Wurundjeri Elder] says the Earth is our Mother and the waterways are the veins that run through her – so if we don't to look after the veins, you know, then our Mother is not going to be healthy.

In conclusion, there were three main outcomes found, (1) the enactment of the Yarra/Birrarung Act, (2) the Birrarung Council and (3) the 50 Year Community Vision and the Wurundjeri Policy Document. Those were categorised in varying extents under the Co-management, the Legal rights for Nature and the Open category. None of the outcomes were categorised in the Market-based category. The motivations and outcomes of the Yarra/Birrarung Act have been presented and hereafter follows a presentation of the motivations and outcomes of the VEWH.

6.3 Motivations for the VEWH

Four main motivations for the creation of the VEWH were discerned from the interviews. Those are (1) pressures on rivers, just as for the Yarra/Birrarung Act, (2) the marketization of water, (3) the creation of a federal EWM and (4) the Millennium Drought. Those are treated thematically in the following sections based on the Co-management, Market-based, Legal rights for Nature and open categories.

6.3.1 Co-management category

None of the main motivations fits into the co-management category based on the theoretical tool (see Figure 1, chapter 5.3).

6.3.2 Market-based category

As mentioned, there has been a range of different pressures on rivers historically. Recently, climate change and the competing demands for scarce water resources have made those pressures even more pressing. In the Australian context, water scarcity has always been an issue, which is one explanation of the different water management models that have emerged. Victoria was one of the first states to implement a water market in order to effectively manage their water resources and thus the response on the pressures on rivers was a market-based solution.

Water Unit Manager: Due to the increasing pressure put on waterways, particularly in the context of climate change, there is a need to legislate and enforce allocation of environmental flows.

With the establishment of the water market, water property rights are created and allocated to users who trade them on a transferable market. Initially, those water rights were solely allocated for consumptive uses which resulted in no remaining water for supporting the ecological functioning of the aquatic environment. This, in turn, highlighted the need to allocate water rights to the environment, especially in market systems where water rights are fully allocated.

Eventually this led to the creation of environmental water entitlements, in Victoria and elsewhere in Australia.

Birrarung Councillor/Yarra Riverkeeper: The giving of water to the environment is very much about the fact that we deprived the river of water and we are establishing a specific water entitlement that allows us to keep in place some of the ecological processes that are necessary to keep the river healthy. [...] So that was why that was established. [...] It's interesting that it sort of started here in Australia where... or perhaps because of, we don't have very much water! So the water we do have needs to be used well. So we now have these environmental entitlements. Of course it is in a framework of other entitlements because you can't have any entitlements unless you have... [...] other entitlements it's sort of... imply that thing.

Prior to the establishment of the VEWH, a federal EWM, the Commonwealth Environmental Water Holder (CEWH) was established. This made governmental authorities consider whether a similar organisation should be established to hold and manage the environmental entitlements in Victoria.

Birrarung Councillor/Academic: This was the first time Australia had created an organisation [CEWH] that was a bit separated from the minister to actually hold and manage water for the environment. [...] So Victoria was starting to think what would be the pro's and con's of setting up a similar kind of arrangement here? Would we do it in the same or would we do it a little bit differently?

Simultaneously, southern Australia experienced a severe drought referred to as the Millennium Drought (1996-2010). A few events highlighted the importance of having an independent organisation, especially when political pressures were high, to make decisions on how to best manage the entitlements.

Academic 1: The [Victorian] Environmental Water Holder in a sense was set up to be able to then enter that market place and be able to have environmental water to put towards the environment [...] because of the terrible and serious draughts that we've been going through. I think that was referred to as the Millennium Drought.

6.3.3 Legal rights for nature category

None of the main motivations fits into the legal rights for nature based on the theoretical tool (see Figure 1, chapter 5.3).

6.3.4 Open category

None of the main motivations failed to be fit into the predetermined categories Co-management, Market-based and/or Legal rights for Nature.

In conclusion, four motivations were found for the creation of the VEWH. Those (1) pressures on rivers (2) the marketization of water, (3) the creation of a federal EWM and (4) the Millennium Drought. All were categorised under the Market-based category. In the next section, the outcomes of the VEWH are presented.

6.4 Outcomes of the VEWH

Four outcomes are presented, two of them being general for the VEWH on its state-wide basis; (1) the establishment of the VEWH and (2) the four Commissioners. The other two are specific for the Yarra/Birrarung river; (3) the 17 gigalitre Yarra Entitlement and (4) the watering of the Bolin Bolin Billabong. The four outcomes are treated thematically in the following sections based on the Co-management, Market-based, Legal rights for Nature and Open category.

6.4.1 Co-management category

When the VEWH was established in 2011, three commissioners were appointed. In 2017, an Indigenous person from the Gunditjmarra tribe was appointed as the fourth commissioner and thus brings an Indigenous perspective to the management of environmental water. An example of how the VEWH incorporates Indigenous perspectives is the watering of the culturally important Bolin Bolin Billabong.

Birrarung Councillor/Academic: The Victorian Environmental Water Holder has always had three commissioners, they recently added a fourth [...] a Gunditjmarra man, and it's, one of his roles is to bring an Indigenous person's perspective into the management of that water as well so it's delivering on cultural values and spiritual values for Aboriginal people where that can be aligned with environmental outcomes. So one of the ways that started to happen is watering a very significant and special billabong, the Bolin Bolin wetlands along the Yarra, and getting the Traditional Owners involved in how they do that in a way that is actually effective.

6.4.2 Market-based category

The VEWH was established as an independent statutory corporation to hold and manage environmental entitlements in Victoria. Consequently, the VEWH, which may be interpreted as the aquatic environment, becomes just another user of entitlements and operates on the same level as other users. Whereas the others use their entitlements for consumptive uses, the VEWH hold and manage its entitlements for environmental purposes.

Birrarung Councillor/Academic: The organisation [the VEWH] has to have its own identity, so it's a statutory corporation, it has the same kind of legal structure to a water corporation, which means that it's operating on a level with these guys.

The VEWH have a specific Yarra Entitlement – a 17 gegalitre water entitlement each year. It is possible to sell the entitlement, however, trade is rare around the Yarra/Birrarung river since the competing demands for water is not that pressing. Water has, however, been taken from the Yarra entitlement and sold elsewhere.

Environmental Water Resource Planner: The VEWH has not been as relevant for the Yarra river [...] in the Yarra it's very clear that the water is directly for the environment and we get the same amount every year and you don't sell our entitlement, whereas up in the north, where you can sell water, if you wanted to sell the water and give it to agriculture [...]. So VEWH's role in the south, in Melbourne and the Yarra river, in the Tarago and the Werribee for example, is probably less, less relevant than the north where there's different competing uses and opportunities.

6.4.3 Legal rights for nature category

The VEWH is a statutory corporation with legal personhood. There are conflicting perceptions, however, whether the VEWH also could create legal rights for rivers, although indirectly.

Lawyer: The water holder is a legal person. [...] The river does not have legal personhood.

Birrarung Councillor/Academic: The Victorian Environmental Water Holder, because it is a statutory corporation it has legal personality. When you combine that with the water rights that it now holds on behalf of the environment, and its responsibility to use that water to make decisions on the behalf of the environment, in combination these thing start to create legal personality for rivers in an indirect way.

There is ambiguity too whether the VEWH is a voice for the river or not.

Waterways Director: I think the VEWH definitely doesn't represent the voice of the river. The job of the VEWH is to hold and manage Victoria's environmental entitlements and make the best decisions about how to use those entitlements. So it isn't a voice for the river.

Manager Community Engagement: You could argue that the water entitlement is speaking on behalf of the river. Here's the water, quantity and amounts or whatever required to sustain the river, that is one way of measuring you know the voice of the river I suppose.

6.4.4 Open category

None of the main outcomes failed to be fit into the predetermined categories Co-management, Market-based and/or Legal rights for Nature.

In conclusion, four major outcomes were found, (1) the establishment of the VEWH, (2) the four Commissioners, (3) the 17 gigalitre Yarra Entitlement and (4) the watering of the Bolin Bolin Billabong. Those were categorised to varying extents under the Co-management, the Market-based and the Legal rights for Nature categories. None of the outcomes were categorised in the Open category.

6.5 The Yarra/Birrarung Act and the VEWH – conflict or compatible?

Firstly, evidence for conflict between the Yarra/Birrarung Act and the VEWH is presented and discussed. Secondly, the arguments for compatibility are presented and discussed.

The Yarra/Birrarung Act and the VEWH differ in their objectives and geographical scope which could argue for potential conflicts.

Birrarung Chairman/Academic/VEWH Commissioner: There's scope for conflict, [...] in the purposes for the use of that water under the VEWH, it's exclusively for ecological outcomes, not for cultural and Aboriginal outcomes... and maybe because the VEWH has a state wide perspective rather than an individual river perspective, there could be some reasons for clashes.

Whereas there seem to be a risk of conflict, there are also other arguments that speak for them to be compatible. Firstly, the Yarra/Birrarung Act mainly manages land whereas the VEWH is exclusively about water management. They hence operate in different spheres and may be good compliments to one another.

Birrarung Councillor/Academic: It [the Yarra/Birrarung Act] is more integrated into a land use planning framework rather than a water allocation framework. So at the moment they probably just operate within different legal spheres

Similarly, the voice of the Yarra/Birrarung river through the Birrarung Council may be in conflict with the voice that some argues that the VEWH has. However, the Environmental Water Resource Planner at Melbourne Water argues for such a conflict to be unlikely.

Environmental Water Resource Planner: The environmental water is only one component of the Yarra river, there's a whole lot of other stuff, there's the land, the vegetation, there's land use, how people use the Yarra river. So environmental water is just one tiny aspect of it. I think being a voice for just that is fine, I think the Birrarung Council having a voice for the whole of the Yarra river, they've got lots of work. [...] I don't think there's a conflict, I think there's opportunity to engage with the [Birrarung] Council in the environmental water bit [...] the environment is just one little bit, and having a voice in that little bit – don't worry, there's enough in here to keep them going!

7. CONCLUSIONS

This thesis shows that there exist various explanations why there is a trend of personification of rivers and what implications that brings. Commonly for the Yarra/Birrarung Act and the VEWH, they were both driven by increasing pressures on rivers and other waterways. They were also inspired by similar developments nearby – the enactment of the Whanganui Act in Aotearoa New Zealand and the creation of the federal EWM, the CEWH. Whereas the Yarra/Birrarung Act was perceived as a bottom-up initiative, sprung from community or even the river itself, the VEWH was more of a top-down proposition, implying that the best management of environmental water was done on an arm's length from the political process. The Yarra/Birrarung Act has since the beginning of the drafting of the legislation been permeated by the will for reconciliation with the TOs the Wurundjeri and Country. This was not a motivation for the establishment of the VEWH, however, the importance of the inclusion of Indigenous perspectives was recently addressed with the appointment of a fourth Indigenous commissioner.

The Yarra/Birrarung Act as well as the VEWH transpired in the creation of overarching frameworks to overcome fragmented and inefficient management – although they did this in very different ways. The VEWH was established as a corporate organisation to manage environmental entitlements on a state-wide basis and thus became an extension to the traditional management model already in place; the water market. The Yarra/Birrarung Act, however, took a different approach on how to integrate management – by the recognition of the Yarra/Birrarung river as ‘one living an integrated natural entity’ equipped with a voice, with inspiration from Wurundjeri ontologies.

Ultimately, the two cases of study apply very differently to the theoretical approach. The VEWH conforms largely with the Market-based category, it shows some conformity with the Legal rights for Nature category and some recent outcomes conforms with the Co-management category. Contrary, the Yarra/Birrarung Act shows no conformity with the Market-based category, it conforms largely with the Co-management category and shows some conformity with the Legal rights for Nature category. Due to their obvious differences, it is difficult to draw conclusions about how the recently enacted Yarra/Birrarung Act will unfold based on experiences of the VEWH that has now been operating for a couple of years. However, there are elements of the Yarra/Birrarung Act that were not successfully situated within either of the predetermined categories, which motivated for categorisation in the Open category. This may imply that the

Yarra/Birrarung Act does not belong in either of the two sub-groups of the trend of personification of rivers, but rather it may indicate a new direction within that trend.

This thesis adds a piece to the puzzle of the multiple motivations why there is a trend of personification of rivers and what implications that may bring in terms of outcomes. The Yarra/Birrarung Act is yet just a case that fit neither in the first sub-group; legal personality for rivers, nor in the second sub-group; market environmentalism in water resource management. Would there be other personifying river management models that shows no conformity with those two but rather with the Yarra/Birrarung Act, that may indicate yet a third sub-group within the trend of personification of rivers. Further research is mandated, however, before such a conclusion can be drawn. The Yarra/Birrarung Act may, for instance, be compared further with rivers with legal personality (see Clarke et al. n.d.) but also with other natural objects that has been conferred with legal personhood or natural objects recognised as entities in different ways.

The Yarra/Birrarung Act is at the time of the writing in the phase of implementation and most of the implications of the legislation is yet to be seen. The particular Yarra/Birrarung model, however, with a council to speak on behalf of a river, is under investigation to be implemented for other rivers and waterways in western Victoria¹⁸. At the very least, that means that decision-makers as well as community have faith in the Yarra/Birrarung Act – which is always a good start!

¹⁸ Waterways of the West (WOW)

8. BIBLIOGRAPHY

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9. APPENDIX

9.1 Appendix 1: Recognition of the Wurundjeri

I acknowledge the Traditional Owners of Country throughout Victoria and Australia and pay my respect to them, their culture and their Elders past, present and future.

9.2 Appendix 2: Acknowledgements

I would like to thank my supervisor Felicia Robertson for your support and helpful advice throughout the writing of this thesis.

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Lastly, I would like to thank Jesse for letting me stay with you during my time in Melbourne, but first and foremost for being such a dear friend!

9.3 Appendix 3: Interviewed Organisations and Interviewed Roles

Organisation	Role
Birrarung Council/Monash University/VEWH	Birrarung Chairman/Academic/VEWH
Birrarung Council/University of Melbourne	Commissioner
Birrarung Council/Yarra Riverkeeper Association	Birrarung Councillor/Academic
	Birrarung Councillor/Yarra Riverkeeper
City of Boroondara	Strategic Town Planner
City of Manningham	Environment Officer
City of Yarra	Urban Planner
Department of Environment, Land, Water and Planning	Waterways Director
	Water Policy Manager
Environmental Justice Australia	Lawyer
Melbourne Water	Environmental Water Resource Planner
	Manager Community Engagement
	Senior Catchment Water Quality Planner
Minister for Planning, Housing and Multicultural Affairs	Senior Adviser
Monash University	Academic 1
RMIT University	Academic 2
Wurundjeri Woi-wurrung Cultural Heritage Corporation	Water Officer
	Water Unit Manager*
	Wurundjeri Elder

* Non-Aboriginal

Plain Language Statement

University of Gothenburg, Department of Political Science

Project: Bachelor Thesis about the Environmental Protection of the Yarra river

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Introduction

Thank you for your interest in participating in this bachelor thesis project. The following few pages will provide you with further information about the project, so that you can decide if you would like to take part in it.

Please take the time to read this information carefully. You may ask questions about anything you don't understand or want to know more about.

Your participation is voluntary. If you don't wish to take part, you don't have to. If you begin participating, you can also stop at any time.

What is this bachelor thesis about?

The bachelor thesis is about investigating the most recent changes in the environmental protection of the Yarra river. The focus is on the Victorian Environmental Water Holder (VEWH), that gives entitlements to the environmental water of the Yarra river, and on the Yarra River Protection (Wilip-gin Birrarung Murrn) Act 2017, that gives a voice to the river through the Birrarung Council. The purpose of the research is to answer following the following research questions:

Why give entitlements to the environmental water in Victoria? How does that change the environmental protection?

Why give the Yarra river a voice? How can that change the environmental protection?

The research questions will be answered with the participants' answers. The answers will be mapped out in order to draw conclusions on the arguments and reasons behind implementing such environmental protection as well as of its outcomes/expected outcomes. Quotes will be used to illustrate examples.

What will I be asked to do?

Should you agree to participate you will be asked a number of questions relevant to the bachelor thesis' topic. The questions may vary according to the person interviewed. The interviews may be audio-recorded, and if so transcribed. You can request a copy of the transcript of the interview and may make edits. The approximate time for an interview is 45 minutes, with possibilities to adapt to your wishes.

What are the possible benefits?

There will be no payment for your participation in this bachelor thesis given that there are no funds available. The potential benefits for society is a better understanding of giving rights to natural objects in natural resource management.

What are the possible risks?

No anticipated risks are associated with your participation.

Do I have to take part?

No. Participation is completely voluntary. You are able to withdraw at any time.

Will I hear about the results of this project?

The bachelor thesis will be handed in to University of Gothenburg as a part of the student's Bachelor's Degree. It will be disseminated to all participants by email.

What will happen to information about me?

The data will be used for this bachelor thesis only and will be stored on student's personal devices.

Where can I get further information?

If you would like more information about the project, please contact the student; Sofie Dahlqvist gussofieda@student.gu.se

Consent Form

Project: Bachelor Thesis about the Environmental Protection of the Yarra river

Responsible Student: Sofie Dahlqvist

Name of Participant: _____

I consent to participate in this project, the details of which have been explained to me, and I have been provided with a written plain language statement.

I understand that the purpose of this research is to investigate the recent changes in the environmental protection of the Yarra river.

I understand that my participation in this project is for research purposes only.

I acknowledge that the possible effects of participating in this research project have been explained to my satisfaction.

In this project I will be asked a number of questions relevant to the project's topic.

I understand that my interviews may be audio-recorded and transcribed with my consent.

I understand that my participation is voluntary and that I am free to withdraw from this project anytime without explanation or prejudice and to withdraw any unprocessed data that I have provided.

I understand that the data from this research will be used for this project only.

I understand that given the small number of participants involved in the study, it may not be possible to guarantee my anonymity.

I understand that after I sign and return this consent form, it will be retained by the student.

I agree that the student can use my working title Yes No

Participant Signature: _____

Date: _____

Interview guide

Description

This interview is about two recent changes of the environmental protection of the Yarra/Birrarung river. It is divided in four parts. First, I will start to ask a few general questions about you and your relation to the Yarra/Birrarung. I will then ask about the environmental protection of the Yarra/Birrarung river, focusing on the Victorian Environmental Water Holder (VEWH) in the second part and the Yarra River Protection (Wilip-gin Birrarung Murron) Act 2017 in the third part. In the fourth and final part I will ask about the relation between the VEWH and the Yarra River Protection (Wilip-gin Birrarung Murron) Act 2017. If you can't answer to some of the questions, we move on to the next ones.

Theme 1: The participant and the Yarra/Birrarung river

What is your profession?

How is your work related to the Yarra/Birrarung river? What is the role of your organization for the Yarra/Birrarung river?

For how long have you been working with the Yarra/Birrarung river?

Could you describe what the current environmental protection of the Yarra/Birrarung river looks like?

Theme 2: The Victorian Environmental Water Holder (VEWH)

In 2011, the entitlements for the environmental water in Victoria, including the Yarra, were handed over to the Victorian Environmental Water Holder (VEWH).

What were the reasons/arguments of the creation of the VEWH?

Do you believe that these entitlements create legal rights for the river? Do you believe that entitlements allocated to rivers in this way will improve their environmental protection?

Why should/should not the environmental water be given entitlements? What are the implications?

Are there other measures by which one can reach the same results?

In what way has the creation of the VEWH improved the environmental protection of the Yarra/Birrarung river?

Are there any complications or problems related to the VEWH?

Theme 3: The Yarra River Protection (Wilip-gin Birrarung Murrong) Act 2017

With the Yarra/Birrarung Act, the Yarra/Birrarung river got a voice of its own through the Birrarung Council.

What were the reasons/arguments of the enactment of the Yarra/Birrarung Act?

What were the reasons/arguments of the creation of the Birrarung Council?

Do you believe that the inclusion of the Wurundjeri in the Birrarung Council important for the environmental protection of the river?

Can/will the Birrarung Council represent the river?

Can/will the Birrarung Council be the voice of the river?

Do you believe that to give rivers a voice in this way will improve their environmental protection?

Why should/should not a river be given a voice? What are the implications?

Are there other measures by which one can reach the same results?

In what way can the enactment of the Yarra/Birrarung Act and the creation of the Birrarung Council improve the environmental protection of the Yarra/Birrarung river?

Are there any complications or problems related to the Yarra/Birrarung Act?

Are there any complications or problems related to the Birrarung Council?

Theme 4: The VEWH vs the Yarra/Birrarung Act

Are the VEWH and the Yarra/Birrarung Act easily combined?

Can there be a conflict between which one of them who are the voice/represent the voice of the river?

I have now asked all my interview questions. Is there something you would like to add?