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ABSTRACT

As freshwater development progresses around the world, institutions must shift from the paradigm of exploiting water resources towards managing water scarcity in a way that maintains adequate environmental flows to support the river's functioning, biodiversity, and many ecosystem services. Amidst the rise of market environmentalism, market-based solutions have gained popularity as a promising approach to reallocate water from existing uses to in-stream environmental purposes. Successful water transactions require a number of enabling conditions; this dissertation explores these conditions, the ways in which they are created, and the role of different actors in facilitating institutional change. The results indicate that philanthropic funders play a major role by enabling collective action, encouraging collaboration and efficiency in creating the necessary preconditions for successful transactions. This is connected to literature on philanthrocapitalism and the role that foundations play in shaping conservation discourse.

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1. Introduction

1.1 Freshwater scarcity: a global threat

Freshwater is widely recognised as indispensable for all forms of life, and is needed in large quantities in almost all human activities. Biophysical and socio-economic systems are interconnected, and anthropogenic climate change adds a major pressure to existing challenges of sustainable freshwater use (Bates et al., 2012). Water scarcity is already a reality in many areas of the world, including the North China Plain, the Indus River, the Colorado River, and the Murray Darling. As water development progresses, institutions must change from exploiting abundant water resources to efficiently managing demand in order to maintain environmental flows that support river basins' functions and their many ecosystem services (Molden et al., 2010).

As environmental flows gain increasing attention in water-stressed regions, market-based mechanisms have arisen as promising solutions to reallocate flows from existing users to the environment (Garrick et al., 2009; Wheeler et al., 2017). Though "water bureaucracies are notoriously slow to change," the transition towards effective demand management is urgent in light of current trends (Molden et al., 2010).

The Colorado River Basin is an exemplar of these larger global issues of water scarcity. Lessons learnt from studying this area are useful to inform freshwater conservation and management in other water-scarce regions around the world now and in the years to come. In an area of the United States where rain is sparse and the land is barren, the Colorado River (Figure 1) serves as an essential resource for both human societies and the environment. As seen in Figure 1, the river is divided into the Upper Basin and the Lower Basin, which is primarily for reasons of political expedience (Heinmiller, 2009). The river flows 1,450 miles from the Rocky Mountains to the sea, crossing seven states, northern Mexico, and the

Figure 1: Map of the Colorado River Basin (Reclamation, 2012)

jurisdiction of 22 recognised tribes (Reclamation, 2012).

The first basin-wide water management institution in the Colorado River Basin (CRB) was the Colorado River Compact of 1922, which had been negotiated by the states and approved by Congress. Over time, the river system came to be governed by a complex mix of more than 100 laws, court decisions, operational guidelines, and technical rules known as the Law of the River (Garrick et al., 2008). In each CRB state, rights to the consumptive use of water are granted to entities such as irrigation districts, municipalities, corporations, landowners, and Native American tribes. The rights are linked to land rights, and are honoured in the order of their creation according to a system of prior appropriation (Wildman and Forde, 2012), often called "first in time, first in right."

In an attempt to harness the potential of the river, capture floods, and put the water to "beneficial use," the United States government implemented exceptional works of human plumbing. The Hoover Dam was completed in 1936, followed by the Glen Canyon Dam three decades later. Combined, these double the system's water-storage capacity (Fleck, 2016). Smaller dams and canals enabled distribution of the Colorado River's water, which today provides municipal water for 40 million people distributed across the southwest and all of its major cities, those that are both within and outside of the basin (Reclamation, 2012). It irrigates over 5.5 million acres of agricultural land, provides hydropower, and supports a $26 billion tourism and recreation economy (American Rivers, 2014).

Unfortunately, the original agreements which determined the allocated amounts of water were established based on water-supply conditions during an anomalously wet period in the early 20th century (Gelt, 1997). This has resulted in severe over-allocation, which has impaired the resource so that very little of the river's water actually reaches Mexico. The water that does is highly saline, and the riverine environment has deteriorated significantly (Heinmiller, 2009). This problem is forecasted to be exacerbated by climate change and an increasing population in the western United States (American Rivers, 2014).

Laws invalidate water rights if the water is not put to beneficial use, and environmental flows are not considered as beneficial uses in all CRB states (Colby, 1988). As the basin's resources were developed, streamflow and other environmental uses were not protected, such as water for fish and wildlife, recreation, water quality, and scenic beauty (Szeptycki & Pilz, 2017). Along its entire course, the Colorado River and its tributaries support a diversity of different habitats, each with their own unique ecological profiles and threats that are specific to the region (Triedman, 2012). Prior to the construction of dams and diversions, the river carried water, sediment, and nutrients to its delta, supporting productive wetlands and forests that comprise a critical pinch point on the

Pacific migratory bird flyway and support marine productivity in the upper Gulf of California. Today, the final 100 km of the river consist of floodplains choked by invasive plants, long reaches of dry river channel, and widely spaced remnants of native plants fed by shallow groundwater (Kendy et al., 2017).

Though riparian zones account for less than 5 percent of the southwestern landscape, they support over 40 percent of all bird species found in the region and over 50 percent of breeding bird species (Wilsey et al., 2017). In the desiccated delta, accidental agricultural runoff at the Cienega de Santa Clara's mudflats allowed the growth of an important wetland habitat that plays a critical ecological role, including as a species reservoir that supports more than 75% of North American birds (Triedman, 2012).

As water supply conditions worsen in the CRB, existing supply-side approaches are ineffective for managing scarcity. Increasing attention has been directed towards water markets as a promising mechanism to drive sustainable water management (Richter, 2016) and as a tool for conservation organisations to acquire instream flows for environmental purposes. Philanthropic organisations, including the Walton Family Foundation and members of the Water Funders Initiative, have been supporting the implementation and growth of market-based systems as an innovative solution for water conservation (Julian & Weaver, 2018).

Water markets are widely viewed as a promising, progressive, and collaborative solution to water woes (Richter, 2016; WFI, 2016; Bakker, 2014). However, some are sceptical of the way in which market-based conservation commodifies the environment, and the way in which certain philanthropic foundations are driving water markets as a conservation tool (Wockner, 2017; Dyer, 2018). This dissertation seeks to explore the ways in which philanthropic funding is leading to conservation outcomes through supporting market-based solutions, and simultaneously investigates the role of philanthropic organisations in the conservation landscape. It will accomplish this goal through addressing the following research questions:

1. What is the impact of philanthropy on market-based approaches to freshwater conservation?

Specific sub-questions to be explored in the study area include:

A. What is the flow of the funding resources, and what is its impact on conservation organisations?
B. How is philanthropy creating the enabling conditions for market-based solutions?
C. How is philanthropy shaping the conservation landscape?

1.2 Analytical Framework

This dissertation project seeks to evaluate and further understand the way in which philanthropic funding is impacting market-based approaches to freshwater conservation through applying theory-based impact evaluation to the case study of the Colorado River Basin. The literature has called for greater use of impact evaluations in evidence-based conservation policy (Fischer et al., 2013; McKinnon et al., 2015). Given the amount of money invested in conservation initiatives, it is surprising that empirical studies and compelling data are lacking (Ferraro & Pattanayak, 2016).

As I investigate the ways in which philanthropic investment is shaping freshwater conservation outcomes, I aim to understand both *how* and *why* philanthropic dollars have an impact. Theory-based impact evaluation (White, 2009) attempts to shed light on the "why" question by using a theory of change and including quantitative and qualitative data in evaluation. Evaluation in the environmental arena is confounded by the complexity of systems in which practitioners work (Mickwitz & Birnbaum, 2009); thus, programme theories, logic models, and theories of change are important tools for focussing evaluations in regard to timing, scale, and stakeholders (Mickwitz, 2003). Authors have stressed that it is important to use several alternative theories of change, as to not limit the perspectives of the evaluation (Mickwitz & Birnbaum, 2009).

As seen in Figure 2, White (2009) identifies the following six principles of theory-based impact evaluation: (1) map out the causal chain (have a theory of change); (2) understand the context; (3) anticipate heterogeneity; (4) conduct rigorous evaluation of impact using a credible counterfactual; (5) apply thorough factual analysis; and (6) use mixed methods.

Figure 2: The six components of theory-based impact evaluation (from White, 2009)

Completing such an evaluation is beyond the scope of a master's dissertation. However, in this project, I seek to draw upon principles in evaluation literature and create an adapted theory-based impact evaluation model, which will be used to identify relationships between market environmentalism and philanthropic funding in a way that has not been explicit in previous literature.

An understanding of the context (2) is developed in the introduction and literature review. I began the research with a basic theory of change (1) which I utilised and adapted throughout the interview process to identify stakeholders and guide questions (Figure 3). Following the recommendations of Mickwitz & Birnbaum (2009), alternative causal chains will be presented as they were developed in the literature review and analysis (3). The methodology will shed clarity upon the design of the study and the use of mixed methods, which were employed in exploration of tax documents and foundation grant reports (6).

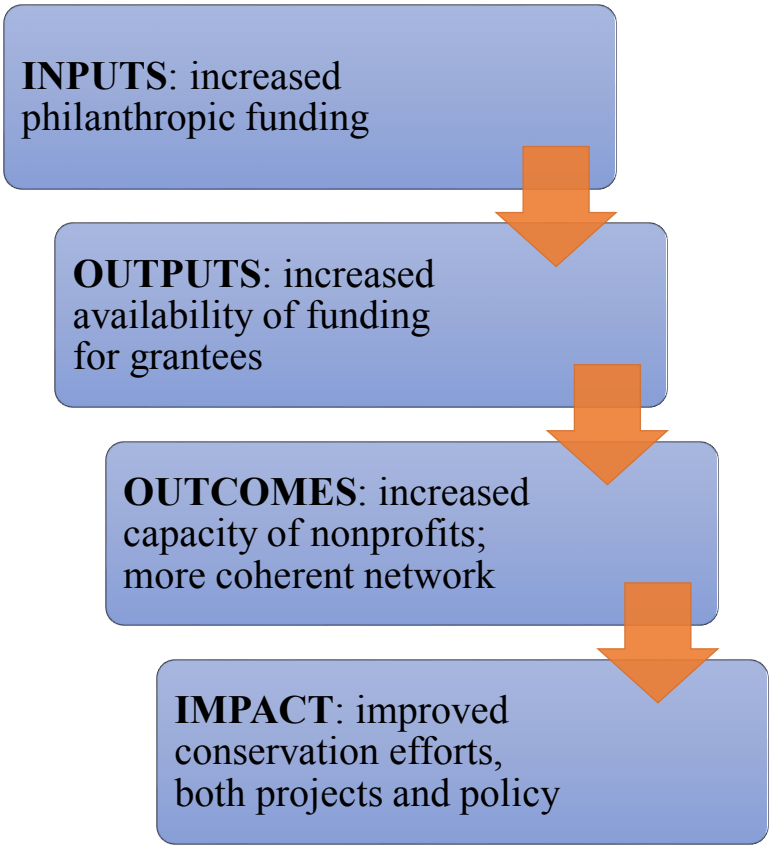

Figure 3: Preliminary theory of change before literature review and interviews

The results and analysis section will include a factual analysis of both quantitative and qualitative data (5), and the answers to the research sub-questions. Counterfactuals were explored during the interview process, which will be discussed in the analysis (4). During the discussion, the analysed results will be used to address the overarching research question and reveal insights to the way in which philanthropic investment is impacting conservation in the Colorado River Basin.

2. Literature review

In the literature review, I will explore two distinct but inter-related fields. First, I will discuss the application of markets as a tool for conservation—a strategy broadly referred to as market environmentalism—and its relevance in the Colorado River Basin. Next, I will investigate the role that philanthropy plays in driving conservation outcomes through a discussion of philanthrocapitalism, which explores the relationship between philanthropy and market environmentalism. Combining these two fields in a way previously unexplored in the literature will lead to an enriched analysis that improves our understanding of both fields in practice.

2.1 Markets on the rise

The past few decades have witnessed a rapid increase in the development of markets across a broad range of resource sectors. Payments for ecosystem services, REDD and carbon trade, conservation marketing, biodiversity derivatives, and species banking are examples of the market mechanisms that have soared in popularity in recent years (Arsel & Buscher, 2012). Market-based environmental policy statements, such as 'The Economics of Ecosystems and Biodiversity' (TEEB) and the UN's 'Towards a Green Economy' report have affected conservation in many parts of the world; subsequently, academic debates have arisen to question the neoliberal market panacea in environmental policy (Arsel & Buscher, 2012).

Freshwater is emblematic of broader debates over market environmentalism, which has often been proposed as a solution to the intertwined set of issues (human water insecurity, freshwater biodiversity loss, water-food-energy nexus trade-offs) invoked in debates over "the global water crisis" (World Econ Forum, 2011; Bakker 2014). The controversy inspired by debates about market environmentalism in the water sector is the result of water's multiple roles: "it is an economic input, an aesthetic reference, a religious symbol, a public service, a private good, a cornerstone of public health, and a biophysical necessity for humans and ecosystems alike" (Bakker, 2014, p. 471).

In the twentieth century, management and ownership of freshwater was globally dominated by the state, resulting in what Bakker (p. 471, 2014) calls the "state hydraulic paradigm.” Scholars have turned their attention to critiques of this paradigm: for example, geographers have highlighted the reconceptualisation of water as a key component of development, as states actively sought to control and develop water resources (Sneddon, 2012). Over time, an increase in general concern for the environment has led to a heightened awareness of the effects of hydraulic developments, both on ecological and cultural resources (Gleick, 2000). Within the state hydraulic paradigm, environmental considerations were generally overlooked; in cases such as the Colorado River, state management is associated with significant environmental degradation.

As described by Bakker (2014), market environmentalism is multi-faceted; its processes include privatisation, commercialisation, economic valuation, the liberalisation of governance, and marketisation. The final process, which is the most important in understanding the Colorado River Basin context, entails the creation of trading and exchange mechanisms with the goals of improving the efficiency of resource allocation and reducing consumption. Proponents of water markets argue that they are critically necessary as a means of allocating increasingly scarce resources to their most efficient uses.

Amid discussions of the application of market forces in conservation are a range of critiques; the literature on neoliberal conservation is large and challenging to summarise concisely (Holmes, 2015a). Though some believe that neoliberalisation of nature has occurred because capital sees the business of saving nature as a new frontier of economic expansion, with money to be made in conservation (Büscher et al., 2012), others posit that conservationists view neoliberalism as the dominant force in today's world, and therefore engaging with it can be the best way of conserving nature (Holmes, 2012). Renewed scholarly interest in the connection between conservation and capital interest can be ascribed to an accelerating application of capitalist forces in nature, an increase in the diversity of forms of capitalist conservation, the mushrooming of sponsored environmental non-profits, and the belief in market-driven solutions to environmental problems (Brockington & Duffy, 2010). Holmes (2015a) asks how and why conservation is engaging with neoliberalism, and calls for the sizeable literature exploring neoliberal conservation through the logics of capitalism to be complemented by further studies exploring conservation organisations' strategies and the rationale behind these. This dissertation will seek to contribute to this body of literature through investigating the application of market-based solutions as a conservation strategy in the Colorado River Basin.

2.2 Marketing the Colorado River Basin

An environmental water transaction is any agreement (or set of related agreements) by which "a water right holder, contractor, or user commits to a change in their water use and/or water right leading to legal or de facto protection of additional water in a waterway or water body to serve environmental purposes" (Aylward, 2013, p. 71). Such market-based approaches provide a means to move water from out-of-stream uses back to the environment during water shortages and in reaches where water is chronically over-allocated, aligning incentives with voluntary exchanges to protect the environment (Bennett et al., 2016). Voluntary approaches differ from regulatory approaches; the extent to which targets are met depend on a host of factors, including the extent to which finance is available to cover the costs of environmental flows and the development of market mechanisms that

lower the transaction costs of such transfers. Ultimately, their application will depend on a regulatory framework that is conducive to establishing environmental flows (Dyson et al., 2003).

The incorporation of environmental allocations into water markets and associated institutional reforms has not been seamless. Identifying and engaging with willing buyers and sellers is fraught with challenges, including legal impediments to market participation, high transaction costs, and impacts of transactions on third parties (Garrick et al., 2011). Water requirements for ecological needs develop within a larger context of environmental strategies put forward by state agencies, non-profit environmental groups, civil society, and the private sector. The ability of users to transfer water rights has only become legally possible in the study region within the last thirty years and, in general, states in the CRB have not implemented or approved as many environmental transfers as states in the Pacific Northwest (Szeptycki and Pilz, 2017). This is due to a variety of factors, which will be explored below.

2.2.1 Law and policy conditions

State laws and policies establish the basic framework for transfers; they represent the enabling conditions that determine what deals are possible if funding is available. The legal conditions will ultimately determine the scope of such markets as well as the ability to enhance stream flows through market mechanisms. A literature review by Szeptycki and Pilz (2017) found four issues that are consistently considered of high importance regarding a legal framework for environmental water transfers: the nature of the legal authorisation of environmental transfers; protection of instream flow rights; the scope of environmental water rights and transfers; and the process for approving environmental transfers and rights.

Though many states have multiple laws and policies to enable transactions, market activity remains low. This observation by Pilz et al. (2017) raises the question of what conditions might be necessary beyond the existence, on paper, of enabling law and policy. Incorporating environmental flows on policy and legislative agendas is normally dependent upon the agency that has responsibility for water resources management. Dyson et al. (2003) highlight the positive influence that access to financial resources can have in moving the policy and legislative agendas forward; identifying sources of influence to get environmental flows addressed requires understanding who might commit resources to see the issue seriously addressed.

2.2.2 Institutional capacity

Legal and policy conditions must also be coupled with sufficient institutional capacity. Though frequently discussed in the literature, ‘institutional capacity’ is a nuanced term that is infrequently defined. Among its implicit definitions are the ability to proceed with water market reforms, including legislative, planning, and regulatory capacities (Wheeler et al., 2017); and to

plan, implement, and coordinate transactions for environmental flows. This also includes the ability to monitor and enforce transactions to ensure compliance and effectiveness (Garrick et al., 2009b). In some studies, programme budgets serve as a proxy for capacity to implement transactions and invest in policy reform strategies to reduce transaction costs (Garrick & Aylward, 2012).

In this paper, I define institutional capacity as the collective capacity of organisations involved in water management to respond and adapt to changing conditions, which requires sufficient financial capacity, staff, and technical knowledge. An essential component of institutional capacity is organisational capacity, defined as an organisation's level of financial capacity, staff, and technical knowledge. Organisations with adequate capacity can play a role in the water resource arena, which includes reallocating water rights and undertaking the necessary planning, coordination, and oversight in pursuit of transaction partnerships (Garrick et al., 2009a). In cases where both institutional and organisational capacity are lacking, funding bodies are critical to bring in relevant specialists and essential data; they must be quite visionary to understand the role of various disciplines and see to the nation's future needs (Dyson et al., 2003).

2.2.3 Transaction Costs

Discussions of transaction costs often consider the cost of implementing a transaction once the water market exists. For in-stream environmental water to be purchased, the demand for such water must be coupled with sufficient financial resources to enforce the transaction (Bennett et al., 2016). However, there are also significant costs involved in setting up the water market. These include processes of information gathering, policy enactment, market design, and market implementation (McCann & Easter, 2004; Challen, 2000; Garrick et al., 2013).

Efforts to develop conservation strategies are shaped by the historical-institutional contexts in which they arise. In the CRB, the interstate apportionment institution preceded conservation efforts. The institution became politically unassailable and essentially locked in over time due to massive public and private water investment, the creation of water-dependent vested interests, and the institutional intertwining of the interstate apportionment with state water entitlement systems (Heinmiller, 2009). Because of this institutional lock-in, basin-wide water management is considered strongly path dependent, meaning that investments and adaptations in early resource management institutions make it difficult for actors to abandon these institutions (Heinmiller, 2009). The costs of the institutional transition must be accounted for, as well as the costs of "locking in" the new institution (Marshall, 2012).

Transaction costs also include challenges of identifying and engaging willing buyers and sellers, minimising expenses and overcoming prohibitive challenges such as hydrological, legal, administrative, and cultural complexities (Garrick et al., 2009b). Environmental water buyers

operate with relatively small budgets, limited capacity, and the uphill battle of negotiating with long-established irrigators who are often protective of their water rights and sceptical of water for environmental uses (Scarborough, 2010). The cost of meaningfully engaging stakeholders is often unrecognised (Jacobs et al., 2016); however, fear of third-party impacts generates political opposition to water trades (Libecap et al., 2010). Thus, addressing impacts of water transactions on third parties is of key importance for environmental water markets to be successful.

It is important for those interested in the creation of voluntary water markets to find partners and supporters from all sectors, fostering coalition at an early stage and finding credible individuals who are able to "champion the issue" (Dyson et al., 2003). Governance and jurisdictional issues will determine the level of coordination required to generate environmental benefits, and collaborative governance processes will be necessary to enable successful water transactions (Garrick et al., 2009a). There will always be a need to balance and coordinate between top-down and bottom-up processes to ensure that environmental flows take into account local conditions while basin-wide objectives are being achieved. The importance of community empowerment is multi-faceted, but at present undervalued in many parts of the world (Dyson et al., 2003).

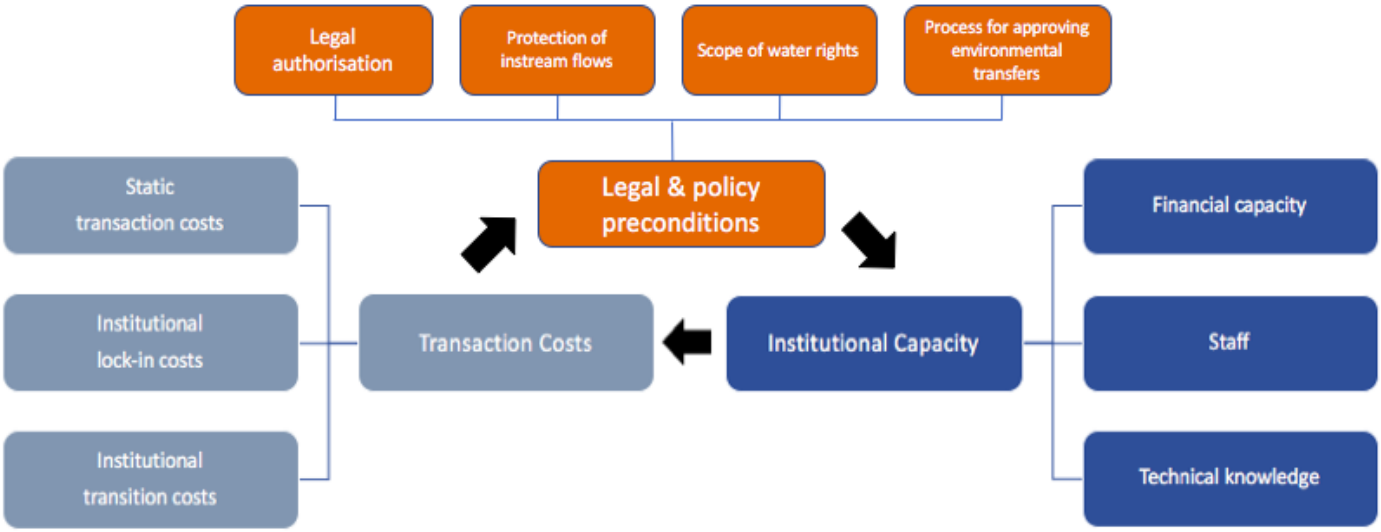

Figure 4: Causal chain depicting the enabling conditions for markets and the interactions between them (developed from Garrick et al., 2009b; Grafton et al., 2011; Pilz et al., 2017)

2.2.4 Interplay

As depicted in Figure 4, the enabling conditions for water transactions for environmental purposes do not exist independently of each other. The legal and policy conditions are insufficient to reallocate a single drop of "wet" water to environmental purposes on their own (Garrick et al., 2009a), but rather creates the institutional capacity for a market transaction to occur and determines

the organisational capacity required for a successful transaction. In this way, the institutional capacity determines the transaction costs, and the cycle perpetuates in order to lower costs and make the market increasingly efficient. Though market-based solutions lead to conservation outcomes, they do not independently determine what those outcomes are. Other conservation strategies are essential in shaping outcomes, and a host of barriers and external factors will also be at play (Figure 5).

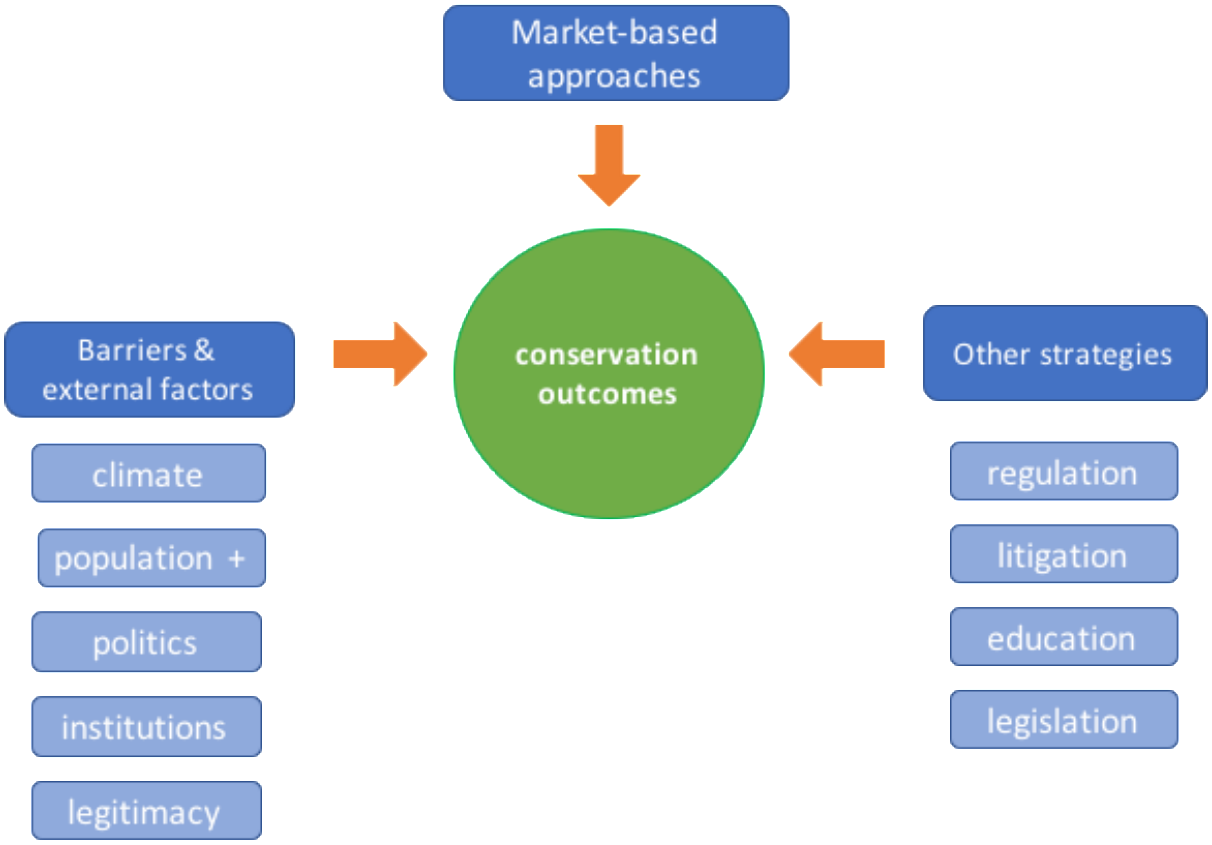

Figure 5: A suite of conservation strategies will lead to positive outcomes for the environment. Conservation actors choose from a variety of approaches. The success of each strategy depends on actors' ability to overcome barriers and adapt to the external context.

2.2.5 Collective action

One definition of "transaction costs" refers to the resources required to address collective-action challenges of exclusion and coordination in natural resource management (Cole, 2002). Collective action is required where adaptation involves the provision of collective goods (Ostrom, 1990). Because environmental flows are public goods, economic theory suggests that collective action amongst members of society will be necessary to overcome the transaction costs (Aylward, 2013).

In this paper, collective action is defined as the coordination required to establish and manage institutions that address exclusion, externalities, and free-riding problems in water allocation. Historically, collective action efforts in the CRB have been inhibited and delayed for fear that conservation rules might undermine the apportionment institutions in which governments and resource users were heavily invested (Heinmiller, 2009).

Collective action is required for successful water transactions, typically to establish demand for environmental flows and create "environmental buyers" in the market place (Garrick et al., 2009a). It has taken many different forms, including organisations that have self-organised to undertake transactions, and the private and public entities that have stepped forward to fund such transactions (Aylward, 2013). The environmental buyers, water user groups, and administrative agencies will require sufficient capacity to execute transfers and ascertain that they avoid harming other users and third parties through collaborative governance processes (Aylward, 2009). Collective action works to satisfy the necessary preconditions for markets (Figure 6). In addition to this, collective action is essential in addressing the many external factors and barriers that both shape and limit conservation outcomes, such as the political climate, population growth, climate change, the present institutions, and legitimacy of conservation actors (Figure 5).

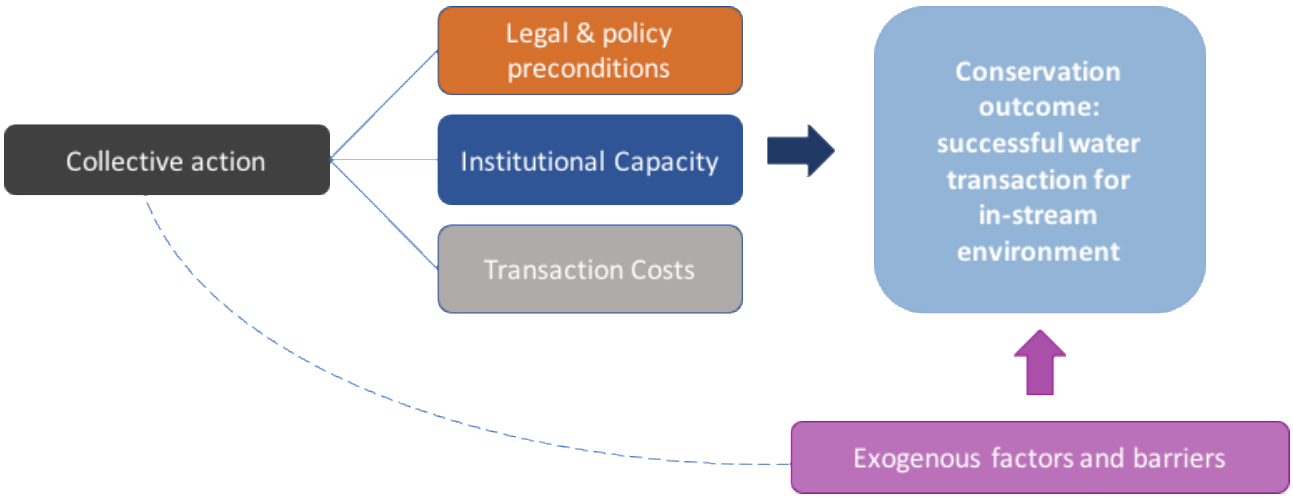

Figure 6: Causal chain demonstrating how collective action addresses the necessary preconditions for markets to produce conservation outcomes. Outcomes are also shaped by exogenous factors and limited by external barriers.

2.3 The role of philanthropy

2.3.1 The diminishing role of the state

Early activities related to environmental water transactions occurred through federal agencies. In the non-profit sector, water trusts with an express focus on environmental water transactions began to form in the early 1990s. Other non-profit organisations (such as the

Environmental Defense Fund, The Nature Conservancy, and Trout Unlimited) gradually became involved with environmental water transactions (King, 2004).

The role of the state in nature conservation is increasingly complemented or even replaced by the private sector, both for-profit and non-profit, with non-profit organisations becoming increasingly dependent on the private sector for funding (Ramutsindela, Spierenburg, &Wels, 2013). In the Western U.S.A., non-profit organisations play a large role in policy reform and implementation of water transactions, compared to the government-centred programmes in basins such as the Murray-Darling in Australia (Garrick et al., 2009b).

2.3.2 Enter: the private sector

Conservation everywhere is limited by financial resources; though some non-profits have large memberships, these provide a tiny fraction of operating budgets and serve primarily as a legitimisation exercise (Adams, 2017). According to Aylward (2013), any agency that wants to do water transactions needs two basic types of funding: acquisition funding to pay for the transactions themselves, and funding for everything else. It is often much easier to find acquisition dollars than it is to find money to support the organisations who undertake the transactions. Funding sources for non-profits can generally be broken into four categories: government, private foundations, mitigation, and private/corporate (Garrick et al., 2009b). To become effective players in the water transaction realm, non-profits require significant support from foundations and donors (Duane & Opperman, 2010).

Foundational philanthropy can be parsed into broad categories (Grossman et al., 2013). Traditional philanthropy is driven by the desire to address the pressing needs of society, and emphasises filling in gaps instead of the potential for systemic change. Beyond traditional philanthropy is strategic philanthropy, in which foundations play a much more active role. Examples of this are catalytic philanthropy, in which giving is aligned with a shared theory of change developed between a funder and its partners, and focuses on multifaceted solutions to complex problems. Further, organisation-building philanthropy invests in the grantee's own leadership, theory of change, and capacity, and focuses on the scalability of its impact.

The venture philanthropy approach arose in the last two decades as a form of strategic philanthropy that is closely related to organisation-building philanthropy, but seeks to increase the impact of philanthropic dollars using venture capital methods (see Letts et al., 1997). The approach utilises a partnership model that supports the non-profit's theory of change and growth strategy, in contrast to the subcontractor model followed by traditional philanthropic donors. The venture philanthropy approach to distributing philanthropic capital has made a contribution in shaping the

non-profit sector far in excess of its share of total philanthropic dollars (Grossman et al., 2013). Moreover, as government budgets for services tighten, philanthropists are likely to play an "outsized role in who withers and who grows" (Grossman et al., 2013). Farley (2018) called for further research on giving's influence on policy, noting that philanthropists are no longer only patrons, but rather their giving habits and choices are used to drive policy. She also calls for research into policy solutions to assess what could encourage givers to practice more effective and equitable philanthropy: giving that promotes discourse among network actors, and is inclusive of vulnerable populations.

2.3.3 Philanthrocapitalism

The influence of philanthropy as a geopolitical tool has been complicated by the links between philanthropy and the expansion of markets under global capitalism; this intersection has been referred to as "philanthrocapitalism" (Ramutsindela, Spierenburg & Wels, 2013), which refers to the broader phenomenon surrounding venture philanthropy, but is sometimes considered to be synonymous (Tedesco, 2015). Philanthrocapitalism is defined as a practice of philanthropic giving that advocates an increased role for capitalist actors, techniques, and market forces; philanthropy contributes to neoliberal conservation by supporting state rollback, providing alternative sources of money and expertise for solving society's problems (Holmes, 2012). Discussions on philanthrocapitalism have focused on issues such as poverty alleviation, health, and education rather than environmental issues (Holmes, 2015b). At the same time, analyses of conservation and environmentalism have not adequately explored ideas of philanthropy (Holmes, 2012).

The short-term effectiveness of conservation actors depends on their access to formal resources, of which foundation support is vital. However, foundation support channels actors into specific discourses and organisational structures that limit long-term impact (Brulle & Jenkins, 2005). Scholars of philanthrocapitalism are sceptical of the influence that the philanthropic foundations have on their grantees. Indeed, Brulle (2000) shows that mainstream organisations receive significant foundation support, while more radical organisations receive little support.

However, very few studies have actually tested the different perspectives and hypotheses on donations to environmental non-profits; many previous studies lack systematic substantiation from the grantees themselves on the effect of foundation support on their organisations (Delfin & Tang, 2008). Recent popular and scholarly literature on U.S. environmental philanthropy assert that foundation funding has generally had an adverse effect on environmental non-profits through explicit grant conditions, implicit expectations, and through institutional homogeneity that funding engenders (Delfin & Tang, 2008).

Three theoretical lenses are relevant to understanding the influence of foundations: elitist, pluralist, and resource dependency (see Delfin & Tang, 2008). Critics of elitism believe that foundation grant making adversely affects the missions of non-profits through programmatic and prescriptive grants, and that groups are not as autonomous as usually assumed, instead serving the interests of the elite. The pluralist perspective assumes a congruency of goals between the patron and interest group; foundations enhance the autonomy and performance of their grantees, channelling grassroots efforts into more professional activities and allowing greater mobilisation for specific causes. Resource dependency theory recognises an interdependency between foundation donor and grantee, and that foundations will select grantees that already have demonstrated capacities to carry out the funded project.

Research is surprisingly lacking in the literature as it relates to foundational philanthropy and conservation. Studies related to strategic philanthropy's impact in conservation include the David and Lucille Packard Foundation's shorter-term investment in California (Delfin & Tang, 2006; Duane & Opperman, 2010), the Gordon and Betty Moore Foundation's longer-term involvement in the Amazon (Hardner et al., 2017), and Douglas Tompkins' purchase of land areas in Chile (Holmes, 2015a).

In 2016, a group of foundations that recognise the urgent need to solve water problems joined together to form the Water Funder Initiative (WFI). Through collaborative processes of interviews and workshops that included a broad spectrum of stakeholders, the WFI developed a blueprint of priority strategies for philanthropy. These were to: shape healthy water markets, develop new funding sources, improve water governance, drive decisions with data, strengthen communications, build political will, and accelerate innovation. The group includes the S.D. Bechtel, Jr. Foundation, the Energy Foundation, the William and Flora Hewlett Foundation, the Cynthia and George Mitchell Foundation, the Pisces Foundation, the Rockefeller Foundation, the Walton Family Foundation, and the Water Foundation (WFI, 2016). The Walton Family Foundation began investing in the CRB in 2009 as part of their Freshwater Initiative Strategy, and are considered to be one of the key funders in the basin.

2.4 Research aims

This study uses an adapted theory-based impact evaluation framework to advance principles of evaluation as it applies to conservation. The literature review indicates that water markets are not free, neutral, or spontaneous; instead, the institutions that house them must be transformed. I hypothesise that philanthropic organisations are important actors in this process, and seek to investigate their role.

The research brings together the literature on market environmentalism and philanthropy in a way that has not been explicit in the literature. The unique period of the Walton Family Foundation's sustained investment provides a valuable case study to understand the influence of philanthropic organisations in freshwater conservation. The research aims to contribute to the emerging body of knowledge on philanthrocapitalism through using the Colorado River Basin as a case study, advancing our understanding in a way that is relevant to environmental non-profits, foundations, government agencies, decision-makers and stakeholders in water management.

3. Methodology

3.1 Research Design

Following the adapted analytical framework (Figure 2), a mixed-methods approach was utilised in the research, which employs strategies of inquiry that involve collecting different types of data simultaneously to best understand research problems (Creswell, 2003).

3.2 Mixed methods: collection and analysis

3.2.1 Qualitative data

Qualitative data was collected through 18 semi-structured key informant interviews that took place in June and July of 2018. Interviewees were selected based on their expertise related to Colorado River Basin issues, or based on professional affiliation with conservation organisations that work in the region. Purposive sampling methods were also used, as most interview participants recommended contacting other individuals with particularly relevant experience; however, most recommended contacts had been previously identified, with a total of two new interview participants added through this process. The interviews took place in-person when possible due to the sensitive nature of the topic of funding, as researchers are better able to develop rapport with participants in-person and thereby increase the likelihood of learning details about their views (Given, 2008). During the period of fieldwork in the Colorado River Basin states of Colorado, Arizona, and New Mexico, thirteen of the eighteen interviewees were available for in-person interviews. The five remaining interviews occurred over the phone.

In line with the analytical framework's component of anticipating heterogeneity, a semi-structured interview format was chosen to allow for the conversation to be adapted with each individual participant. Each interview was conducted with an interview guide that contained three main themes and recommended sub-questions (Given, 2008). The three main themes were: 1)

philanthropic funders, trends, and their importance to organisations; 2) changes attributable to philanthropic investment related to policy, projects, organisations and their networks; 3) opportunities and challenges of working with philanthropic funders. The semi-structured format allowed for themes to be discussed in varying sequence, and for appropriate time to be allocated to each theme based on the subject's expertise.

In total, the interviews took place with members of 13 non-profits, 1 government agency, 1 consultancy, 2 universities, and 1 foundation. To ensure anonymity, no organisations will be identified. However, for contextual purposes, the interviewees have been loosely described in Figure 7, which clarifies the main geographical focus of the interview participant as well as their affiliation with the Walton Family Foundation.

Interviewee	Current	Former	Never
A	x		
B		x	
C		x	
D			x
E	x		
F	x		
G	x		
H		x	
I	x		
J	x		
K	x		
L			x
M	x		
N		x	
O			x
P	x		
Q	x		
R	x		

Figure 7: Anonymised interview participants and their affiliation with the Walton Family Foundation. Participants are colour coded to signify if they work primarily in the Upper Basin (blue), Lower Basin (orange), or both basins (green).

3.2.2 Interview protocol, ethical concerns, and analysis

Interview participants were contacted via email using contact information that was available online. When the interview was scheduled, the participant was sent a participant information sheet and the written consent form. Before each interview was conducted, the written consent form was reviewed and the interview participant had the opportunity to discuss concerns, ask questions, and request anonymity. All subjects consented to being audio recorded.

The research followed emergent design principles, which involves data collection and analysis procedures that can evolve over the course of the research project in response to what is

learned; the questions change in response to new information and insights (Morgan, 2008). This was useful in this study, as I gained an increased understanding of the topic as the research progressed, and was subsequently able to adapt the interview questions to lead to more enriching and insightful conversations. However, the overall research question and three main themes remained fixed during the interview process.

The interviews were transcribed following the fieldwork period and coded using NVivo Software. Following emergent design principles, the data was first coded according to emergent themes in the interviews. These emergent themes were used to guide an extended literature review, which enabled emergent themes to be arranged in a way that best addressed the research questions. The themes were then re-visited and the interviews were coded into tighter categories.

3.2.3 Quantitative data

In this research project, quantitative data served two main purposes. First, it was utilised to inform the study and provide information about the flows of resources in the CRB. Second, quantitative data was used to support the analytical framework's component of "rigorous factual analysis" by triangulating interview data with 990 tax documents, foundation grant reports, and any other applicable documentary evidence, such as annual reports or press releases.

First, information was acquired in the form of publicly available documentary evidence (including grant reports from foundations, annual reports from foundations and conservation organisations, and tax documents). This data was used to trace funding flows in the Colorado River Basin and identify key funders and key grantees. Such data ensured the inclusion of small and large organisations. Additionally, as one major funder plays a disproportionately consistent and significant role in funding CRB organisations, such data ensured that groups (of various sizes) were included who operate with varying degrees of support from this funder. The number of organisations working in the CRB is large; thus, it was necessary to choose a smaller subset of organisations for this study. Organisations who are consistently funded for their work in the CRB were identified, and organisations of various sizes were selected to be included in the analysis, including some smaller organisations who had been funded because of their geographical location.

Next, Walton Family Foundation grant reports were used to chart the amount of money received by selected organisations since the reports became available in 2009. Totals specific to the CRB were given in 2012, 2013, 2014, and 2017. The data from these years were utilised to estimate percentages of CRB-specific funds for large organisations that receive several grants from the Walton Family Foundation, such as the Environmental Defense Fund, The National Audubon

Society, the Nature Conservancy, and the New Venture Fund. These CRB estimates are used in this report.

The Form 990 tax documents were used to quantify each organisation's annual revenue. Closed-ended questions were used in the interviews to identify significant funders in the CRB. These funders were then researched, and their grant databases were searched for further information regarding grant amounts to previously identified organisations of interest. Third-party funding organisations were researched using 990 tax forms to identify grantees.

4. Key findings and discussion

Participants will be referred to by their coded letter (for example, Participant K will be referred to as K).

4.1 Funds and their impact

4.1.1 Funding flows

As the literature review suggests, water markets and environmental transactions are not free, neutral, or spontaneous. Instead, they develop in institutions that must be changed and reformed to accommodate for water trading. I hypothesised that philanthropic organisations are important actors in the creation of markets and aimed to understand their influence.

In order to develop an understanding of the actors involved, I investigated the commonly-held belief that the Walton Family Foundation is the main foundation funding conservation work in the Colorado River Basin. In the combined interviews, which included current, former, and non-Walton grantees, the word "Walton" was the fifth most common word in the transcripts (used a total of 255 times by participants). Though some participants referred more often to the "philanthropic community" (G, R), the majority of respondents would often refer explicitly to the Walton Family Foundation in their answers. Participant I described them as providing the "lion's share of funding," and K summarised that "Walton remains heads and shoulders and probably torso above everybody else."

During interviews, many respondents (R, I, A, O, N, B, M) confirmed that significant changes had occurred within the last 10 years, with R explicitly referring to "an uptick in the last 8-10 years." This coincides with related grant reports from the Walton Family Foundation, which are available online from 2009. Figure 8 shows the sum of total foundation funding to the grantees selected for analysis, and tracks how it has changed over the years. Figures 9, 10, and 11 show the groups that were selected for analysis and divides them based on the average annual grant amount from the Walton Family Foundation. These were categorised as large (Figure 9), medium (Figure 10), and small (Figure 11).

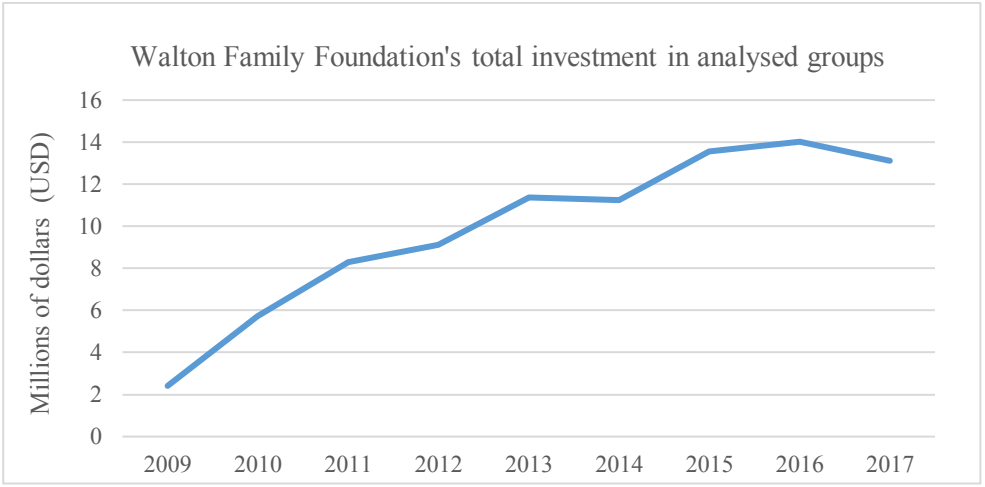

Figure 8: Sum of grants from the Walton Family Foundation given to the organisations selected in this study

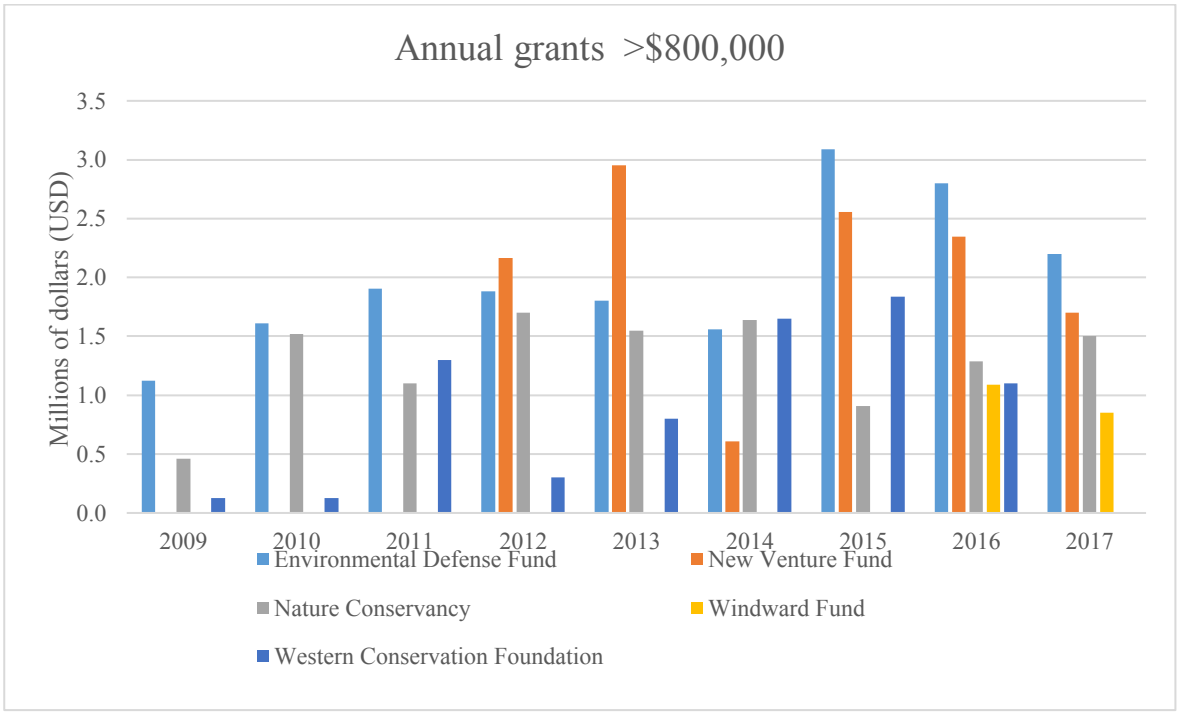

Figure 9: Grants received by "large" organisations, which averaged in excess of $800,000 annually

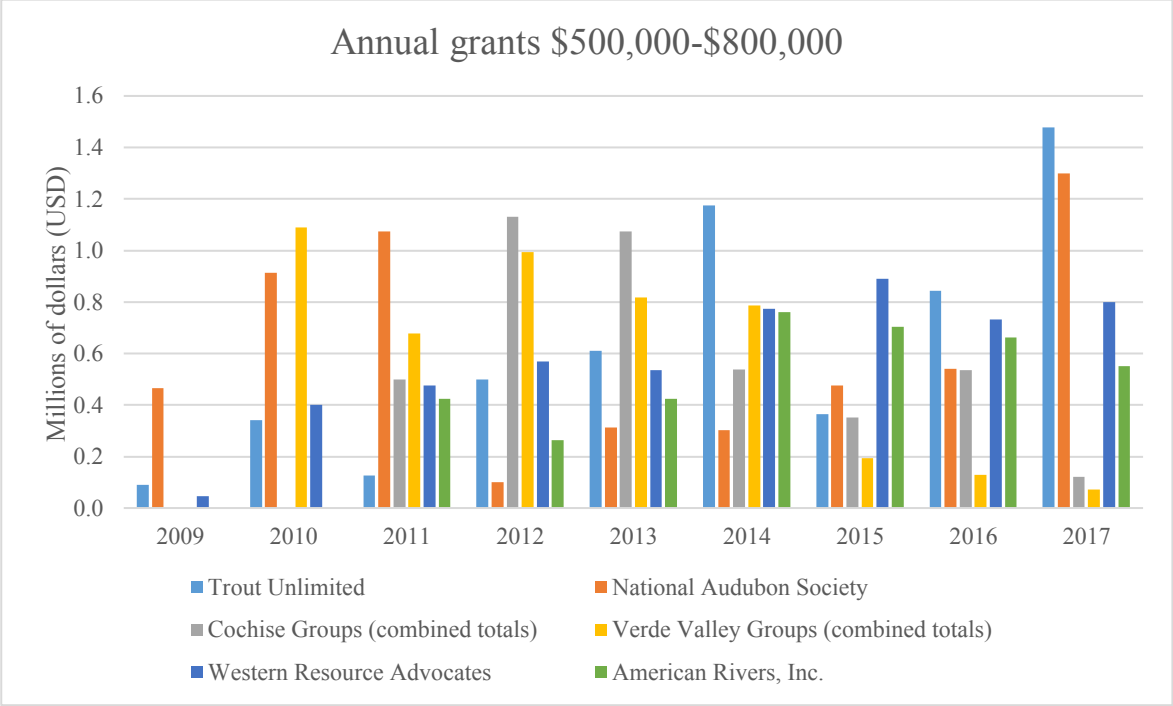

Figure 10: Grants received by "medium" organisations, whose grants averaged between $500,000-$800,000 annually. Multiple smaller organisations that perform coordinated work in a specific geography were combined (Verde Valley, Cochise County)

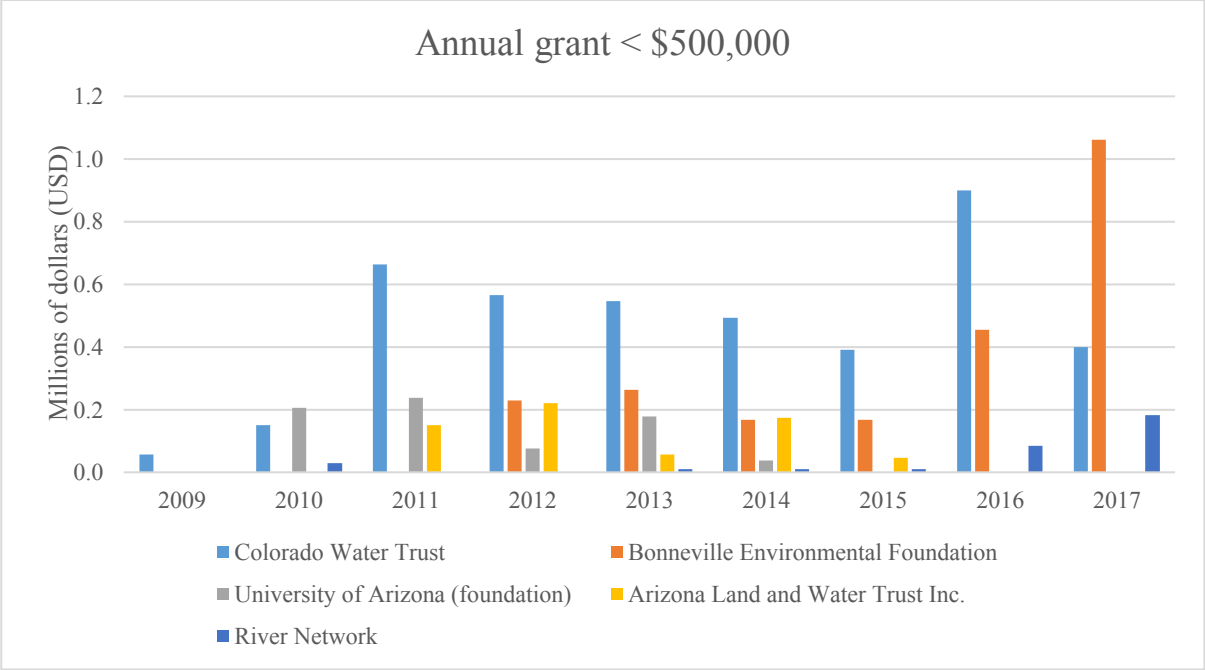

Figure 11: Grants received by "small" organisations, whose average annual grants averaged less than $500,000

When asked about who other major funders are, respondents frequently referred to significant former investment by the Packard Foundation, which has been discontinued in recent years (B, I, J, K, R). A major current funder in the state of Colorado is the Gates Family Foundation, which funds locally. Other funders (followed by the number of groups who mentioned them as active in the CRB) included the Bechtel Foundation (5), Hewlett Foundation (3), the Pisces Foundation (3), Bonneville Environmental Foundation (2), the Pulliam Charitable Trust (2), the Lyda Hill Foundation (1), the Rockefeller Foundation (1), the Campbell Foundation (1), the Harsch Foundation (1), and the Wingate Foundation (1).

A search of the databases of identified foundations, as well as members of the Water Funder Initiative, found grant information available with varying degrees of specificity and transparency. In some cases, grant information was not publicly available (i.e. the Mitchell Foundation and the Gates Family Foundation before 2016). In most cases, the grants were searchable, and a subset of the selected organisations of various size were searched for. Grants were only omitted if there was a description that eliminated it from association with CRB-related issues. Unspecific grants to California chapters of large organisations were also excluded.

The results (Figure 12) demonstrate that the Walton Family Foundation plays a much larger role than other "major" funders in terms of financial contribution alone. The results are surprisingly consistent between larger national organisations (Trout Unlimited, Nature Conservancy, National Audubon Society, American Rivers, Inc.) and smaller local organisations (Western Resource Advocates, Friends of the Verde River Greenway, Colorado Water Trust).

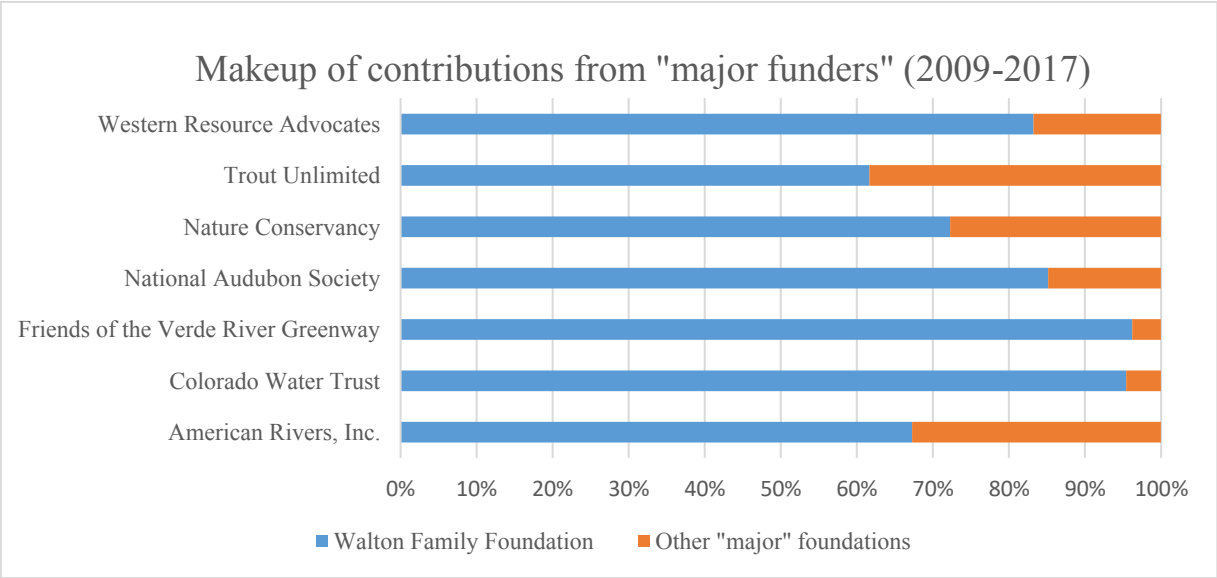

Figure 12: Interview participants were asked to identify large foundational funders. The Walton Family Foundation's giving to organisations was greater than the combined contribution from other major funders. The percentages shown are the averages from 2009-2017.

A different picture is painted when the Walton Family Foundation's contributions are compared to total non-government grant contributions as listed on each organisation's 990 tax documents; the smaller organisations are notably more dependent on the foundation for organisational support. This data has limitations, as the information for national organisations includes many different programmes and projects and does not necessarily reflect the strength of CRB-specific work. However, it is useful in understanding the outsized importance of Walton's funding for smaller conservation organisations.

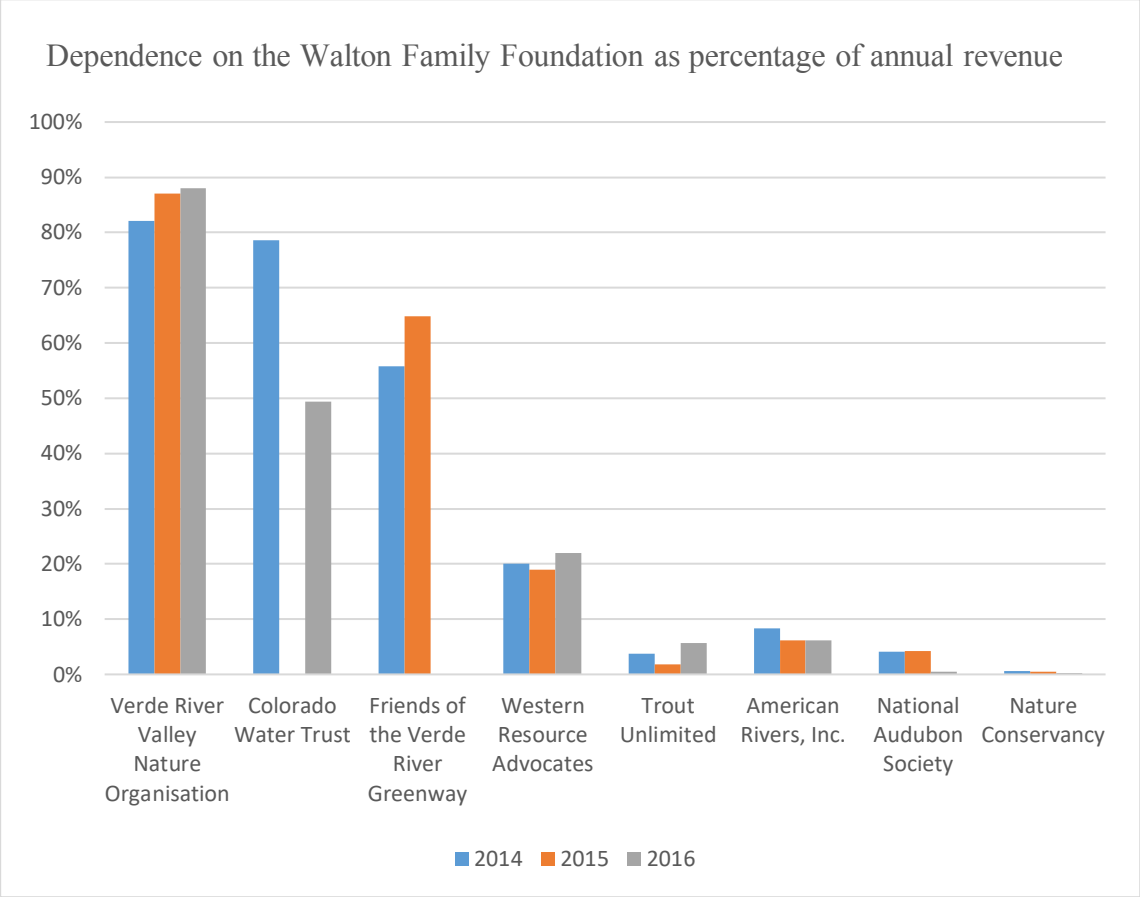

Figure 13: Organisation's dependence on the Walton Family Foundation as a percentage of their total non-governmental grant revenue reported in 990 tax documents.

4.1.2 The network

Many interview participants noted how the network of organisations working in the CRB has become more cohesive and technically proficient due to philanthropic investment. Three participants shared that their organisation was invited to join the collaborative effort by the funder in order to play a specific role. As M described, "Walton have helped to put a lot of savvy, qualified people into the field." In addition to the previously cited examples, some respondents also noted how changes in the network have given non-profits access to more contacts with expert knowledge

(B, M, R). O and D noted how this has occurred within philanthropic organisations, as the Walton Family Foundation hired a programme officer who is an "expert in the field."

An increase in technical knowledge was experienced by several of the interviewed organisations; many of the interview participants mentioned how philanthropic investment has increased their organisation's technical expertise. C, I and R mentioned the creation of specialised staff positions. An increase in the organisation's size was cited by 90% of the non-profits participants. In some organisations, this was larger than others; K's organisation has added a single new staffsperson, while M's organisation has added around fifteen. Similarly, F cited an ability to step into new roles due to the capacity provided by philanthropic funding.

O mentioned a general trend in non-profits moving away from litigious, confrontational roles and towards a more collaborative, cooperative role. An important enabling factor in this shift is the ability of non-profits to do the technical work necessary for participation in cooperative roles. Though this is often accomplished within an organisation's own staff and on-hand experts, partnerships with other organisations and consultants are beneficial. This was confirmed by R, who noted an increase in access to experts external to their organisation; the capacity of organisations to collaborate with other organisations was often mentioned as one of the greatest changes brought about by philanthropic investment.

Many participants spoke extensively about the ways in which philanthropic foundations have encouraged beneficial collaboration. Though such collaboration had been occurring in years prior (I & R), it has increased in the past ten years, and the involvement of philanthropic funders in supporting that collaboration has been essential to this increased activity (A, I, J, M, R). As Participant I said, "we've made a huge investment in collaboration with the support of funders who have really prioritised that collaboration, and I think this is perhaps the most remarkable or substantial change." A, K, and R noted how such collaboration allows organisations to work more effectively, and Participant I highlighted how such collaboration would be difficult for organisations to accomplish on their own, as they are often too busy and don't have the resources to dedicate towards such goals.

As a result of increased coordination, groups are working together with a shared vision and shared goals (A & R), which A believes would have been hard to "piece-meal together" and would "not have happened as efficiently without a funder." Q claimed that the spirit of collaboration and cooperation is unique to the CRB; however, P says that the funders encourage such collaboration to occur where it may not have occurred otherwise.

Through collaboration, non-profits can focus on what they can accomplish together and what each individual organisation's role can be (I), allowing groups to work together more efficiently.

Increased efficiency also occurs through the transfer of knowledge between groups (I & K). J shared that "part of the strength of the network is that it's a holistic enterprise that involves a lot of collaborative, integrated, strategic planning and operational coordination as well, so that's how they've influenced the development of a network, and they've changed the shape of the network too." In support of this, K shared that Walton has expanded the network in which they work, as they put organisations in touch with others who are doing similar work. D said that funding has expanded the number of groups interested in transactions, which means more people to run ideas off and more people to help take projects to scale. M confirms that it has increased the number of groups that they work with on a daily basis.

According to some participants, the increase in access to technical knowledge has had broader impacts and led to an elevated status of the environmental movement within in the Colorado River Basin. As B put it, "the more you know, the more you can transform." This has been brought about by funded groups "being brought up to speed on the technical side of water knowledge." Q recalls how environmental organisations have often been viewed as unhelpful, but that has changed, as they now have the expertise to help solve problems—a notion supported by similar comments from I, B and N.

An important component of theory-based impact evaluation is the use of mixed methods and a rigorous factual analysis; it was my hope in this dissertation to strengthen my findings by corroborating interview data with documentary evidence. However, the collaboration occurring in the CRB is informal and non-public by design. Collaborating organisations have support from very different constituencies, and they see risk in announcing their coordination and appearing to be a united front of environmentalists. They believe that this would be counter-productive as they continue to pursue collaborative, non-confrontational strategies.

Some believe that this might change, as each organisation continues to build trust and relationships, and demonstrates their continued loyalty to their mission and their constituencies. Participants say that the collaboration is "no secret," and though many people are increasingly aware that organisations talk to each other, they may be "surprised by the level of coordination." However, the only evidence of coordination is found in foundations' grant descriptions in which the money is given to a collaborative effort, such as the "Colorado River Collaborative" and "Colorado River Sustainability Campaign," neither of which have websites or available information. This is further obscured when the money is given to third party funders (for example, the Bechtel Foundation's 2014 grant to the New Venture Fund for the Colorado River Collaborative).

4.1.3 Projects: supporting market-based solutions and innovation

Transaction-based approaches were often discussed by participants as promising solutions that work within the current systems. This was highlighted by D, who believes that systematic change isn't going to happen anytime soon, and the best way to improve the situation is through transactions. O cited a trend of gravitation towards water transactions because they're the "best way to accomplish everyone's goals," which was reinforced by Participant I, who said that market approaches are "the best bet at maintaining healthy rivers *and* healthy rural economies."

Participant I described how such concern for agricultural communities has arisen as a result of the negative consequences of "buy and dry" techniques, in which water rights are purchased for use elsewhere and agricultural land is abandoned. This has far-reaching consequences on local economies, as well as for the vegetated landscape (A described this as concern about creating a dustbowl-like landscape). Participants emphasised that these are not the kinds of market-based transactions that current environmental groups are pursuing, but the historic mark of such practices has understandably made many water users wary of market-based solutions. Fear of third-party impacts generates political opposition; it is important for the third party impacts to be examined, particularly those impacts of water trading on irrigation-dependent rural communities (Libecap et al., 2010). Once these are addressed, a transaction can be successful (Garrick et al., 2011).

Philanthropic funding has enabled some organisations to overcome these obstacles by providing essential funds for on-the-ground work to build trust: they provide the money to protect farmers (A), protect water users from forfeiture (P), and cushion the downside risks (N). J mentioned that environmental groups want water markets to be guided to ensure the protection of rural communities, and C discussed how their organisation supports sustainable ranching in order to keep agricultural communities alive.

A described how philanthropic investment has enabled the creation of good programmes, where it makes economic sense for farmers to participate; "having the ability to demonstrate that such projects work has been positive." N and M mentioned that it has enabled the on-the-ground work to build trust with agricultural communities and irrigators and make such groups less wary of change. C noted that philanthropic funding is essential in transactions to cover the transaction costs and pay individuals for the water that they don't use.

Similarly, philanthropic investment has allowed for non-profits to put energy into innovative solutions, proving the value of transactions. For C, philanthropic investment allowed for their organisation to undertake transactions in an arid, groundwater-reliant area, thereby proving that water could be transacted in a dry riverbed. For their organisation, demonstrated success has led to large partnerships with the government. The same is true for F, who says that finding money for

innovation is challenging, and having philanthropic dollars allows conservation groups to try innovative solutions without the scrutiny of the taxpayers. Similarly, D described their organisation as thought leaders and provers of concept who "try things and see if they work" before scaling up new approaches. Many participants agreed that on-the-ground work enables groups to demonstrate successes and take things to scale, which leads to larger policy changes.

Several interview participants described how the new model of coordinated, strategic philanthropy has been essential in generating "wins" in the non-profit community. A common sentiment was aptly described by Participant P, who explained that "a lot foundations focus on funding a big, high-profile project and getting their name out there, or a project that's guaranteed to deliver results, whereas Walton has funded capacity to enable the development of programmes and trying innovative projects." It is important for prospective funders to understand the importance of the impact that such funding can have in freshwater conservation. Strategic philanthropy allows actors to organise the market and demonstrate successful programmes, a capacity-building step which thereby enables traditional philanthropists and government agencies to provide the funding for fixed transaction costs.

4.1.4 Legal & policy conditions

In order for laws and policies to facilitate environmental water transactions, progress must occur related to a variety of issues, namely: the nature of legal authorisation for environmental transfers, protection of in-stream flow rights, the scope of environmental water rights and transfers, and the process for approving environmental transfers and rights (Figure 4). According to Szeptycki & Pilz (2017), the CRB states must continue to work to meet these conditions. E explained that a lot of other funders are willing to step in and pay for a water transaction, but what many don't want to pay for is the years of legal and engineering work that it takes to get there.

Philanthropic funders were often credited for their assistance in the legal and policy aspects of water transactions. D noted that costs are currently opaque and transactions are cumbersome, and funders hope to change that by making the markets more efficient and environmentally friendly. D, J, and M cited that funders are attempting to create policy changes that will make transactions an easier, better option. R and F said that the philanthropic community has helped to identify legal and policy bottlenecks, which has in turn helped to create a more flexible water management system. Though not all organisations undertake policy work, some noted the importance of their colleagues' work in the policy realm towards making transactions more efficient, which serves as an example of efficiency within collaborative efforts. M noted how the variety of groups offered a variety of strengths in solving policy issues.

Q stated that the demonstration of successful projects and concepts can lead to policy change. This was true for F's organisation, which has "done enough project implementation that we're stepping into the policy arena." G cited the example of the "System Conservation Pilot Program," a collective effort involving urban water suppliers and the federal government to pay for water conservation measures, which received significant investment from the philanthropic community. Collaboration was visible as Trout Unlimited, the Nature Conservancy, and Walton Family Foundation all invested time and resources into the programme, which resulted in 22,116 acre-feet of water left in the system over the course of three years (Smith, 2018).

Other interviewees cited some situations in which foundation funding was essential for policy change, such as the Minute 319 and Minute 323 amendments to the 1944 treaty between the United States and Mexico (mentioned by B, I, Q, O). Some participants asserted that the ability to leverage foundation funding was essential in the success of the agreements, and that the outcome was a result of collaboration. The "Raise the River" partnership (www.raisetheriver.org) involves six U.S. and Mexican non-profits that are working towards restoring the Colorado River Delta. Among the list of many "major donors" on their website are several of the key funders mentioned by interview participants, such as the Walton Family Foundation, The Packard Foundation, and the Bonneville Environmental Foundation. Several of the listed donors are also Walton grantees (including the Bonneville Environmental Foundation, the U.S. Fish and Wildlife Service, and the National Fish and Wildlife Foundation).

As O noted, it remains to be seen if various projects are putting water into the environment in meaningful quantities. The focus of non-profits and foundations on market-based solutions has led to some obvious conservation outcomes through increasing environmental water. For example, the Colorado Water Trust (as seen on their website) has helped to restore 31,310 acre-feet of water to 316 miles of streams and rivers in Colorado (the majority of which are in the Colorado River Basin). Since philanthropic support enabled the Arizona Land and Water Trust to develop their "Desert Rivers Program," they have had increasing annual success, from their first transaction protecting 520 acre-feet in 2012, to 1,440 acre-feet in 2015, and over 2,530 in 2018 (ALWT, 2018).

4.2 Philanthropy as an actor

4.2.1 Creating institutional change

The apportionment institution that governs the Colorado River is heavily locked-in due to vested interests, massive investment, and the intertwining of state systems within the larger federal structure (Heinmiller, 2009). In order for water transactions and market-based approaches to be successful, the enabling conditions must be created within this current institution. However, water

management institutions are often inflexible and resistant to change (Heinmiller, 2009; Molden et al., 2010).

The results indicate that philanthropic investment is playing a major role in creating the changes necessary for market-based approaches to be successful. This occurs as philanthropic funders enable the collective action that allows for groups to organise and address the necessary changes in a coordinated fashion. Collective action has proven integral to the legal and policy reforms, including the reform of regimes, the recognition and specification of environmental flow needs, the development of authority and capacity to transfer water rights for environmental purposes, and collaborative governance arrangements (Garrick et al., 2009b).

A key element in establishing a structural setting conducive to successful large-group collective action is governance by a third party; they can be self-organised by the group or provided by some external entity" (Marshall, 2013). The results of this study indicate that philanthropic actors can play a major role in freshwater conservation through providing third-party governance and enabling successful collective action. Strategic philanthropic giving in the CRB, majorly credited to the Walton Family Foundation, has created coordination among conservation actors. This has been essential in enabling efficiency and enhancing the ability of groups to create the conditions for successful water transactions, which can ultimately lead to conservation outcomes (Figure 14).

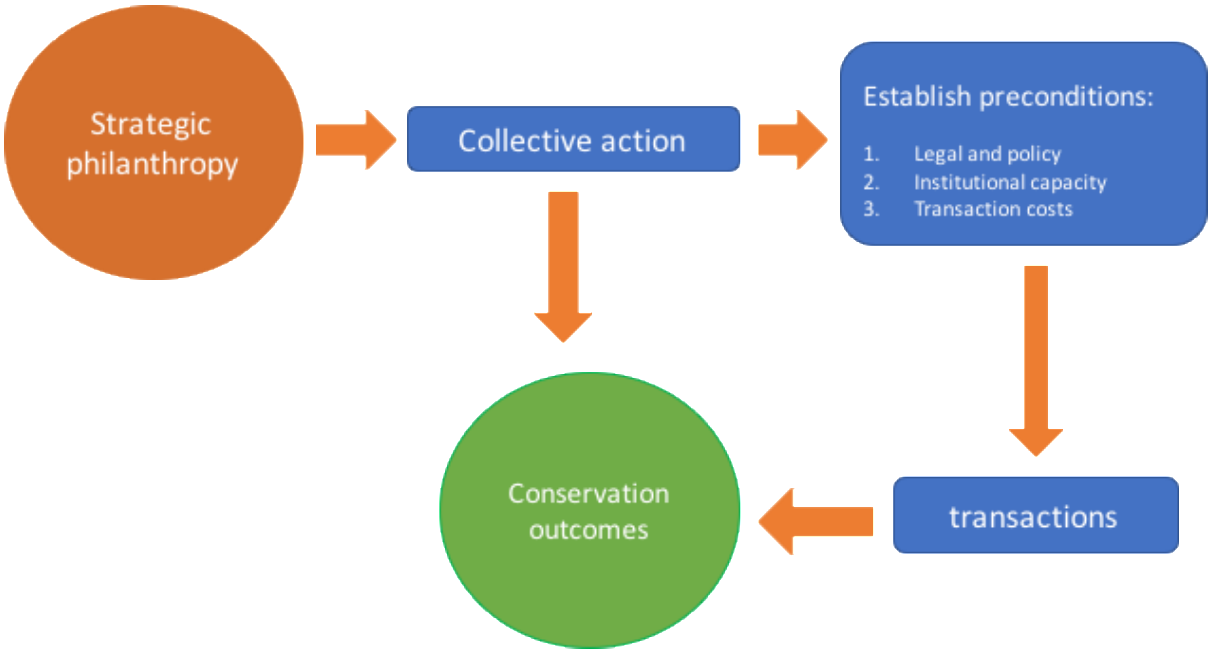

Figure 14: Strategic philanthropy enables transactions to lead to conservation outcomes in the CRB through enabling collective action. This collective action establishes the necessary preconditions for markets to exist, works toward overcoming barriers and addressing external factors.

As institutions around the world adapt to changing conditions and figure out how to effectively manage scarcity, the inclusion of environmental interests will likely require representatives to champion the issues. Creation of the enabling conditions for water markets may be expedited as transactions for consumptive uses become increasingly desirable, such as the purchase of irrigator water rights for use by a municipality. Within such an institution, philanthropic funds can be used to purchase water rights for the environment, and collective action can create demand for environmental water. However, as environmental actors gain collective capacity through coordinated efforts, environmental considerations may become embedded within the greater institutional framework as the institutions gradually adapt. Access to financial resources through the support of philanthropy is essential in getting environmental concerns on the agenda, and moving those agendas forward (Dyson, 2004).

The interviews highlighted the ways in which coordinated philanthropic giving has allowed for the inclusion of environmental voices in decision-making related to water in the CRB. For example, one interview participant had noticed an increase in the number of non-profits present at the Colorado River Water Users Association annual conferences. Three participants noted a shift from environmental interests being nuisances in the past to being partners with meaningful solutions today. "Environmentalists regularly say 'hey, don't forget about us,' but Walton is allowing them to say, 'I understand the system, I see what you're doing, and I think you should change that'" (B).

4.2.2 Shaping conversations

There was widespread acknowledgement of the shift of non-profits away from confrontational tactics and towards more collaborative solutions (J, K, and R), with participants often noting that other strategies had not made good progress, though they are still at play (O & I). Though there has been increased energy around markets in the last 5-6 years (R), D believes that market-based solutions also receive more news coverage because they aren't as political, so there are "little wins more frequently." Many are signing on to the transaction approach because it's the only way many organisations believe change will occur.

Participants were very aware of critiques that their work was donor-driven, and many firmly disagreed. Participant I noted that market-based strategies are happening all around and are not just an environmental strategy; J noted that they've been discussed in the academic and water law communities for a while, and P noted that they've been implemented by states and other water providers. This can be seen in comments from D, who explicitly said, "the work is not donor driven," and Participant I, who said, "I take issue with the idea that we're instructed what to do." Many participants emphasised the collaborative relationship that organisations have with funders,

specifically Walton. This can be evidenced by Q, who says that "Walton likes to do things *with* people." A, G, I, J, and K all emphasised the collaboration involved between the funders and the grantees. A and G said that funders' strategic plans are influenced by organisations just as much as organisations' strategic plans are influenced by funders. G stated the example of the Water Funder's Initiative, which has been very active in seeking input from diverse stakeholders.

M, P, and R acknowledged that Walton has made more money available for a certain type of work, and that many of their grantees do similar work; however, they stress that their organisations would be prioritising that work regardless of Walton's support. C explained that it is important to be flexible, because "to a certain point, you need to go where the money is, while still being true to your mission."

Most participants did not think that the emphasis on market-based approaches were negatively impacting the conservation community; instead, many argued that other approaches had been at play in the years prior with little success. Participants saw the necessity for an "entire ecosystem of environmental groups, with all of the different approaches able to flourish" (I). Many agreed that in an ideal world, more funding would be available for other strategies, but all participants agreed that the strategies receiving funding from key players, such as the Walton Family Foundation and other members of the WFI, were those that showed the most promise of having a near-term impact.

The environmental groups engaging with market forces in the CRB fit into Holmes' (2012) explanation that conservationists view neoliberalism as the dominant force in today's world, and therefore engaging with it can be the best way of conserving nature. Many commented that transactions are the best way to get things done within the current system. As Participant B described, "Could the laws be written in a more environmentally friendly way? Of course they could. But there is a lot of opposition to that. It takes a very, very long time to do something like that. It might even involve changing the constitution. And in the meantime, you can do an awful lot of good with transactions."

Answers from grantees align with the pluralist perspective of philanthropic funding, which downplays the potential goal displacement, instead seeing foundations' priority as to enhance the autonomy and performance of their grantees rather than controlling their leadership, potentially channelling grassroots organisations into more professional activities (Delfin & Tang, 2008). An example is C, whose organisation formerly received Walton funds, and is still thriving in the absence of Walton funding. In support of pluralist theory, the foundation's support strengthened the organisation and contributed to their long-term autonomy and effectiveness.

However, this may not be true for all grantees. In some cases, smaller organisations were heavily dependent on funds from the Walton Family Foundation (see Figure 13). As an example, the Cochise Water Project, Inc. received 96% of its revenue from the Walton Family Foundation in 2015, and 88% in 2016. This seems to fit much more with the "co-optation" thesis that is held by the elitist perspective of philanthropic funding (Delfin & Tang, 2008). Following this thesis is a Gramscian view of foundations in which the elite push for societal predominance, using foundations to articulate a basic worldview that becomes society's common sense (Karl & Katz, 1987). Instead of the cooperative situations described by the interview participants, organisations are tools through which the foundations enact their strategies.

It is apparent that philanthropic funding is shaping conservation in a way that favours water markets and market environmentalism. Project work, policy work, and networking elements are being driven to support the strategy of using transactions for in-stream environmental purposes. Though there are many benefits to funders supporting collaboration, such a paradigm can also impose obstacles. L, who does not receive funding from the Walton Family Foundation, explained that grantees working together are "more likely to respond to the needs of their funder to keep the relationship, and when a group on the outside disagrees or wishes to comment on the strategies, it's difficult for that group to make a case."

This echoes a critique from the literature, which holds that that foundation support channels actors into specific discourses and organisational structures that limit long-term impact (Brulle & Jenkins, 2005). Similar to the results of Brulle (2000), which found that mainstream organisations receive significant support while more radical organisations receive little, interview respondents were aware that the Walton Family Foundation tends to fund organisations in the "radical centre," and are less inclined to fund outside of that.

R expressed concern that a lack of diversity in the funding community is causing missed opportunities to explore other pathways. This concern was echoed by O, who thinks that such support for water markets may be drowning out other approaches. R attributes this risk to a magnet effect, which occurs when a large funder focuses on something and other funders and organisations sign on to that approach. Other solutions are still at play, but there is less active funding for them.

As one participant noted, "what you lose with this approach is that not everyone can be at the table." Within the broad spectrum of environmental voices, the voices being heard are the ones that agree with market-based solutions, thus maintaining the status quo. Similarly, B is concerned that the amount of money available for market-based solution is discouraging discourse developing beyond that, and though the current strategies are good in addressing the current system, they do not address the root of the problem. Some of the groups were concerned about this trend, recognising

that other approaches may be drowned out. As Participant O remarked, “I live in this paradigm. But if we’re all wrong… then those other ideas aren’t being experimented with as much.”

As previously mentioned, the creation of environmental transactions involves cooperation between different stakeholders and the resolution of negative third-party impacts. Including stakeholders is an important part of the process of creating an environmental transaction; however, several participants described the challenges of including everyone in the collective action process. One participant gave an example of tensions that arose between a state agency and a non-profit in a large study due to litigation work that the non-profit had done, many years prior, which involved the state agency. Though some stakeholders may be disadvantaged through exclusion in philanthropic-driven collective action, inclusion of those very stakeholders may be counterproductive to the trust-building, collaborative efforts. This seems to suggest that necessity for collaboration with a variety of stakeholders in innovative, market-based solutions for environmental transactions inhibits widespread inclusion by the nature of the work; in the initial steps, selective inclusion may be necessary for success.

It is also important to note that, though the Walton Family Foundation itself is known to have a focus on market-based transactions for environmental flows, they also give to several funds, such as the New Venture Fund and Western Conservation Foundation, who in turn distribute money to environmental groups. Thus, it is possible that the foundation is providing support to other groups and strategies without bearing the possible risks of affiliation.

A few interview participants expressed that discussions of equity, diversity, and inclusion are just under the surface, and that such conversations are starting to become more prevalent. These questions connect to the literature and calls for further research to understand giving’s influence on policy, and how such giving can promote discourse among network actors and be inclusive of vulnerable populations (Farley, 2018). Several participants noted the importance of including underrepresented groups, such as the tribes and Latino populations.

The risk of donors having a disproportionate influence on conservation work should be kept in mind by organisations and foundations alike. Some participants did have concerns regarding work becoming donor-driven. H noted, “the philanthropic community has inordinate potential to sway-- for better, for worse, or otherwise-- the nature of the work being done by organisations like ours.” G recognised that it’s a risk that groups may change their strategic plans in response to external pressures. O is concerned that Walton is such a pressure, as they believe that signing on to a “Walton approach” is essential to be a “player” in the CRB. All parties involved will benefit from awareness of the way in which funding is steering the narratives and changing conversations; some interview participants are more diligent about this fact than others.

4.2.3 The philanthrocapitalists

Gerrodette and Kiser (2018), members of Arizona's Sustainable Water Workgroup, have raised important questions regarding current water planning. For example, who is making water policy, and what interests do they represent? Who is financing conversations about water, and what are the costs and benefits of their involvement?

People are naturally (and often justifiably) suspicious, including several of the interview participants; thus, it is important to acknowledge the sources of wealth that are providing funding to conservation in the Colorado River Basin. The Walton Family Foundation is separate from the Walmart Foundation and thus does not have the same explicit corporate ties. However, the source of the individuals' wealth is obviously connected to the enterprise. As of this writing, Waltons sit at the top of Forbes' list of wealthiest Americans in slots #11, #12, and #13, and three more Waltons are all in the top 100 (Forbes, 2018). The other most commonly mentioned philanthropic organisations carry similar legacies, such as the S.D. Bechtel Jr. Foundation, the Hewlett Foundation, and the Packard Foundation.

What interests do these groups represent? Walton has come under a critical eye for their involvement in the CRB, as some are suspicious of their motives and believe that the Walton family is trying to make a profit through their philanthropic endeavours through impact investing, which strategically blurs the lines between philanthropy and capitalism (Dyer, 2018). An article on the Walton Family Foundation's website clarifies that the foundation is exploring the potential utility of impact investment as a tool for foundations. Interview participants were aware of this, but argued that impact investing is not a big player yet; what impact investment had been explored had generated "little to no success." Despite this fact, harnessing the utility of impact investing remains on the agenda (WFI, 2016), including in the CRB, as seen in the Nature Conservancy's Water Sharing Investment Partnership design (Richter, 2016). As such efforts progress, it will be critical for stakeholders to understand the costs and benefits of impact investors' involvement, as some may stand to profit from critical water management decisions.

Though some believe the Walmart legacy presents challenges, the opportunity to collaborate with the Walton Family Foundation was considered beneficial. B believes that the foundation "is taking the environmental groups from being 'squeaky wheels' to masters of the system." O remarked that "the intellectual capacity of Walton is stunning," and K described them as "a wonderful intellectual partner for the non-profit community who are helping to advance our collective thinking." F finds the involvement of foundation staff very helpful, likening their input to a peer-review process. Because their expert staff are knowledgeable about what has and hasn't worked in other places, it is a resource to be able to engage them in their strategic planning process.

K similarly described how their organisation has benefited from the Walton Family Foundation's involvement, as they can help the organisation identify their "value-added proposition." The Walton Family Foundation is also able to make a more significant impact because of their continued involvement on a weekly basis (M & Q).

L, whose organisation has never received Walton funding but works with several groups who do, noted the challenge of being the sole entity without Walton funding. Though this has created obstacles in the past, the participant said that the organisation has improved and become much more strategic in the last five years, thus improving the situation. They now see their role as non-Walton grantees as beneficial, as they are able to provide an independent perspective.

Each interview participant agreed that philanthropic funding is essential for their work, and there was a great variety in explanations of *why* this was the case. Some noted how their organisation's work would not have been possible without donors (such as C, D, F, G, L, N). However, other themes arose. For example, F said that their organisation would not have earned a "seat at the table without philanthropic funding to keep us over there." Others noted how organisations would not have been as effective without the collaborative funder model (A & J), and that attempting such global solutions would be impossible without a funder like Walton (A). Many remarked that the Walton Family Foundation's model of strategic philanthropy is unique and impactful; as an example, P noted how their funding model has been the most important change in the CRB, because they choose to fund the capacity to do good work. Prior to that, "you were getting paid to do one-off projects" and "didn't have enough long-term planning to do much good."

Several interviewees believe that, initially, the Walton Family Foundation's presence in the CRB gave other funders the impression that their funding support was not necessary or valuable, and discouraged their involvement in the basin. Three participants (A, D, Q) mentioned the concern that other philanthropic funders don't enter the CRB because of the impression that "Walton has it covered." This "cost" is multi-faceted, as finding dedicated funders for water-related issues is a historic challenge cited by many interview participants. The decision-making forums are very diffuse, and the conversations surrounding water change dramatically by region, "like speaking different languages" (K). This was supported by Garrick and Aylward (2012), who said that "field, state, and federal institutions are likely to vary as much within states as across them." One participant recalled that "a lot of philanthropists with blank checks wanted to contribute to solving water problems, but no one was sure what it meant."

Though one funder's predominance in a region may discourage other funders, it also provides a benefit through demonstrating the role that funders can play, as the complexity of water-related issues often appears prohibitive. Several participants mentioned that getting committed

funding for water-related issues is challenging because of "the perception that it's too complex" (A). R explained that "the decision-making forums for water are very diffuse, which makes funding the work complicated." The time required for such work to see results was also mentioned as a challenge. D said that "to enter this field as a philanthropist, you have to be pretty sophisticated. Funders who stay and have an impact are the ones who understand the complexity of the system."

Participants frequently credited the sophistication of the Walton Family Foundation and their expert staff. A credited them with "trying to demystify" funding in the water realm; several highlighted that the organisation is aware of their discouraging presence, and acknowledged that they have put a lot of time and energy into bringing other funders into the basin (A, D, Q), which is something they are quite good at (D). This is visible through the Water Funder's Initiative, which was started by the Walton Family Foundation and the S.D. Bechtel Junior Foundation as a means of encouraging other funders to join in an innovative model of strategic, coordinated giving (G, I, Q, R), because the scale of the problem is too great for one philanthropic entity to support alone (WFI, 2016). Being able to leverage funds has also been essential (D, M, O). Some participants also cited how their work has enabled them to get the attention of other funders often due to projects initially funded through Walton (A & C).

Several participants noted the importance of a diversity of funding to support their organisation, both to ensure greater stability of the organisation, and to support a broader range of tactics and approaches. As Participant M remarked, "the jury is still out" on whether this will be accomplished through the WFI. Though the group supports a range of approaches and encourages a variety of different funding entities to join, some are concerned that these funders are reinforcing the current paradigm of market-based approaches. Within this paradigm, coordinated funding may allow for the expedited success of approaches within the market-based paradigm, but it also has its weaknesses, as it can limit the scope of work for funded non-profits.

Many cited that there are certain projects or ideas that have not received interest from current funders, often because the ideas fall outside of funders' somewhat rigid strategic plans. Increasing the number of funders interested in the region also increases the likelihood that new funders' strategic plans may allow for pursuit of alternative ideas and strategies. In spite of the advantages that accompany coordinated, strategic funding, organisations still face the challenge of seeking to diversify their sources of revenue and maintaining the organisational integrity required to pursue less popular tactics.

5. Conclusion

Around the world, continued development of water resources and climate change are causing water basins to shift from open basins with supply-focussed management to closed basins that must instead manage scarcity. Understanding how to successfully put water back in-stream for environmental purposes within existing systems will be of immense value, particularly as institutions adapt to changing conditions; to accomplish this, water transactions are a critical tool.

Through the application of theory-based impact evaluation, this dissertation sought to understand how and why philanthropic dollars are impacting market-based freshwater conservation initiatives. I hypothesised that philanthropic organisations are major actors whose role in freshwater conservation has been undervalued. The action necessary to successfully create water transactions will vary greatly depending on the institutional setting in which they develop. This case study provides an insightful example in which philanthropy acts as a choreographer who coordinates collective action to address problems of over-allocation and mismanagement of water resources (Figure 14). In the CRB, the Walton Family Foundation acts fulfils this role amongst environmental groups operating in the basin by strategically fostering collaboration and increasing the efficiency of the collective group of conservation actors. They are focussed on creating the enabling conditions that will allow for market-based methods to flourish.

Conservation groups view market environmentalism as a promising strategy for freshwater conservation. Though market-based approaches do not provide a single solution for the vast range of environmental issues that accompany freshwater scarcity, they present a collaborative and innovative approach that allows for conservation outcomes within current water management systems. Their ability to successfully create conservation outcomes depends on a number of exogenous factors that will vary around the globe; other approaches are still important and should still be at play, such as those which focus on regulation, legislation, litigation, and education (Figure 5). It will be necessary for conservation organisations to seek out funding for these tactics, ensuring that a range of funders comprehend their value and utility.

The Walton Family Foundation provides a paradigmatic example of philanthrocapitalism and venture philanthropy. Through their strategic giving, they have been able to have an impact in the CRB far in excess of their share of philanthropic dollars through strategic leveraging of funds, capacity-building, and coordination of the network. As a result, they have enabled collective action at a truly impressive scale. However, their disproportionate influence is emblematic of broader critiques of philanthrocapitalism, as they promote particular conservation strategies and support the

mainstream discourse. Similarly, though their philanthropy is widely considered collaborative and supportive, smaller organisations risk disproportionate reliance on them as a single funder.

Philanthropic support has given credence and power to conservation organisations through supporting the growth of the capacity of the entire network. Such support has given certain environmental voices a seat at the table in decision-making. Though this shift has been significant, its impact has limitations. As decision-making occurs within the current system, the deeper flaws of the management regime remain unaddressed. The river's water is still over-allocated, and there is a limit to the economic growth that can continue to be supported while environmental health remains intact. Though water transactions may have positive environmental outcomes for the tributaries in which they occur, there is no way to avoid the saved water's downstream fate. The institution must eventually adapt.

Recent philanthropic funding has opened many doors, but as doors continue to open, stakeholders should strive for more transparent and inclusive conversations. Those with a seat at the table must be held accountable for the type of economy that they are supporting, and have a responsibility to consider which interests will suffer the consequences of "business as usual." It is my hope that increased inclusion of diverse voices will have a positive influence on basin-wide discourse.

6. Limitations & recommendations for future research

The interview participants were asked to answer questions regarding critical funding for their profession, which has the potential to threaten their job security, professional development, and organisational reputation. Efforts to eliminate these threats were made through discussions of consent and anonymity; however, it is likely that the answers regarding funders were more positive due to this factor.

My choice of the Colorado River Basin as a case study for this research presented a challenge, as the legal system governing the river basin is extremely complex. I grew increasingly familiar with the political climate and legal structure of the study area throughout the course of my research, and as my learning progressed through completing interviews and conducting background research, there was a notable change in the depth and sophistication of the interview conversations. Even so, the course of study was insufficient to become an "expert" in the study area, and it is possible that my conclusions are selectively informed. Similarly, my positionality as a researcher affected the design and execution of the study, and it should be noted that my background in conservation inhibited complete objectivity.

Though I aimed to interview a diverse group of players in the study location, time to complete the interviews was limited. Further research that engages a more diverse group of key informants would provide valuable insights for basin-wide management. Such diversity could be enhanced by including organisations who receive funding from a variety of sources, as well organisations with a range of preferred tactics and strategies. Understanding of funding flows could also be enhanced by further exploration into the third-party funds, such as the New Venture Fund and the Western Conservation Foundation, whose opacity inhibits an understanding of funding flows in the basin, as well as the utility of publicly-available grant information. Though my study focussed on conservation at a basin-wide scale, many smaller philanthropic organisations fund local geographies. Thus, region-specific studies could provide useful information for how to best maximise the effectiveness of philanthropic giving within a specific geography.

Expanding the scope beyond philanthropic organisations, further research could explore government-funded conservation initiatives, perhaps even providing a comparison between government funding and philanthropic giving, to create a more comprehensive picture of conservation efforts in the Colorado River Basin, and better understand how stakeholders plan to include the environment in future basin planning.

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