The persistence of the environmental status quo: power and the Manapōuri Hydroelectric Generation Scheme

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The Manapōuri Power Station at West Arm, Lake Manapōuri (source: Waiau Rivercare Group Inc. (2019)).

Abstract

The power of the Manapōuri Hydroelectric Generation Scheme (MPS) extends well beyond excited electrons. Path dependencies, knowledge, regulatory processes, and rationalisations (justifications) presented as rationality are the key characteristics of the power tactics used to protect and enhance the status quo operation of New Zealand's largest hydroelectric power scheme. The unique design of the power scheme sees up to 95% of the country's second largest river, the Waiau River in Southland, diverted outside the catchment. The unrivalled diversion changes the essential character of the Waiau River. It reduces water quality, quantity and aquatic habitat, impedes fish passage, alters sediment transport and geomorphic processes, and negatively affects cultural values and recreational opportunities. Despite significant normative change in environmental values since the MPS's construction and an increasing voice for tangata whenua, operational change to improve the river's health has been patchy.

The small, geographically isolated community in the Waiau catchment has advocated for returning some of the water to the river through various review processes over the MPS's lifetime, with limited success. There is a clear power asymmetry between the local community and the generator, which is 51% government owned. But understanding the nature of power relationships requires close examination of the obvious; of the taken for granted. With that in mind, this thesis unpicks the specific tactics of power brought to bear on the Waiau community over four formal regulatory review processes spanning 30 years. In doing so, this thesis finds that the MPS provides textbook examples of power strategies in practice. This is important, as the literature tends to focus on ex-ante processes, the initial fight for permission to construct large infrastructure against opposition from the 'NIMBY' community. This research demonstrates that power strategies also permeate big infrastructure projects ex-post. Indeed, for the local community, this is when the real challenge begins. Once the concrete has hardened and the power constellations stabilize, subsequent review processes cast the local community as the perpetual respondent, embedding a persistent advantage in favour of the status quo.

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Contents

Abstract iii
Acknowledgements iv
List of figures viii
List of tables ix
List of abbreviations x
1 Introduction 1
2 Responding to normative change, power and the status quo 5
2.1 Introduction 5
2.2 Changing normative context 6
2.3 Codifying normative values – institutional and structural change 7
2.4 Path dependencies - the power of the status quo 9
2.5 Power relationships – the allocation of power 10
2.6 Strategies of power 12
2.6.1 Knowledge as power 12
2.6.2 Rationalisation and rationality 13
2.6.3 The power of process 15
2.7 Summary 16
3 Research method 18
3.1 Case study approach 18
3.2 Research questions 20
3.3 Research methods 21
3.3.1 Ethics 22
4 Understanding the Manapōuri Hydroelectric Generation Scheme (MPS) 23
4.1 Introduction 23
4.2 The Manapōuri Hydroelectric Generation Scheme (MPS) 23
4.3 Before the Power Scheme 27
4.4 Saving Manapōuri 28
4.5 The fate of the Waiau River 28
4.6 Regulatory context 30
4.7 Summary 32
5 Results 34

5.1 Introduction 34
5.2 The Waiau Working Party (WWP) and the 1996 consent process 36
5.2.1 Introduction 36
5.2.2 Background 36
5.2.3 Strategies of power 37
5.2.4 Outcome 39
5.2.5 Summary 40
5.3 The Manapōuri Amended Tailrace Discharge (MTAD) consent process 2009-10 41
5.3.1 Introduction 41
5.3.2 Background 41
5.3.3 Strategies of power 42
5.3.4 Outcome 47
5.3.5 Summary 48
5.4 The proposed Southland Water and Land Plan (pSWLP) 2016 onwards 49
5.4.1 Introduction 49
5.4.2 Background 49
5.4.3 Strategies of power 51
5.4.4 Outcome 54
5.4.5 Summary 55
5.5 The National Policy Statement for Freshwater Management (NPSFM) 2020 55
5.5.1 Introduction 55
5.5.2 Background 55
5.5.3 Strategies of power 56
5.5.4 Outcome 62
5.5.5 Summary 63
6 Discussion 65
6.1 Introduction 65
6.2 Expectations of change - normative changes and the status quo 66
6.3 How power strategies support endurance of the status quo 68
6.3.1 Path dependencies - capitalising on concrete 68
6.3.2 Knowledge as power 69
6.3.3 Rationalisation and rationality 72
6.3.4 Power of process 74

6.4 Wider implications and ramifications 76
7 Conclusion 78
8 References 81
Appendix A – Interviewee consent form 90

List of figures

Figure 1: Classes of extramural knowledge and their relative scientific legitimacy and trappings of science (from Lave (2015)). 7
Figure 2: The Waiau catchment and, showing the various Scheme components (source: Waiau Rivercare Group Inc. (2019)). 24
Figure 3: Scheme schematic. 'A' shows a schematic of the MPS as it relates to the Lower Waiau River, 'B' shows an enlargement of the dashed box in 'A' which is a schematic of the MLC, arrows show direction of flow (source: Waiau Rivercare Group Inc. (2019)). 25
Figure 4: The MLC diverting sediment laden Mararoa waters through the Weir to the lower Waiau River (source: Waiau Rivercare Group Inc. (2019)). 25
Figure 5: Waiau River water exiting one of two discharge tunnels at Deep Cove, Doubtful Sound (source: Waiau Rivercare Group Inc. (2019)). 26
Figure 6: The Manapōuri Power Station at West Arm, Lake Manapōuri (source: Waiau Rivercare Group Inc. (2019)). 27

List of tables

Table 1: Summary of the four review processes. 35

List of abbreviations

AEE – Assessment of Effects on the Environment

Cumecs – cubic metres per second

ECNZ – Electricity Corporation of New Zealand

MPS – Manapōuri Hydroelectric Generation Scheme/Manapōuri Power Scheme

MfE – Ministry for the Environment

MLC – Manapōuri Lake Control Structure

MTAD – Manapōuri Tailrace Amended Discharge

MTADA 1963 – Manapōuri Te Anau Development Act 1963

NES – National Environmental Standard

NIMBY – Not In My Backyard

NPSFM – National Policy Statement for Freshwater Management

pSWLP – Proposed Southland Water and Land Plan

RMA 1991 – Resource Management Act 1991

SRC or ES – Southland Regional Council, also known as Environment Southland

TCPA – Town and Country Planning Act

WRG – Waiau Rivercare Group Inc.

WRLC – Waiau River Liaison Committee

WWP – Waiau Working Party

1 Introduction

Imposing concrete structures dot the New Zealand landscape, each of its largest rivers straddled by aging hydroelectric generation schemes. Once monuments to New Zealand's place as a modern, prosperous nation, the industry these schemes enabled reduced economic dependence on supplying primary produce into England and rescued Auckland from a series of brown-outs in the 1970s (Fox, 2001). Such is their combined size, the schemes enabled New Zealand to sidestep the typical energy generation route of most developed countries. By harnessing its significant freshwater resource, New Zealand avoided the need for nuclear power, an enduring point of national pride, and reduced dependence on coal-fired power compared to other nations (Ministry of Business Innovation and Employment, 2021; OCED, 2020). As governments worldwide increasingly turn their minds to reducing carbon emissions, these hydroelectric schemes have become a key element of New Zealand's climate change response (NZ Climate Commission, 2021). Decades after construction, these hydroelectric schemes have settled into the national psyche, now rebranded as low-carbon renewable energy. The success of this rebranding is a testament to the flexibility of concrete when it comes to aligning with changing normative values, a hint at the underlying power assemblages.

Despite the national benefits, large hydroelectric power schemes cast long shadows through space and time. The enduring adverse effects associated with hydro-electric generation continue to affect communities and the environment in the vicinity of such schemes (Simonov, Nikitina, & Egidarev, 2019). For example, the Manapōuri Hydroelectric Generation Scheme (MPS), which sparked the Save Manapōuri Campaign in the 1960s and 70s, takes up to 95% of the flow out of New Zealand's second largest river, the Waiau River (URS, 2009). Up to 550 cumecs of freshwater every second is diverted through the Manapōuri Power Station, then discharged outside the Waiau Catchment into the marine environment of Doubtful Sound on Fiordland's West Coast, deep in an UNESCO World Heritage Area (Feierabend, 2019b). As little as 5% of the waters of the Waiau River take their natural course south east to Te Wae Wae Bay on the South Coast (URS, 2009). Further north, the Clyde Dam, in Central Otago, saw the scenic Cromwell Gorge, many houses and orchards flooded to create the 26 km^2 reservoir, Lake Dunstan (Fish and Game NZ). There are also a number of dams on the Waikato River in New Zealand's North Island, which, like all dams, create barriers for migratory fish species and alter the flow regime (Chapman, 1996).

Yet large tracts of flooded land upstream, impeded fish passage and artificial flow regimes downstream caused by these established large-scale hydroelectric schemes are typically viewed as sunk costs to the environment, in the belief that these schemes will endure. The Hearing Panel on the proposed Southland Water and Land Plan (pSWLP), for example, reported that it is inconceivable that replacement consents for the MPS would be declined (pSWLP Commissioners, 2018). This, despite the signalled closure of the Tiwai Aluminium Smelter, which is the reason the dam was built and the primary user of the MPS's electricity (Daalder, 2021; "Manapouri Te Anau Development Act," 1963). While the durability of existing schemes is accepted almost without question, almost no new dams, and none of comparable size have been built in the last quarter century (Ministry for the Environment, 2010). While renewed World Bank support for hydro-development has seen something of a hydropower-renaissance (Ansar, Flyvbjerg, Budzier, & Lunn, 2014), such significant alterations to natural character and river flows would struggle to obtain regulatory permissions in New Zealand today. Barriers include higher ecologically specified minimum river flows, water conservation orders, Iwi management plans highlighting the cultural importance of rivers, and increased regional and national regulation of water quality and quantity under

the Resource Management Act 1991 (RMA 1991) (Ministry for the Environment, 2020; Ngai Tahu ki Murihiku, 2008; Southland Regional Council, 2017b).

Alongside increasing regulatory oversight, the last 40 years have also seen the development of environmental assessment as a key tool to inform decision makers. Borne in a positivist paradigm which elevated the scientific method above other ways of knowing, environmental assessment depends on a plethora of experts providing highly specific technical advice to identify, understand and communicate the potential effects of actions before they happen (Morgan, 2012; Pope, Bond, Morrison-Saunders, & Retief, 2013). This approach has embedded scientists and their expertise as part of the institutional fabric of decision-making, their knowledge having the power to shape planning outcomes. Shaping that knowledge then, provides an avenue to influence decisions.

Environmental assessment is not just relevant in ex-ante processes. While there is less focus on reviewing the effects associated with established infrastructure, ex-post reviews are critical to understand the ongoing environmental, social and cultural effects (Baines et al., 2012; Simonov et al., 2019; Voegeli, Hediger, & Romerio, 2019). Additionally, environmental assessment often forms part of re-assessments mandated by statute, as is the case in New Zealand (Pittock & Hartmann, 2011). Consequently, whether through the review of authorisation permits or regulatory instruments, decision makers across the levels of government periodically re-assess large hydroelectric generation schemes and their associated effects (Pittock & Hartmann, 2011).

Such processes may be many decades apart, meaning established projects face re-evaluation in a contemporary context markedly different from that in which they were conceived (Pittock & Hartmann, 2011). Between assessments there are often significant changes in the recognition, understanding and treatment of positive and adverse effects, as well as changes in the effects themselves (Pittock & Hartmann, 2011; Raman, 2018). Over time, scientific and technical understanding of the environmental, social, and cultural effects of such projects improves (Morgan, 2012; Pittock & Hartmann, 2011; Teigland, 1999). The effects themselves can also change. Effects may become intergenerational, or be modified by climate change, other users, or alterations to the infrastructure (Pittock & Hartmann, 2011). The way society values and considers affected communities, indigenous people, and the environment can also change (Batel & Devine-Wright, 2020). These changing societal values, underpinned by changing power relationships, may trigger regulatory and statutory review and become codified (Dunlap & Van Liere, 1978; Hays, 1982; Mark, Turner, & West, 2001; Paehlke, 2019; Richardson, 2005). It is against these modified statutory and regulatory instruments that established large scale hydroelectric generation schemes are reassessed through formal review processes. The same instruments new proposals struggle to navigate.

Such formal processes, while driven by changing normative values, provide an opportunity to investigate the often stable and asymmetric power relationships present in the lee of large established infrastructure (Sovacool, Turnheim, Hook, Brock, & Martiskainen, 2021). By bringing actors together in a formal setting, these processes force their interaction and highlight strategies of power (Brownill & Carpenter, 2007). These power tactics are brought to bear by various actors seeking to utilize these processes to further their own agendas, including strategic use of the process itself. The outcomes of review processes then, while often poorly aligned with the normative change which sparked them, instead provide a commentary on the prevailing power assemblages and the specific tactics employed.

The frequent assertion in the literature is that the quality of decision making is negatively affected by power (Cashmore, Richardson, Hilding-Ryedvik, & Emmelin, 2010; A. M. Hansen, Kørnøv, Cashmore, & Richardson, 2013; Pope et al., 2013; Richardson, 2005; Sager, 2001). Sager (2001) suggests that high economic and political stakes tend to distort planning processes and can lead to poorer quality planning documents and processes. These distortions may occur outside formal processes, making them less visible (A. M. Hansen et al., 2013). Further, Sovacool (2021) suggests that poor processes are more likely when the power gap between advocates and opponents of a project is greater. Established large-scale infrastructure projects considered critical or nationally important typically enjoy significant political support and economic importance. Such importance provides fertile ground for power to negatively impact review processes and outputs concerning established hydroelectric generation schemes.

One common manifestation of the power asymmetry Sovacool (2021) describes, appears as decision makers attempt to reconcile the regional or national benefits that accrue from the project or policy with the locally felt adverse effects (Morgan, 2012; Richardson, 2005). Despite post-positivism's rejection of scientific objectivity, science remains a dominant epistemology, typically out-weighing local and indigenous knowledge. Further, local opposition to projects is often rejected as narrow-minded and self-interested, accompanied by the implication that communities ought to accept adverse effects for the common good (Batel & Devine-Wright, 2020; dos Santos, 2021). But whenever the common good is used to justify a project or policy, there is inevitably an accompanying economic or power rationale, whether visible or not (Richardson, 2005). In this way, the common good is an example of a rationalisation, a justification, being presented as rationality, a common power tactic (Flyvbjerg, 1998). Pursuit of the common good is seldom as altruistic as it sounds, and is typically a poorly defined concept (Murphy & Fox-Rogers, 2015). Ultimately, to dismiss local concerns in this way is to underestimate the complexity of people's relationship with place (Batel & Devine-Wright, 2020; Kojola, 2020; Magnani, 2020; O'Neil, 2021).

Established large-scale hydroelectric generation schemes, as an example of large-scale infrastructure generally, can have significant ongoing local adverse environmental, social, and cultural effects (Ansar et al., 2014). The way these effects are conceptualised, understood, and treated changes over time as normative values and the associated structural mechanisms change. Reassessment of large scale infrastructure periodically occurs, but is undertaken by power-based institutions within asymmetric power assemblages, prone to discounting locally felt impacts in favour of the common good (Foley, Pollack, Barrella, & Wilkins, 2021). The apparent ongoing failure to address local impacts through review processes for large hydroelectric generation schemes raises the question:

How does power support the persistence of aging hydroelectric generation schemes in the face of normative change?

This research aims to unpack the ways in which power influences formal review processes of established large-scale hydroelectric generation schemes and review outcomes, and how that relates to normative change, using the MPS as a case study.

To address this aim the research has four objectives, to:

1. Establish a theoretical explanation for why changing normative values might not be well reflected in review processes for large-scale established infrastructure, including hydroelectric generation schemes.
2. Identify and categorise strategies of power that influence these formal review processes.

3. Apply the framework developed in objectives 1 and 2 to the MPS as a case study of established large-scale infrastructure that has been the subject of multiple review processes over time.
4. Ask how well the case study aligns with the framework and identify any key findings.

The structure of this thesis broadly follows the objectives outlined above. A review of the literature follows in the next chapter. Chapter 3 sets out how the case study was carried out and Chapter 4 introduces the case study, the MPS. Chapter 5 then presents the results of the case study, looking at how power permeated four formal review processes over the life of the Manapōuri Hydro-electric Power Station. Two of these processes are re-assessments at a policy level; the pSWLP, and the National Policy Statement for Freshwater Management (NPSFM) 2020. The other two are re-authorisations of operational permits; the 1996 Resource Consent Process, and the Manapōuri Amended Tail-race Discharge Project. Chapter 6 is the discussion, examining how well the case study fits the framework developed from the literature and how the case study findings might be utilised to extend the theoretical framework.

2 Responding to normative change, power and the status quo

2.1 Introduction

Established infrastructure is typically concrete, both physically and metaphorically. Yet, the normative (values), structural (statute and regulation) and institutional (implementation) frameworks which enabled their construction and that enable their ongoing operation, are not (Pittock & Hartmann, 2011; Raman, 2018). In many cases, formal review processes of the infrastructure, both operational, project level reviews and policy level reviews (regulation and statue) will occur in a very different normative and structural context from that in which the infrastructure was originally approved (Pittock & Hartmann, 2011). Despite this, established infrastructure often endures largely unaltered (Henrysson & Hendrickson, 2021).

The literature addressing how power influences consideration of normative change in formal review processes is limited. However, there is a significant volume of literature looking at power tactics, normative and structural change, and ex-ante processes ahead of infrastructure establishment. The theoretical framework presented here synthesises the components of these various topics in the literature as a hypothesis for why large-scale infrastructure projects may not reflect changing normative values.

In constructing this theoretical framework, this chapter first examines how normative values have changed over time, and how these changing values flow into structures and institutions. From there it turns to reasons why reviews of established infrastructure may not reflect these changing values. Because ex-post processes are seldom examined in the literature, the starting point for this is the literature concerning ex-ante processes. Review processes share many of the same characteristics as their ex-ante relatives. There are decision makers, there are actors for and against whose positions must be justified, and there are structural frameworks which guide the process.

Critically, like ex-ante processes, power permeates ex-post reviews. The existing power assemblages, and the path dependencies created by the existing infrastructure, provide important context for understanding the power tactics the various actors employ through review processes (Flyvbjerg, 1998; Henrysson & Hendrickson, 2021). This chapter groups these power tactics into four categories, each of which is addressed as a separate section. The first is path dependencies. Path dependencies often appear passive, for example concrete has no agency, but can be strategically used by the powerful to reinforce the status quo. The second is how knowledge supports power. The way knowledge is conceptualised, scoped, produced and articulated works to define reality (Bond, Pope, Retief, & Morrison-Saunders, 2018; Flyvbjerg, 1998). In this way power creates knowledge. Knowledge is then used to support the arguments of various actors. Where the arguments used to justify the particular outcome mask the genuine reason (or rationality) for which they are sought, they become rationalisations (Flyvbjerg, 1998). The use of rationalisations as rationality is a common tactic of power and is the third category of power tactics. Given the associated rationality is hidden, these rationalisations can prove difficult to expose (A. M. Hansen et al., 2013). The last category is tactics of power brought to bear through the structural processes themselves. The way actors utilize process is a key tactic of power (O'Neil, 2021).

2.2 Changing normative context

Context shapes not only what policy solutions are considered but how problems are conceived and in doing so possible solutions that are excluded (Flyvbjerg, 1998; Henrysson & Hendrickson, 2021; Huxley, 2013). This section explores changes in normative, structural, and institutional contexts relevant to hydroelectric generation. The changing conceptualisation and value attached to the environment and knowledge over time has eventually translated into structural and institutional frameworks. Consequently, formal review processes typically take place long after the concrete has hardened, in a context manifestly different from that in which the infrastructure was originally approved (Pittock & Hartmann, 2011). Understanding the changes in the normative, structural, and institutional frameworks provides a contextual benchmark for assessing the degree of change in large-scale infrastructure over a similar period.

Once conceptualised as an adversary to be conquered, the environment has undergone numerous transformations over the past century (Davoudi, 2012). Under the development-driven eye of the mid-century rationalists the environment became a tradable commodity at our disposal (Taylor, 1999). Scenery was then romanticised by misty-eyed libertarians, reinforced by the scientific arguments for protecting mother earth, heralding a preservationist counter-discourse, as neoliberalism and perpetual growth continued to dominate (Friedmann, 2008; Sandercock, 2004; Taylor, 1999). The scientific benefits to humanity of a resilient, functioning environment were later labelled as ecosystems services within a sustainability paradigm ushered in by the 1986 Bruntland Report (Khan & Swapan, 2013). Sustainability gradually morphed to encompass a more pluralistic conceptualisation of the environment. Pluralism made space for indigenous and local understandings of the environment to sit alongside the scientific environment, each a valid epistemology. As the inevitability of climate change gained a normative foothold, talk of mitigation gradually made way for adaptation (Davoudi, 2012). The environment has become our fragile and volatile home. Under this conceptualisation it is humanity that must bend, rather than the environment (Davoudi, 2012). The individual internalisation of low-carbon rhetoric prevails among the environmentally aware (O'Neil, 2021). While this appears to mark a significant discursive shift from previous conceptualisations which shared a normative backdrop of faith in continual growth, many powerful players continue to advocate technological solutions to address what is fundamentally a problem of consumption (O'Neil, 2021).

The dominant theoretical perspective which underpins environmental assessment has changed from one of positivism (scientific information leads to better informed decisions), to post-positivism, which acknowledges the limitations of science, and that assumptions and uncertainties inherent in the scientific method must be made clear (Bond et al., 2018). Bond et al. (2018) observe a shift in environmental assessment practice from an objective, rational focus to a more inclusive, open, and transparent approach, a kind of communicative science. The increased subjectivism associated with post-positivism provides an important avenue for contestation by local communities to articulate alternative value judgements, or undermine those presented by proponents (Aguilar-Støen & Hirsch, 2017). The focus of legitimacy has shifted to a focus on fairness and participation. This shift creates plural claims of knowledge, making space for local communities to be involved (Bond et al., 2018; Lave, 2015). Lave (2015) presents a classification of these plural knowledge claims, describing them as extramural knowledge (see Figure 1). While academic science does not feature in Figure 1, the implication is that it resides in the top

right quadrant, with greater scientific legitimacy, associated with the notion of scientists as conscientious investigators, than commercial science.

Figure 1: Classes of extramural knowledge and their relative scientific legitimacy and trappings of science (from Lave (2015)).

O'Neil (2021) provides an example of different knowledge systems through the case study of a proposed industrial-scale solar panel generation facility in a US rural-residential neighbourhood. Where the technocratic knowledge system saw the land as a resource to be developed, the local knowledge system saw an attempt to change the area from rural and natural to industrial, definitions they considered incompatible. The aesthetics of the development were part of the concern, but it went beyond that, also relating to the community's sense of place, and the fit of the proposal with the meanings and uses they held for their surroundings, including the neighbourhood beyond individual property boundaries. But while knowledge is a key strategy of power, rational argument is also one of the few forms of power the weak possess, and when the circumstances are right, can be a powerful tool for the underdog (Flyvbjerg, 1998). The community pursued this line of reasoning through a formal decisions process (granted it was an ex-ante process) and was successful (O'Neil, 2021).

2.3 Codifying normative values – institutional and structural change

The changing understanding of the environment and conceptualisation of knowledge outlined in the previous section has been reflected in the shape of the planning frameworks and organisations designed to manage the environment and decisions about resource access (Cook, Creyke, Geddes, Hamer, & Taylor,

2015). Reform of local government institutions and approaches to environmental management have a shared history which traces, with a temporal lag, the changing environmental discourses described above (Davoudi, 2012). Statutory reform has appealed to successive governments as a mechanism to update planning approaches (C. Miller, 2011). Consequently, as our conceptualisation of the environment has changed over time, the planning response to the previous environmental discourse has been deprecated, sparking reform (C. Miller, 2011).

Planning as a discipline began the 20th century following a long tradition of blueprint planning. Master Plans were common, and planning was akin to architecture at scale (Taylor, 1999). Planning changed with the modernists, who demanded a systems-based approach to planning borne out of the logistical requirements of two world wars. Synoptic planning borrowed much from the scientific method. Analytical reason and scientific understanding reigned, and planners dedicated themselves to following process (Lane, 2005; Taylor, 1999). But good process is no guarantee of good decisions, and with the liberation movements of the 1970s came a realisation that planning was more than a technocratic exercise, it was political and value-laden (Friedmann, 2008; Sandercock, 2004; Taylor, 1999). Room was made in planning processes to accommodate the public and indigenous communities, communication becoming increasingly central to planning processes (Lane, 2005; Taylor, 1999). Post-positivism gave other knowledge systems an opportunity to be heard alongside traditional science (Bond et al., 2018), but the lengthy processes of communicative planning soon earned it the dual-critique of both marginalising the disadvantaged and stifling progress (Friedmann, 2008; Lane, 2005). Nevertheless, communicative planning remains the dominant approach, with tweaks to address its weaknesses an ongoing project for policymakers worldwide (Taylor, 1999).

Structural change in Aotearoa has followed this global trend, moving from a blueprint planning approach within the Town and Country Planning Act 1977 (Miller 1998), to the RMA 1991 which incorporated synoptic and communicative planning approach to pursue a sustainability paradigm. The RMA 1991 devolved significant decision making and resource allocation control to local government (Bess, 2010; Sinner & Berkett, 2014; Wyatt, 2017), and heightened consideration of Māori concerns and values in planning compared to previous statutory arrangements (Sandercock, 2004). Numerous modifications have been made to the RMA 1991 over its lifetime to remedy the ongoing critiques of communicative planning. While planning discourses have evolved significantly over the last 100 years, they have done so with a normative commitment to equating success with growth (Friedmann, 2008; Rittel & Webber, 1973). As Friedmann (2008) argues, a model of perpetual growth is fundamentally irreconcilable with environmental limits. But despite its neoliberal background, efforts have been made to incorporate environmental limits into the RMA 1991, such as through the water quality standards of the NPSFM (Sinner & Berkett, 2014).

The proposed replacement for the RMA 1991, the Natural and Built Environment Bill, appears to reflect changing environmental conceptualisations, to an extent. Early indications are that drafters have attempted to reflect a pluralistic planning discourse and place environmental limits at the forefront. But, as the Bill is currently with the Environment Select Committee, it will be some time before we know how successfully the Bill navigates the tensions which have plagued the RMA 1991.

Climate change discourses have been reflected in New Zealand legislation too, primarily through the Climate Change Response Act 2002 (Hopkins, Campbell-Hunt, Carter, Higham, & Rosin, 2015). Climate change has been treated separately to other facets of environmental management, although increasingly,

there are requirements to consider climate change across New Zealand's resource management system (Hopkins et al., 2015). Subsequent amendments to the CCRA have included an emissions trading scheme in 2008, and the 'Zero Carbon' amendment in 2019, which codified climate change policies around emissions and supported climate change adaptation. These amendments reflect the increasing discussion around adaptation in climate change discourses identified above (Evans, Milfont, & Lawrence, 2014; Lawrence, Bell, Blackett, Stephens, & Allan, 2018; Manning, Lawrence, King, & Chapman, 2015).

2.4 Path dependencies - the power of the status quo

The normative and structural changes outlined above seldom translate into changes to large infrastructure projects such as hydroelectric generation schemes. In part, this is because the status quo makes particular decision outcomes more likely, typically reinforcing or preserving the status quo (A. M. Hansen et al., 2013; Sager, 2001). Physical infrastructure provides numerous examples of such path dependencies. National electricity grids and the extensive networks of transmission lines connecting large-scale electricity generation schemes to their users create technological lock-ins which resist change and make particular future decisions more likely (Henrysson & Hendrickson, 2021). In this way, infrastructure acts as an embodiment of the power dynamic that existed at the time of its construction (Flyvbjerg, 1998). Large-scale infrastructure not only freezes prevailing power assemblages in time but create long shadows into the future (Foley et al., 2021). Future decisions are narrowed by historical decisions concerning the location and construction of infrastructure (Flyvbjerg, 1998; Foley et al., 2021).

Consequently, review processes of large-scale infrastructure have a much more limited spectrum of options available to decision makers to address emergent effects compared to ex-ante processes. After all, established industrial-scale infrastructure is already in place. Consequently, decision makers are unable to decline construction permits or regulate against the infrastructure. Fundamentally, there is no opportunity for decision makers to avoid the effects. Broadly, decision makers can:

- exacerbate the effects (such as through permitting expansion),
- ignore the effects by maintaining the status quo,
- change the operating conditions to mitigate the effects, or
- decommission the infrastructure to remedy the effects (Pittock & Hartmann, 2011).

There are instances where established infrastructure has been removed, such as the decommissioning of four dams on the Klamath River in the United States of America (USA) (Gosnell & Kelly, 2010; Milner, 2015; Saulters, 2014). However, where infrastructure is considered critical, nationally important, or is government owned, power relationships and associated rationalities come into play, and decommissioning the infrastructure is seldom seen as a viable option (Foley et al., 2021). Consequently, modification of the infrastructure, improved management of the associated effects, or no change at all are more likely outcomes from any re-authorisation, regulatory or statutory review.

Path dependencies not only create the physical examples of infrastructure persistence in the face of normative change but can also be capitalised on as a tactic of power, making path dependencies the first of the four categories of power tactics identified in this literature review.

2.5 Power relationships – the allocation of power

Before turning to the remaining three categories of power tactics, this section explores the literature on the allocation of power. As a starting point, this research conceptualises power as the capacity to direct or influence the behaviour of others or the course of events. When it comes to natural resources, power determines who gets what. Those actors who hold power typically wish to retain it and the status quo. Meanwhile, those who desire it agitate for change. Essentially, there is a gap between aspirations of control and the unstable, dynamic reality of relationships (Kamate, 2011). Flyvbjerg (1998) describes the resulting conflicts as a pillar of democracy which provides insight into the key contextual elements that determine who possesses power. The powerful tend to have the ear of influential politicians, greater funding than their opponents, and an agenda broadly consistent with the prevailing geopolitical context and normative views (Richardson, 2005). Flyvbjerg (1998) argues that possession of this trifecta requires a degree of good fortune, highlighted by the dynamic and contextual ebb and flow of power between various actors over time.

But while changing power dynamics offer more conspicuous examples through which to examine power, stable power relationships are much more common (Flyvbjerg, 1998). After all, those who have power have more influence on the contextual settings which allocate power, making it easier for those who have power to retain it (Richardson, 2005). As Flyvbjerg (1998, p. 141) put it, '"stable" power relationships should not be confused with "balanced" power relations'. While a degree of power asymmetry is present in all power relationships, reviews of large-scale infrastructure tend to provide stark examples.

Typically, the fact that the infrastructure was constructed in the first place speaks not only to the power of its proponents but is a testament to the inability of the local community to prevent its construction. For those communities, and their number is many, who oppose construction of big infrastructure in their locality, these projects are a monument to their powerlessness (Sovacool, Hess, & Cantoni, 2021). These structures perpetuate that powerlessness in the same physical and metaphorical ways that they maintain the power of those instrumental in their construction (Sovacool, Turnheim, et al., 2021). These communities often share similar characteristics, low population, geographic isolation, lower levels of education, and are often indigenous (Sovacool, 2021). Given this significant power difference, the voices of these communities, if heard at all, are less likely to be reflected in decisions (Sovacool, 2021).

In the New Zealand context, colonisation marginalised Māori[1] from resource management decisions (C. Miller, 2018; Natcher, Walker, & Jojola, 2013), and smothered their cultural norms (Forster, 2016; C. Miller, 2018; Natcher et al., 2013). Following extensive Māori activism, the Waitangi Tribunal was formed in 1975 to investigate grievances perpetrated by the Crown, and Māori influence in resource management has broadened considerably since (Natcher et al., 2013). Māori have developed Cultural Impact Assessments and Iwi Management Plans, which act as knowledge tools to interface with conventional planning processes (Natcher et al., 2013). The proliferation of Treaty Settlements[2] has enabled many Iwi (tribal groups) to develop successful businesses, increasing their influence (C. Miller, 2018). Additionally, co-management arrangements between Iwi and regional councils are becoming increasingly common (Forster, 2016). The growth in indigenous planning is such that some argue that Māori planning dialogues are driving change in mainstream planning approaches (Bess, 2010; Forster, 2016). However, even where

[1] A collective name for the place-based indigenous tribes of New Zealand.
[2] An agreement in statute between the Crown and an Iwi outlining reparation for past grievances.

substantive redistribution of power has occurred, where large-scale infrastructure was already in place, it is difficult for Māori to catalyse meaningful change.

Indeed, community voice alone is seldom successful in driving changes to existing infrastructure. There are examples where local communities can exert sufficient influence to force regulatory/statutory review, but it typically requires outside assistance, such as NGOs possessing the organisational infrastructure to magnify their voice and give their message broader appeal (Dai & Spires, 2018). In such instances, public opinion acts to reduce the magnitude of the power asymmetry between local communities and proponents of big infrastructure, who are often either elected officials who desire re-election by the public, or corporations anxious to retain their social license to operate.

But to catalyse public opinion requires both public knowledge and public appeal. The public needs to be informed about the impact, and they need to care, typically either because it is an example of a broader impact they can relate to (Segreto et al., 2020), or the magnitude is such that they are sufficiently outraged to demand action (Jiang, Qiang, & Lin, 2016). This is further complicated by rational ignorance, where people choose not to educate themselves on an issue because they don't consider the benefit of obtaining the knowledge justifies the effort. This is particularly the case where adverse impacts are felt locally, or can be minimised by common good arguments, which often reduce the consideration of local impacts (Foley et al., 2021). In such instances it is difficult for local communities to gain the traction required to initiate reviews, let alone drive genuine change.

More commonly, local communities, including indigenous communities, are cast as the responders to the proposals of others. This sentiment is captured in the Wai 262 report of the Waitangi Tribunal in relation to Māori, which suggests that, 'Māori are usually side-lined in the role of objectors' (Waitangi Tribunal, 2011, p. 115). This role is reflected in the literature. The literature concerning community responses and opposition to project and policy proposals is vast. Even the various forms of participatory democracy suggested to improve the position of local voice typically start post-initiation (Bond et al., 2018; O'Neil, 2021; Susskind, 2019). The literature suggests that the opportunities for actors to be formally involved in the review process is an important determiner of consideration of local voice (O'Neil, 2021), and that it should be as early as possible (Abraham & Maney, 2012). Unfortunately, the inability for local communities to initiate reviews of large infrastructure which negatively impact them reduces the legitimacy of the ultimate decision before the review process formally commences.

It appears then, that power explains the observed disparity between changing values and review outcomes of large scale infrastructure. Sovacool (2021) suggests that poor processes are more likely when the power gap between advocates and opponents of a project is greater. Further, there appears to be general agreement that the quality of decision making can be negatively affected by power and that high economic and political stakes tend to distort planning processes (Cashmore et al., 2010; A. M. Hansen et al., 2013; Pope et al., 2013; Richardson, 2005; Sager, 2001). Operators of critical or nationally important infrastructure typically enjoy significant political influence, wealth, and can rely heavily on common-good arguments (Foley et al., 2021). Such infrastructure is often situated in communities which are disadvantaged, geographically isolated, and indigenous, with fewer resources to fund meaningful involvement (Sovacool, 2021). These characteristics make it more difficult for communities to destabilise the prevailing power assemblages and drive change to large established infrastructure. The resulting power stability provides fertile ground for power to distort review processes and outcomes concerning established large-scale infrastructure.

2.6 Strategies of power

Returning to the categories of power tactics, the next step is to understand how power is used, to examine the agency of power. The rest of this chapter explores the tactics or strategies of power which actors employ to shape planning processes to advance their agenda, broadly, they are tactics of knowledge, of rationalisation, and of process. While these tactics are addressed at a general level rather than being specifically about review processes of large infrastructure, it is anticipated that they will be as applicable to formal reviews of established large-scale infrastructure as they are to other planning processes.

2.6.1 Knowledge as power

Knowledge is critical to decision making (Bond et al., 2018; Richardson, 2005). Consequently, deficient knowledge has the potential to undermine decision making. Deficiencies can emerge because knowledge is limited, ignored, or subject to bias (Bond et al., 2018). Limited knowledge or knowledge deficits include uncertainty or doubt, which can be used strategically. Ignored knowledge is either collected but not presented, or is ignored by the recipients, this includes systematically ignoring particular knowledge types, such as indigenous knowledge. Finally, biased information is collected and presented to support a particular agenda (Bond et al., 2018; Hollick, 1986; Zhang, Kørnøv, & Christensen, 2018). Whether such deficiencies are premeditated or not they are prone to recruitment by powerful actors to support their own aspirations.

Peer reviewed, academic-style science has been of great interest to those in power and those seeking it for decades, as the authority of the associated knowledge has provided the techniques and material to enable and legitimize control (Lave, 2015; Richardson, 2005). Despite the influence of post-positivism, conventional science remains an obligatory point of passage for decision making (Bond et al., 2018). The status of science makes it important for powerful actors to have scientific support for their aspirations. Such scientific enquiry is not the pursuit of knowledge and rationality in an attempt to expose a single truth in the enlightenment tradition but is the more ambitious goal of defining knowledge and therefore reality (Flyvbjerg, 1998; Richardson, 2005). In doing so, power also suppresses knowledge which doesn't serve it (Bond et al., 2018; Flyvbjerg, 1998; Richardson, 2005; Zhang et al., 2018).

While there has been a shift towards acknowledging other ways of knowing, in practice a preference for technocratic, objective science still persists in formal review processes compared to local and indigenous knowledge (Ortiz, Domínguez-Gómez, Aledo, & Urgeghe, 2018). Ranked low both on the trappings of science and scientific legitimacy, local and indigenous knowledges are disadvantaged when they conflict with commercial or academic science, with its normative reputation for objectivity and systematic inquiry (Williams & Dupuy, 2017). In such circumstances, local and indigenous knowledge is systematically ignored (Bond et al., 2018).

Post-positivism arguably creates space for local knowledge and indigenous knowledge to be incorporated into environmental assessment (Fischer, 2000; Ortiz et al., 2018). However, Bond et al. (2018) argue that to do so requires transforming it into formal or objective knowledge. This transformation is typically done within a framework rooted in the scientific method, selectively edited by scientific practitioners (Jolly & Thompson-Fawcett, 2021). Bond et al. (2018, p. 21) support this with the observation that local and indigenous knowledge can be missed 'because knowledge approaches are inadequate for capturing it'. While a degree of knowledge restriction, or narrowing of the scope, is necessary to make knowledge

acquisition affordable and practical, it is a decision, and there is a decision-maker (Bond et al., 2018; Zhang et al., 2018).

Knowledge is strategically influenced by the powerful (Williams & Dupuy, 2017). That knowledge can be used strategically to reinforce or oppose a particular position calls into question the legitimacy at the normative core of science (Bond et al., 2018). Bond et al. (2018) suggest that knowledge legitimacy is determined not only by practitioners, but also by those funding the knowledge. Typically, funders are either government agencies or private entities seeking to provide evidential support for their activities. It is an area in which local communities seldom wield any significant influence. Bond et al. (2018) argues that the process of scoping science is prone to subversion through strategic ignorance to exclude issues which might otherwise be significant. Hollick (1986) outlines several ways in which bias can occur in the production of knowledge, including failing to mention or playing down certain impacts, failing to consider all phases of a project, leaving out or failing to collect certain information, making overoptimistic predictions of the effectiveness of mitigation measures, and using personal value judgements of the significance of factors or impacts. Where these distortions are favourable towards the funder, it is an overt exertion of power over knowledge. As Bond et al. (2018) put it, 'There is clearly a lot of hidden information – which is hidden for a purpose!'

In terms of knowledge, review processes arguably have an advantage over ex-ante processes in that monitoring is often mandated within permitting processes to understand whether the predicted effects materialised or not. But while this approach might provide a lot of information, effects that were not anticipated or conceptualised during the permitting process are unlikely to be captured by the subsequent monitoring requirements (Aledo, García-Andreu, & Pinese, 2015; Muir, 2018). Additionally, the information will typically be framed to address the conditions of consent rather than taking a broader, evaluative approach useful for review processes. Nilsson et al. (2009) suggest that even where evaluative knowledge does exist, it tends to be used more as a political tool than a factual basis on which to base a decision. In practice, political, normative, physical and regulatory constraints shape review processes, which distort the use and usefulness of evaluative knowledge (Nilsson et al., 2009).

Decision makers must attempt to reconcile the regional or national benefits that accrue from the project or policy with the locally felt adverse effects based on the available information (Morgan, 2012; Ortiz et al., 2018; Richardson, 2005). This reconciliation is particularly challenging in instances where evidence is contested (Ortiz et al., 2018). In such situations a ranking of the conflicting evidence is inevitably undertaken, and local and indigenous knowledge is typically ranked below commercial science, which enjoys greater scientific legitimacy despite its susceptibility to bias (Lave, 2015). Bond, Pope, Morrison-Saunders, and Retief (2016) suggest that basing a decision on contested evidence in this way undermines the legitimacy of the decision, yet E. Hansen and Wood (2016) suggest this decision legitimacy isn't a key consideration for planning officers, who are primarily driven by minimising legal risk. In the absence of a well-resourced local community, a low-legitimacy decision in favour of the powerful reduces litigation anxiety for officials may be more attractive than a more legitimate outcome which is less palatable to the powerful.

2.6.2 Rationalisation and rationality

Rationalisation, or justification of an established position, is often presented as rationality, in what Erving Goffman describes as a 'frontstage-backstage' relationship (Flyvbjerg, 1998, p. 98). The public 'frontstage' is often presented as a linear and rational process by which the preferred option is clearly superior when

assessed against a set of objective parameters. But out of public view are a set of rationalities which are not articulated, which may be the most important factors in decision making (Flyvbjerg, 1998). These may be quite different from the rationalisation which is overtly communicated. For example, Henrysson and Hendrickson (2021) suggest that the Vietnamese government has presented energy reforms as climate change mitigation which is key for food and energy security, while the underlying rationality is to protect existing energy frameworks. Similarly, Mexico has re-nationalised the control of the energy market with the rationalisation of being responsible leaders internationally, legitimizing private and government interests in the process (Henrysson & Hendrickson, 2021). While Henrysson and Hendrickson (2021) were able to articulate both the rationalisation and the rationality in this instance, the rationality is often hidden from view. This invisibility places such rationalities beyond scrutiny, particularly by those outside the corridors of power, who can only speculate as to the underlying drivers of a particular decision (Bond et al., 2018; A. M. Hansen et al., 2013).

While presenting rationalisations as rationality is a technique available to any actor, it is a tactic commonly employed by public organisations. This is because public entities have fewer tools of power at their disposal than private groups, as they are legally bound and established in the tradition of rational argument and truth (Flyvbjerg, 1998). They are also normatively associated with upholding democracy, objectivity, and honesty. Arguably, this makes the rationalisations of public organisations more nuanced and subversive, as these legal constraints breed political actors expert at bending, using and ignoring the boundaries of democracy in undemocratic ways (Flyvbjerg, 1998). While seldom crossing the boundary into overt mistruths, this is an inherently disingenuous exercise. This speaks to the weakness of democratic process built on rationality – it is susceptible to exploitation by power (Flyvbjerg, Garbuio, & Lovallo, 2009).

The more power there is, the less reason is present (Flyvbjerg, 1998). The reverse then, is that the less power there is, the more reason is likely to be found. This supports Flyvbjerg's (1998) contention that rationality is the power of the weak. Under this premise rationality yields to power, and in open confrontation, or head-on exhibitions of power, there is likely to be very little rationality. Such circumstances result in less legitimate (or less rational) decisions, the force of reason being reduced or absent in such circumstances. This line of logic leads Flyvbjerg (1998) to suggest that rationality requires stable power relationships to prevail. This may be true, but is perhaps not enough on its own, as in a stable but asymmetric power relationship, power will continue to subdue reason (Sovacool, 2021). Rationality then, requires both power relationships that are stable and (relatively) equal in order to flourish.

Local communities opposing big infrastructure are often further disadvantaged by being saddled with the label 'NIMBY' or 'Not In My Back Yard', a derisive term designed to undermine the legitimacy of local complaints (dos Santos, 2021). NIMBY is a term typically encountered in association with proposals, rather than reviews of existing infrastructure. However, while the post-NIMBY community gets little mention in the literature, the concerns that spark local opposition often persist once the infrastructure is in place (Baines et al., 2012). The NIMBY label implies that communities ought to accept the adverse effects of developments for the common good, and that their concerns are selfish and narrow-minded (Batel & Devine-Wright, 2020; dos Santos, 2021; O'Neil, 2021). Such claims are seldom levelled at developers, who are 'clearly motivated by self-interest via the profit motive' (O'Neil, 2021, p. 89). Even when the common good is used to justify a project or policy, there is inevitably an accompanying economic or power rationale (Murphy & Fox-Rogers, 2015; Richardson, 2005). But acting in the common good is a powerful normative argument which we are conditioned to internalise. O'Neil (2021, p. 91) points out that many of those

opposing an industrial-scale solar development in their semi-rural community in New England, 'clearly struggled with the internal conflict of being both pro-environmental and against an environmentally labelled project'. This speaks to the ongoing efficacy of the NIMBY label, and common good arguments. While academics might agree that it is outdated, in practice NIMBY remains the ultimate way to legitimize dismissing local concern, reducing both distributive (who experiences the costs and benefits) and procedural (who has the opportunity to be heard) justice (Liebe & Dobers, 2020; Wolsink, 2006).

Such normative ideas not only provide some actors with power relative to others, but the normative ideas themselves are influenced by the powerful (Henrysson & Hendrickson, 2021). Powerful actors play a greater role in setting the agenda and determining what gets considered and ignored. The most powerful actors have the capacity to 'influence other actors' normative and cognitive beliefs' (Carstensen & Schmidt 2016, p. 318). A degree of public indifference, or rational ignorance, can aid the powerful in this pursuit, making it easier for proponents of infrastructure projects (established or otherwise) to influence through common good arguments that align with normative values, even if such arguments are disingenuous upon closer inspection. As these opportunities may occur outside formal processes, they may be less visible, and contestable (A. M. Hansen et al., 2013). In fact they may not be acknowledged at all, Henrysson and Hendrickson (2021, p. 49) suggest that, 'policy-makers and analysts often fail to acknowledge and address background ideas informing policy choices and their impact on development pathways'.

2.6.3 The power of process

The literature advocates that participation should be undertaken as early as possible (Bond et al., 2016; Fischer, 2000). Yet, because developers will typically frame the information they provide to decision makers to support their desired outcome, it is often light on genuine community engagement opportunities (Bond et al., 2016). O'Neil (2021) suggests that if developers seek to genuinely understand the community's values, have a local tie or benefit, and the project is modified to accommodate these views, opposition is less likely. Similarly, Abraham and Maney (2012) observe that who and when people are allowed into the conversation makes a difference as to whether or not they will oppose the facility. There is substantial support in the literature for such participatory planning processes, the argument being that genuine community involvement before it is mandated by regulations, has the potential to improve decision making legitimacy and avoid contestation altogether (Bond et al., 2016; Franceschini & Marletto, 2015; Ortiz et al., 2018).

In practice, contestation is sometimes the first formal opportunity for local communities to be involved in review processes (Flyvbjerg, 1998). Which actors have the ability to formally contest the review process, and the form those opportunities take, depends on what is specified in regulation and statute. For operational project approvals this can vary on a case-by-case basis, either because the application meets (or does not meet) conditions specified in statute and regulation, or because discretion is delegated to officials. For example, local government regulations[3] made under the RMA 1991 can specify whether applications for a particular activity should be publicly notified or not, and Section 95A of the RMA 1991 sets out a process for the regulator to step through when determining whether an individual application should be publicly notified or not.

For reviews of regulations, whether mandatory or otherwise, public participation opportunities are typically standard, but there may be some discretion as to the process which is followed. All of which

[3] In particular district, city, and regional plans.

could be seen as procedural and dry, but there are a number of opportunities for power to influence this process, none of which are typically within the purview of local communities. At the outset there is the decision to scope or portray a project as not requiring formal contestation such as in (O'Neil, 2021). Then there is often discretion on the part of officials, which affords them power, but also the risk of being influenced towards a particular decision (Zhang et al., 2018). All these decisions may precede the community knowing about the review process at all. Further, even when equal opportunities are available in principle, resource disparities often disadvantage local and indigenous communities from involvement for the duration of planning processes (Sovacool, 2021).

Perhaps this explains why utilizing formal processes to exclude local communities is a popular avenue for developers in practice. In O'Neil's (2021) New England example the 'outsider' developers sought to have the community excluded, arguing that there was a regulatory exemption which removed the ability for the community have a voice or exercise any power over the development. Such attempts are a common occurrence, Mulvaney (2013) argues that increasing moves to expedite installation of large-scale renewable energy projects are often accompanied by reduced opportunities for public participation. This tends to be worse, Sager (2001) suggests, when economic and political stakes are high, distorting planning processes. Siting these energy generation facilities without local public input will continue to unevenly place the adverse effects of energy production and consumption on communities in the vicinity of these facilities (Mulvaney, 2013). For such projects, procedural justice for local communities is often in the hands of the officials with the task of determining the level of participation the community is afforded, under the influence of operators looking to minimise their project's procedural risk.

Formal contestation, while by no means guaranteed, is an important avenue for communities to influence resource allocation decisions which impact on their lives (Flyvbjerg, 1998). Indeed, Fisher (2000, p1) describes the importance of such self-determination as the 'normative core of democracy'. If there is the ability to be heard for the community with judicial oversight, it is arguably more likely that rationalization purported as rationality by the powerful will be exposed (O'Neil, 2021). Perhaps the Court provides a more stable and even power landscape in which the 'weak power' of rational argument (Flyvbjerg, 1998, p. 233), can succeed.

2.7 Summary

The last half century has seen significant change in the values that underpin society's management of resources. Consideration of environmental effects is now required by statute, mandatory community consultation is common, and the normative attitudes towards the environment have changed substantially. Nature was once a wild beast to be tamed, then a storehouse of resources to meet humanity's insatiable needs. Now, the Earth has become our fragile home, requiring careful stewardship for all our sakes.

One might expect that these changes would result in review processes for large-scale established infrastructure projects which prioritise indigenous, environmental and community values. Consequently, such review processes might result in significant changes to the way these schemes are operated, or even their decommissioning. But the outcomes of review processes suggest this is seldom the case in practice. When overlaid with the influence of power on these processes, the continued dominance of the status quo becomes more legible.

Broadly, the allocation of power depends on three interconnected factors, political influence, level of funding, and the prevailing normative and geopolitical context. It is important to note that these factors can have a synergistic effect on one another, and that the most powerful actors also have the opportunity to shape the normative context to align with their agenda.

Periods of changing power dynamics are more visible, but stable power relationships are more common. Stable power relationships are typically asymmetrical, and the more asymmetric they are, the more likely that rationality in decision making with yield to power. Power asymmetry is common when it comes to large scale infrastructure projects, as the communities which house such projects typically share the following characteristics: low population, geographic isolation, lower levels of education and income, and are commonly indigenous.

Formal review processes, whether they be reviews of operating permits or of applicable regulation, occur at the intersection of regulation, normative values, and power. They thrust actors together in formal and informal ways, which inevitably provides a stage for actors to exert power on one another. The outcomes of reviews then provide something of a commentary on whose power tactics were most successful. Typically, the tactics or strategies of power which actors employ fall into the broad categories of knowledge, rational argument, and process. While all three are normatively associated with objectivity and transparency, on closer inspection power is deeply embedded in each of them.

With this in mind, this review of the literature leads to the following hypothesis to be tested in this research:

> Strategic use of path dependencies, knowledge, rationalisations, and process are employed by dominant actors within formal review process to enable established large infrastructure projects to transcend changing societal values.

3 Research method

This thesis seeks to answer:

> How does power support the intransigence of established large-scale infrastructure in the face of normative change?

Power is the golden thread in the literature used to explain this intransigence, and it appears to operate in two key ways; through power constellations, including the power tactics various actors employ to further their own agenda, and via inertia, in the ways that the physical infrastructure creates conditions of possibility into the future. Consequently, this research examined the role of both power relationships and associated tactics, and the role of inertia in creating and maintaining the status quo that large scale infrastructure projects appear to enjoy.

With this in mind, the hypothesis established through the literature review for this thesis is that:

> Strategic use of path dependencies, knowledge, rationalisations, and process are employed by dominant actors within formal review process to enable established large infrastructure projects to transcend changing societal values.

3.1 Case study approach

With a hypothesis derived from the literature as a starting point, a case study approach enables the in-depth investigation of a contemporary phenomenon within its real-world context (Yin, 2014). A case study approach can also be designed to enable changes over time to be examined (Yin, 2014). Despite the plethora of literature concerning power and ex-ante processes, there is precious little research looking at specific case studies of how established large-scale hydroelectric generation schemes, and other infrastructure projects, change over time to reflect changing social values, particularly in the New Zealand context. Consequently, a case-study was chosen as an appropriate approach to test the above hypothesis.

To assist the selection of an appropriate case study, the following criteria were developed for choosing the large-scale hydroelectric generation scheme. Firstly, the case study needed to have significant positive effects at a national or regional scale and ongoing negative effects at a local scale. This combination tends to lead to differences in opinion between different actors, and the resulting 'conflicts' (the in broadest sense of the word) provide opportunities to examine the tactics of power used by the various actors. This combination also tends to lead to power asymmetries between local communities and proponents of the infrastructure (such as operators and governments). The greater the power asymmetry the more power dominates reason, making the strategies of power more influential in decision making compared to a case study with more balanced power relationships. Arguably, this makes these strategies more discoverable, a useful quality for research.

The case study needed to have been in place for a long time, to enable any physical changes in the case study or its management to be assessed over time against changes in normative values in relation to the environment. Given the changes in these values identified in the literature, a period of at least 50 years is anticipated to be needed. To explore the influence of power, the case study needed to have experienced moments of decision making with the potential to require change. For example, the operating permits being reviewed, or the regulation that governs the infrastructure being reviewed. Such formal review

processes occur at the intersection of regulation, normative values, and power. They thrust actors together in formal and informal ways, which inevitably provides a stage for actors to exert power strategies on one another. The outcomes of reviews then provide something of a commentary on whose power tactics were most successful. Typically, there is an abundance of documentation associated with review processes, which can be mined for examples of power strategies in practise. Also, by their very nature reviews happen ex-post, and so inevitably provide insight into the path dependencies created by the infrastructure. An appropriate case study then, needed to have undergone several review processes during its lifetime, spread through time to enable a longitudinal study. Additionally, the case study needed to be of a sufficiently large scale that it has created visible inertia and path dependencies. Large-scale infrastructure also tends to set the scene for power stability and asymmetry between actors, creating the conditions for power to visibly influence decision making.

Practically, selecting a New Zealand case study facilitated access to research materials and interviewees. In New Zealand, infrastructure which meets the criteria for scale, duration and spatial distribution of adverse effects is limited. However, the energy sector provides several examples. Industrial scale hydroelectric generation facilities are large pieces of infrastructure which create significant path dependencies, because of the replacement costs of the infrastructure and the regulatory challenges of doing so. Additionally, large hydroelectric generation facilities also have significant adverse effects locally, while providing significant benefits to the population more generally. Correspondingly, they typically enjoy significant political support, the perfect breeding ground for power asymmetry. Also, New Zealand went through a stage of significant hydroelectric development in the 1960s and 70s, meaning that there are hydroelectric power schemes that have been in place for over 50 years.

The MPS has also been operating for over fifty years and has been subject to several review processes over its lifetime. Usefully, these review processes are distributed over time, enabling a longitudinal study. I choose to examine four in detail. These four are distributed temporally and cover both full and partial reviews of operational consents, as well as regulation review at a regional and national level. This enabled me to see the various actors participating in different capacities (e.g. Environment Southland (ES) being the decision maker in one and a submitter in another). This gave me further insight into the distribution and strategies of power.

The four review processes which formed the basis of the assessment are:

1. The 1996 Resource Consent Process for the MPS
2. The Manapōuri Amended Tailrace Discharge Project (2010)
3. The pSWLP (notified 2016)
4. The development of the NPSFM 2020.

These review processes are distributed temporally which assists examining the impact of normative change. Further, the reviews occurred at different levels of regulatory hierarchy, offering a range of opportunities for actors to engage in these processes and exert their influence. They are discussed in more detail in chapter 4.6 and 5.1.

3.2 Research questions

Research questions were used to focus the direction of the research. Firstly, the following questions assisted in developing a summary of each of the four review processes:

- what was the purpose of the review?
- what was the statutory and regulatory context for the review?
- who are the key actors?
- when did the review occur?
- what was the outcome of the review?

The next series of questions were used to assess the power relationships between the different actors involved in each of the four processes, focusing on the relative power positions between the actors, their constraints and the trifecta of political influence, money, and alignment (or influence over) normative values:

Where did the power lie?

- who initiated and scoped the review?
- what were the opportunities for the local community to be involved?
- who was the decision maker?
- who commissioned and provided the technical advice on the review?
- what (if any) local or indigenous knowledge was formally considered in the review?

For each of the four review processes, specific examples of the strategies of power were identified and described. Of particular interest was whether these tactics fell the following categories from the literature:

- Path dependencies
- Rationalisation and rationality
- The power of knowledge
- The power of process.

The starting point for the discussion was:

> How does power support the intransigence of established large-scale infrastructure in the face of normative change?

And the hypothesis derived from the literature, that:

> Strategic use of path dependencies, knowledge, rationalisations, and process are employed by dominant actors within formal review process to enable established large infrastructure projects to transcend changing societal values.

Drawing on the information obtained in the results section, I tested the hypothesis using the MPS case study. The hypothesis was tested by dividing it into its constituent parts outlined in the below questions and placing those findings within the context of the literature.

1. To what extent do the review processes and outcomes align with what would be expected based on the normative values and institutional context at the time of the review in the absence of considerations of power?
2. What do these review processes highlight about stable, asymmetric power relationships?
3. How have the path dependencies created by the physical infrastructure of the MPS manifested in the review processes and outcomes?
4. Do the strategies of power identified fit the categories identified from the literature?
5. What are the key themes that came through the research and how do they relate to the strategies of power?
6. How applicable is the research more broadly?

3.3 Research methods

Documents for each of the four primary review processes were analysed, supplemented by interviews with key actors to triangulate my findings.

The document analysis was used to establish the context, content, and outcome of each review. Formal review processes typically generate significant amounts of documentation, held on file by the regulator, and publicly available on request. These publicly held documents were the key source of information for my document analysis, supplemented with legislation and other publicly available reports, statutes and documents, those document that yielded useful information are listed in the references section of this thesis.

Upon completing the document analysis, I reflected on what holes there were in my understanding, which formed the basis for the questions I asked of the interviewees. The interviews were a means of testing my interpretation of the formal documentation and enabled me to explore the elements of the process that were not officially documented. The questions I asked of the interviewees evolved organically during discussion with them but started with the research prompts in section 4.3 below. Interviews were conducted following the document analysis, to help answer any questions that arose through the document analysis. I choose interviewees who were actively involved in the review processes I was assessing, and would not be concerned if they were identified, as while I kept their responses anonymous, there is a chance, given the small pool of people involved in this issue, that someone may be identifiable by their comments. I sought to provide a balance of community members, tangata whenua, environmental advocates, regulators, and infrastructure personnel among my interviewees. I conducted five interviews in total, whose experience and expertise associated with the MPS is described below:

1. A Southland Regional Council (SRC) Councillor periodically between 1989 and 2016, including during the development of the pSWLP. Chaired the Waiau Working Party (WWP) for many years, had a hydrology background and was involved and provided evidence on all four of the review processes examined in this research.
2. A SRC Councillor during the development of the pSWLP, and the NPSFM 2020. Was a member of the hearing panel on the pSWLP. Former regional manager for Fish and Game Southland and was involved in all four of the review processes examined in this research.
3. Coordinator/site manager of the Manapōuri Power Station 2001-2016. Former Trustee of the Waiau Fisheries and Wildlife Habitat Enhancement Trust as the Generator's representative.

4. An ecologist and cultural researcher who whakapapas to Ōraka Aparima Rūnaka. Involved in development of and appeals on the pSWLP process, has undertaken project management for and is a trustee of the Waiau Mahika kai Trust. Is a member of the Guardians of the Lakes (the Guardians), the statutory body responsible for providing advice to the Minister of Conservation on the Operating Guidelines for the MPS.
5. Former co-chair of the Waiau Rivercare Group Inc. (WRG), former chair of the Waiau River Liaison Committee (WRLC). Farmed adjacent to the Waiau River for over thirty years.

In addition to interviews and document analysis, this research also drew on my lived experience. I am a committee member of the WRG, the deputy chair of the WWP, and a contractor to the Waiau Fisheries and Wildlife Habitat Enhancement Trust. These organisations have all been involved in one or more of the formal review processes. Through these various roles, I have been actively involved in two of the four case studies which this thesis addresses. While this afforded me greater insight into the issues at play, the limitation of my involvement is the potential for bias. This makes the interviews such an important part of the method. Understanding and incorporating the views of others in this research limits the risk of my perspective biasing the results.

3.3.1 Ethics

Prior to undertaking this research, I obtained low risk ethics approval through the Massey University's ethics approval process. The documents reviewed are all publicly available, so do not present an ethics risk. Throughout the thesis, I have typically referred to the position people held, rather than their names. Prior to the interview, each interviewee was provided with a consent form outlining the research and the proposed approach, see Appendix A. Interviewees were informed that while their comments would not be attributed to them personally in the body of the thesis, it may be possible for the reader to ascertain their identity given the small number of people who have their knowledge and experience. All interviewees signed the consent form to demonstrate their comfort with this. Interviewees were also given the opportunity to withdraw from the interview at any time, none did so. Interviews were recorded using a mixture of notes and audio recordings.

4 Understanding the Manapōuri Hydroelectric Generation Scheme (MPS)

4.1 Introduction

This chapter provides the background context for the case study explored in this research, the MPS. It is the largest of New Zealand's hydroelectric generation schemes, its design is unusual, and the Save Manapōuri campaign in the lead up to its construction is widely considered the birthplace of the environmental movement in New Zealand, some fifty years ago. The MPS is nestled in a small, geographically isolated community, and is owned and operated by a large, 51% government owned corporate, creating the perfect conditions for a stable and asymmetric power relationship. This chapter begins by detailing the design of the MPS. Understanding its design is critical to understanding the adverse effects of the MPS, the tensions between different actors and why the assumed sunk environmental costs need not be. The chapter then provides a brief overview of the lead up to the MPS's construction, including the Save Manapōuri Campaign, before turning to the fate of the Waiau River, downstream of the MPS. The chapter closes with an overview of the regulatory setting and positions the four formal review processes examined in this research within that context.

4.2 The Manapōuri Hydroelectric Generation Scheme (MPS)

Deep in Fiordland National Park in New Zealand's South Island is the MPS. Situated on the western arm of the picturesque Lake Manapōuri, the isolated power station is largely invisible, the turbines housed in an impressive cavern carved out of the mountains that separate Manapōuri from the West Coast. The mountains of Fiordland, plunging steeply into the ocean on the West Coast are used in lieu of a high dam, affording 178 m of head (Fox, 2001). With Lakes Manapōuri and Te Anau for storage, the MPS diverts up to 95% of the New Zealand's second largest River, the Waiau River (up to 550 cumecs) and diverts it through the Manapōuri Power Station into Doubtful Sound on Fiordland's West Coast, leaving 5% of the waters of the Waiau to take their natural course southeast to Te Wae Wae Bay on the South Coast (URS, 2009). Unlike most hydroelectric generation schemes in New Zealand, the MPS is consumptive, as it discharges the water into a different catchment. It is also unrivalled in scale. The consumptive water take for the MPS represents more than 60% of New Zealand's total consented consumptive surface water take[4]. Despite this, the Ministry for the Environment and Statistics NZ (2019) do not include the MPS's water take in its assessment of consented water takes, water takes for hydroelectricity are excluded. The MPS's existing consents expire in 2031 (Feierabend, 2019b).

Figure 2 shows how the Mararoa River feeds into the MPS. The Manapōuri Lake Control Structure (MLC) is just downstream of the confluence between the Lower Waiau River and the Mararoa River, some 10 km downstream of Lake Manapōuri. This positioning enables the generator to operate the MLC so that some of the Mararoa River waters flow back up the 10 km of the Waiau River between the Mararoa confluence and Lake Manapōuri (sometimes referred to as the Waiau Arm), so that it enters Lake Manapōuri (Feierabend, 2019b). This enables these Mararoa waters to be used to generate electricity,

[4] This number is calculated based on the numbers presented in the MfE/Statistics NZ report and the consented maximum specified in the resource consents for the Manapouri Power Scheme.

rather than take their natural course to Te Wae Wae Bay. This 'backflow' represents 7% of all inflows into Lake Manapōuri (Feierabend, 2019b).

Figure 2: The Waiau catchment and, showing the various Scheme components (source: Waiau Rivercare Group Inc. (2019)*).*

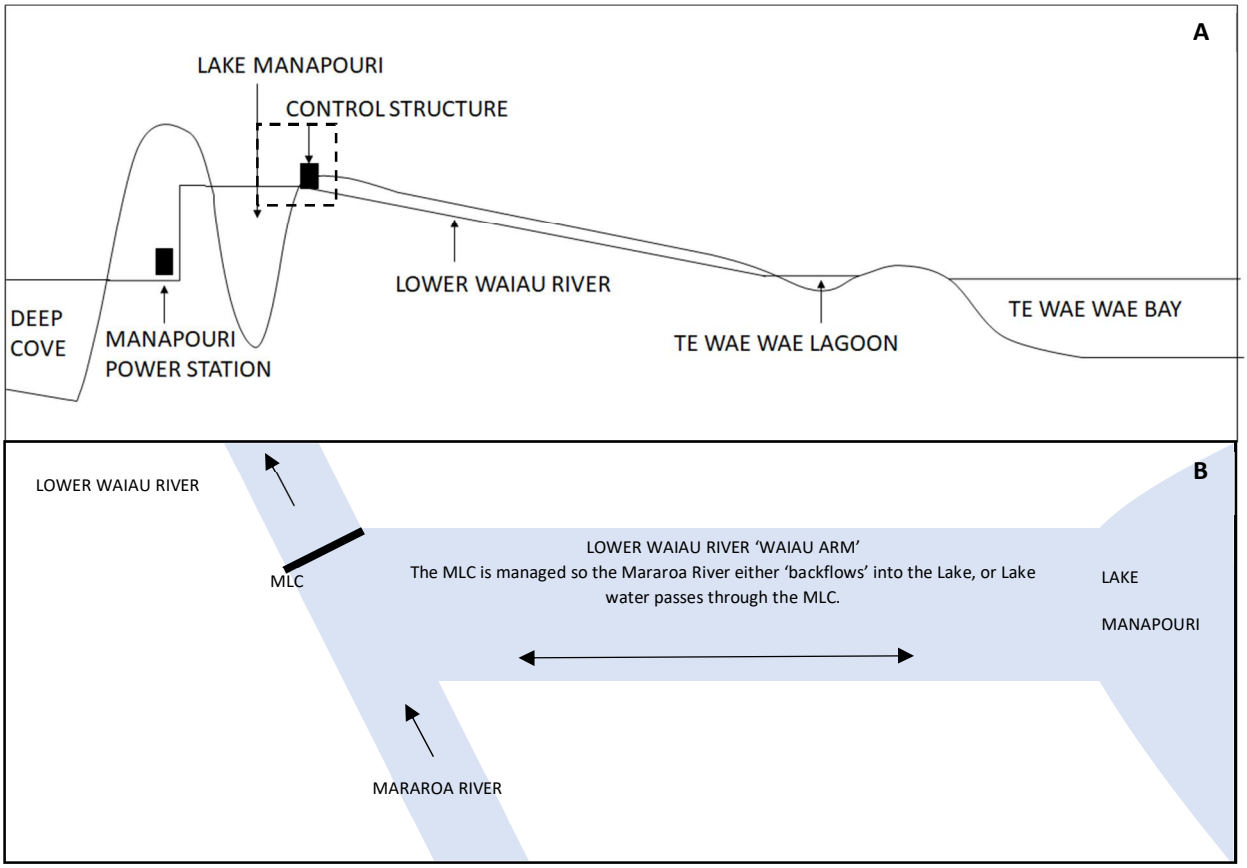

Figure 3: Scheme schematic. 'A' shows a schematic of the MPS as it relates to the Lower Waiau River, 'B' shows an enlargement of the dashed box in 'A' which is a schematic of the MLC, arrows show direction of flow (source: Waiau Rivercare Group Inc. (2019)).

Figure 4: The MLC diverting sediment laden Mararoa waters through the Weir to the lower Waiau River (source: Waiau Rivercare Group Inc. (2019)).

Figure 5: Waiau River water exiting one of two discharge tunnels at Deep Cove, Doubtful Sound (source: Waiau Rivercare Group Inc. (2019)).

Figure 6: The Manapōuri Power Station at West Arm, Lake Manapōuri (source: Waiau Rivercare Group Inc. (2019)).

4.3 Before the Power Scheme

For millennia, the Waiau River provided habitat for flora and fauna on the edge of Fiordland. For eels, lamprey, galaxiids, torrent fish, bullies and macroinvertebrates the Waiau provided a pathway from the pristine southern lakes of Manapōuri and Te Anau to New Zealand's South Coast. The water was joined by numerous tributaries on its journey southeast, draining a bush-clad catchment totalling 862,700 hectares (Moran, Pearson, Couldrey, & Eyre, 2019).

The Waiau catchment is of cultural importance to Māori, whose spiritual and traditional connection to the area has been codified in the Ngāi Tahu Claims Settlement Act 1998. That Act recounts that when the waka Takitimu was wrecked near a river mouth spanning 500 m, the Rangatira Tamatea and the survivors of the wreck, named the river 'Waiau' for its swirling waters ("Ngāi Tahu Claims Settlement Act," 1998). Travelling up the Waiau River, one of their number, Kaheraki, was lost to the spirits of the mountain, and the party established a camp at Lake Manapōuri ("Ngāi Tahu Claims Settlement Act," 1998). Such recollections of tribal identity, along with archaeological sites, wāhi taonga, nohoanga, and mahinga kai resources abound in relation to the Waiau River. At one time, the Waiau River and its surrounds provided some 200 different plant and animal species utilized by Ngāi Tahu ("Ngāi Tahu Claims Settlement Act," 1998). The Waiau River was also an important transport route for Ngāi Tahu tūpuna, particularly those

who whakapapa to Waitaha and Ngāti Mamoe ("Ngāi Tahu Claims Settlement Act," 1998). Knowledge of the trail is a taonga held by whānua and hapū to this day.

4.4 Saving Manapōuri

The 1960s saw an increased desire to conserve and protect New Zealand's remaining wild places, and the scenic beauty of Lake Manapōuri captured the public's imagination. By the time the enabling legislation for the MPS was passed, nearly 60 years after it was first mooted, interest in big infrastructure projects was no longer limited to engineers. The Manapōuri Te Anau Development Act 1963 (MTADA 1963) provided sweeping powers to raise Lake Manapōuri by eight metres, which would have submerged the Lake's flotilla of small islands. The Save Manapōuri Campaign, which ran from 1969 to 1972, galvanised public support against the MPS. What started as concern for scenic amenity was bolstered by science demonstrating the likely ecological impacts, and became an important election issue in 1972 (Fox, 2001). Such was the success of the Save Manapōuri Campaign that it is often referred to as the birth of the environmental movement in New Zealand (Carey, 2018). This newfound environmental awareness provided a novel juxtaposition to the engineering view of the environment as a storehouse of resources. Ultimately, a compromise between the two was reached, the MPS would proceed without the additional storage, managing Lake Manapōuri and Te Anau within their historic natural levels (Carey, 2018).

To ensure the ongoing protection of the vulnerable lake shores, the Guardians were formed and in 1981 MTADA 1963 was amended to require the Guardians to recommend guidelines for the operation of the Power Scheme to government ministers ("Manapouri Te Anau Development Act," 1963). Critically, these guidelines must consider both the vulnerable shores of Lakes Te Anau and Manapōuri, as well as optimising energy generation. The guidelines specify the permitted range of lake levels, the duration each lake may be held at each level, the maximum rate of drawdown of each lake and the turbidity of water from the Mararoa River which may be allowed to back up behind the Mararoa Weir and then enter Lake Manapōuri for generation (Waiau Rivercare Group Inc., 2019). The generator is required to undertake, 'best endeavours' to operate the MPS within the guidelines, with failures reported to the Minister of Energy and the Minister of Conservation (Minister of Energy, 2002).

4.5 The fate of the Waiau River

Unfortunately, saving the lake did nothing to protect the Waiau River, or the lagoon and beaches it supplies with sand and water on the South Coast. The adverse environmental effects of the MPS have unevenly felt downstream of the MLC. Such was the reduction in flow that the Waiau River at times had no flowing water between the Mararoa Weir and where the first of its tributaries entered the Waiau River, 30 km downstream of the Weir (Carey, 2018). Riparian wetlands were dewatered, and the roar of the swiftest river in New Zealand faded away. The Speight Family, who have run Redcliff Station, just downstream of the Mararoa Weir, for over 100 years reflected that they had not realised 'the emotional effect the virtual destruction of the great river would have on them. "It seems in some way that this is not our home anymore"' (Carey, 2018, p. 157). Mairi Speight was gravely concerned about the ecological effects, '"It is obvious that there is not going to be enough water for the birds. Fish are dying…up till now this has been one of the last unspoiled strongholds of nature, but even this has been conquered"' (Carey, 2018, p. 157). Roger Sutton, a field officer for the Southland Acclimatisation Society for many years described the importance of the Waiau River as native fish habitat, and its role as a transport route for

migratory species, including eels, lamprey and migratory galaxiids. The sense of loss is aptly captured by Sutton in the following passage:

> …the Waiau was eventually beheaded just below the Mararoa River junction. Witnessing the death of this great river was a devastating experience, reminiscent of being on a battlefield after a long battle. Death and destruction everywhere, the stench of death and decay and great feelings of despondency. The masses of dead and dying invertebrate fauna clinging to every riverbed stone and boulder exposed for the first time ever was an unforgettable experience…conservation frequently turns out to be about compromise and this was certainly the case with the Lower Waiau River (Carey, 2018, p. 164).

Another unforeseen side effect of the MPS was flooding of farmland near the mouth. The reduced flow of the Waiau River had increased its propensity to meander as it neared the ocean. Negotiated land settlements over the next two decades would see the generator purchase large areas of affected farmland (Horrell, 2022). Following the commissioning of the MPS, Tuatapere, the main riverside settlement south of the MLC, lost its town water supply of fast-flowing clear alpine lake water (Horrell, 2019; McCracken, 1996). A succession of bores were dug to replace the town water supply, successively further and further from the Waiau River. Some elderly residents report that the water tastes so bad that they decline to drink it, their recycling bins confirming their story of resorting to bottled water (Horrell, 2019).

Other effects observed by the community include the loss of freshwater habitat for fish and wildlife, including riparian wetlands, disruption of fish passage and the life-cycle of the long-fin eel population (Stuart, Closs, Lokman, & Jellyman, 2019; Waiau Rivercare Group Inc., 2019). The MPS has seen cultural values diminished, including mahinga kai opportunities (Marshall, 2022). Farm bores near the Waiau River ran dry and were abandoned, and the river mouth was blocked (Horrell, 2022). Landowners along the Lower Waiau experience ongoing erosion (Horrell, 2022; Marshall, 2022). The recreational values associated with the Lower Waiau have also been diminished, including swimmability, fishing, jet boating on the Lagoon and the recreational connectivity that used to exist between the Lagoon and Lake Te Anau (Marshall, 2022; Waiau Rivercare Group Inc., 2019).

The Waiau community is convinced that the Waiau River is degrading (Horrell, 2019, 2022; Marshall, 2022; Vaughan, 2022; Waiau Rivercare Group Inc., 2019). Since the Manapōuri Tailrace Amended Discharge (MTAD) was granted, Te Wae Wae Lagoon, has been reclassified by SRC first as an ICOLL[5] and then as a brackish lake, with associated reductions in buffering capacity (Marshall, 2022). This, despite the Southland Coastal Plan 2013 stating on page 9 in chapter 3 that:

> At the Waiau mouth, the barrier beach and the lagoon it creates, are a demonstration of the interaction between coastal and river processes. Prior to hydro-electric power development on the river, the mouth moved over a four-kilometre length of the coast without full closure. In the post-hydro period, closures have occurred when periods of low river flow have coincided with big seas. However, consents for the Manapōuri power scheme contain a new flow regime for the Lower Waiau, which will go some way to alleviating the problem.

Locals report that Blue Cliffs Beach has gone from a sandy beach extending 150 m landward, home to 2.2 million toheroa in 1966, to a steep cobbled coast which is difficult to walk on, the toheroa are all but gone

[5] Intermittently closed and open lake or lagoon.

- 34,000 in 2009 (Horrell, 2022; Waiau Rivercare Group Inc., 2019). The exacerbated low, slow, stable flow down the Waiau River has also coincided with cyanobacteria blooms in summer, making it unsafe to recreate and practise mahinga kai. Cyanobacteria blooms are typically linked to the increased water temperature and low flows. (Waiau Rivercare Group Inc., 2019).

4.6 Regulatory context

'All planning systems need a legal source of power to legitimise their bureaucratic and development control functions' (Gurran, 2007) (page 41). The key legal sources of power in the New Zealand planning system as it relates to the MPS are the RMA 1991, the Local Government Act 2002, MTADA 1963 and the Ngāi Tahu Claims Settlement Act 1998. These, and their subordinate instruments, are detailed below.

Local government regulates land use and the effects of activities on the environment – including physical and natural resources, as well as infrastructure provision. The LGA 2002 sets up the institutional structure for the 78 local authorities (Department of Internal Affairs, 2022). Eleven of these are regional councils, SRC, also known as ES, is the one with jurisdiction over the MPS. Regional Councils are tasked with managing and planning for natural resources, preparing, and implementing regional policy statements, regional coastal plans, and other regional plans as they see fit. Also have other functions relating to pest management, civil defence and transport (Department of Internal Affairs, 2022). In the context of this research, ES is the local government organisation primarily involved, as the issues at play fall within its mandate in terms of natural resources and regional planning. For completeness however, there are also 67 territorial authorities, which are responsible for preparing and implement district plans, the relevant one in this instance is the Southland District Council.

The RMA 1991 is the latest in a long line of resource management enactments. At the time the MPS was built, the Town and Country Planning Act (TCPA) 1953 was in place. The TCPA 1953 required District Planning Schemes, with a central purpose of development to promote the health safety and wellbeing of residents. The statutory focus had changed to management of natural resources in the TCPA 1977, then the RMA 1991 sought to control environmental effects of activities rather than the activities themselves (Bess, 2010; Cocklin & Furuseth, 1994; C. L. Miller, 1998). The purpose of the RMA 1991 is sustainable management of natural and physical resources. This purpose was designed to be 'integrated, consistent, fair and streamlined' (Palmer 1990). Unfortunately, despite such ambition, the RMA 1991 has faced ongoing criticism, intervention, compromise, requiring the development of comprehensive planning frameworks (Grundy & Gleeson, 1996).

The RMA 1991 sets out a hierarchal system, subordinate planning instruments must be consistent with higher order documents. Central to decision making is Part 2, the Supreme Court described it thus in King Salmon (para. 25): 'Section 5 is a carefully formulated statement of principle intended to guide those who make decisions under the RMA 1991. It is given further elaboration by the remaining sections in Part 2, Sections 6, 7 and 8.' The RMA 1991 provides responsibility to central government, typically through the Ministry for the Environment (the MfE), to prepare National Policy Statements (NPS), including the Coastal NPS, National Environmental Standards (NES), National Planning Standards, and other regulations made under the s360 RMA 1991 – e.g. Resource Management Forms Fees and Procedure Regulations 2003.

Regional Policy Statements must give effect to NPS, and Regional Plans must give effect to Regional Policy Statements and must not be inconsistent with NES (Ministry for the Environment, 2021). Of the NPS

currently in place, there are two that primarily relate to the MPS. They are the National Policy Statement for Renewable Energy Generation 2011, which aims to increase renewable energy generation activities, and the NPSFM 2020 which prioritises the health of water bodies above other uses. One of the formal review processes examined in this research is the review of the NPSFM 2014 (amended 2017) and its replacement with the NPSFM 2020.

Stepping down to a regional scale, ES administers the Southland Regional Policy Statement and currently has two relevant Regional Plans in place (Southland Regional Council, 2022). Regional Plans must implement Regional Policy Statements as well as take into account Iwi Management Plans, which are prepared by Iwi authorities under the RMA 1991 (Ministry for the Environment, 2021). The relevant Iwi Management Plan in the context of the MPS is Te Tangi a Tauira – the cry of the people 2008, and the Iwi authority specified in the RMA 1991 is Ngāi Tahu. There are four Rūnanga o Ngāi Tahu ki Murihiku, of these, it is Ōraka-Aparima Rūnaka which holds mana whenua over the Waiau River (Ngāi Tahu ki Murihiku, 2008).

Regional Plans set out the objectives, policies and rules which apply to activities that use or impact on natural resources (Ministry for the Environment, 2021). This includes specifying the circumstance in which users must apply for a Resource Consent for their activity. One of the two relevant regional plans in Southland is fully operative, the Regional Water Plan for Southland 2010 (Southland Regional Council, 2022). The other is the pSWLP, which is operative in part and still under appeal. The RWP will be replaced by the pSWLP once appeals on the pSWLP are decided (Southland Regional Council, 2022). The process of replacing the RWP 2010 with the pSWLP is another of the formal review processes examined in this research.

District Plans are less relevant in this research for two reasons. The first is that this research deals with the management of natural resources, which fall within the scope of Regional rather than District Plans. The second is MTADA 1963. The High Court has determined that MTADA 1963 means that the MPS does not require resource consents for undertaking land use activities, which are governed by District Plans, that are '"necessary" or "requisite"' for the operation of the MPS ("NZHC 3178," 2014, para. 51). The MPS does, however, hold resource consents to dam, use, divert and discharge water under the Regional Plans (Feierabend, 2019b). Because of the way the RMA 1991 addresses water, the water rights conveyed by MTADA 1963 became deemed permits under the RMA 1991 when it was enacted. This meant the generator had until 2001 to apply for resource consents under the RMA 1991. The process of applying for the resource consents to replace the deemed permits started with the initiation of the WWP in 1990, and lead to consents being granted in 1996 (Feierabend, 2019b). This process is another of the formal review processes examined in this research.

Resource consents define the activity which is allowed by the consents, including the conditions that must be met to comply with the consent and how long the consent lasts. Failure to comply with consent conditions, or undertaking an activity which requires consent without one, can result in compliance action and ultimately prosecution by the relevant local authority under the RMA 1991 (Ministry for the Environment, 2021). As such, if a user wishes to alter their consented activity so that it would no longer comply with the resource consent, they must either apply to change their consent conditions or apply for a new resource consent. The generator undertook such a process in 2009, referred to as the MTAD. The MTAD process is the last of the four formal review processes examined in this research.

Outside the RMA 1991, MTADA 1963 requires the preparation and implementation of Operating Guidelines for the MPS under s4A(1):

> **4A Operating guidelines for levels of Lakes Manapōuri and Te Anau**
>
> The Minister shall from time to time promulgate, by notice in the Gazette, operating guidelines, based on recommendations submitted to him or her by the Guardians of Lakes Manapōuri and Te Anau and the corporation, for the levels of those lakes aimed to protect the existing patterns, ecological stability, and recreational values of their vulnerable shorelines and to optimise the energy output of the Manapōuri power station.

It is worth noting that the Lower Waiau River does not feature in this provision. It does feature once in the Operating Guidelines themselves, to enable flood flows to be reduced and to discharge sediment laden flows from the Mararoa into the Lower Waiau, rather than allow them to enter Lake Manapōuri:

> **7. Gate opening and closing procedures –**
>
> The Parties have agreed upon and adopted gate opening and closing procedures which are designed amongst other things: …(b) in the case of the Lake Manapōuri Control Structure, to reduce potentially dangerous increases in river flow downstream of the gates; and to bypass flood flows from the Mararoa River in such a manner as to prevent dirty debris-laden water from entering Lake Manapōuri.

Consequently, MTADA 1963 and the Operating Guidelines promulgated under it do little to mitigate the adverse effects of the MPS on the Waiau River. Essentially, the Guidelines require the impact of sediment laden Mararoa water to be felt by the Waiau River alone, without the dilution of a significant amount of pristine alpine water that would naturally have been present at the confluence.

The other key piece of legislation relevant to the MPS is the Ngāi Tahu Claims Settlement Act 1998, which details statutory acknowledgement Ngāi Tahu holds in relation to the Waiau River in Schedule 69. But the success of statutory acknowledgements in protecting rivers from high-volume water takes is questionable in practice (Morris & Ruru, 2010). They are most often brought to bear in resource consent application, where applicants are required to consult with tangata whenua and obtain affected party approval from them or face limited notification under s95B of the RMA 1991. Nevertheless, statutory acknowledgements provide an important codification of connection and mana whenua (Morris & Ruru, 2010).

4.7 Summary

The age and scale of the MPS makes it a useful case study to unpack the role of power in review processes for established large-scale infrastructure in general, and hydroelectric generation schemes in particular. The MPS diverts up to 95% of the Waiau River in Southland through a power station at Lake Manapōuri's West Arm, discharging a flow comparable in size to the Waikato River into Doubtful Sound on the West Coast. Naturally, the Waiau waters would make the journey southeast to Te Wae Wae Bay on the South Coast. Diverting the majority of New Zealand's second-largest river outside the catchment has significant ongoing environmental effects. These include adverse impacts on habitat, fish passage, water quality and quantity, cultural values such as mauri and mahinga kai, as well as recreational and social values.

The MPS has a long history of power struggles. Ex-ante, the Save Manapōuri Campaign, in opposition to the MPS's construction, is widely considered the birthplace of the environmental movement in New Zealand. While the campaign was unsuccessful in preventing the MPS's construction, the proposal to raise Lake Manapōuri was abandoned. Ex-post, the MPS has been subject to a number of review processes over time, which have received less public attention. Four of those review processes are examined in this research, which allow for a longitudinal assessment, as they span 30 years. They also all occurred under the existing legislative framework underpinned by the RMA 1991. The RMA 1991 sets up a hierarchy of national, regional and district regulations, with individual activities being authorised by resource consents. The review processes detailed in this research span this hierarchy, including resource consent processes, regional regulatory reviews, and reviews of national regulations.

5 Results

5.1 Introduction

This chapter presents the research findings of the MPS. To examine the power dynamics, and the use of power tactics, including path dependencies in relation to the MPS, four formal review processes that relate to the MPS were looked at. These formal review processes provide a lens to examine the dominant power assemblages and understand how they have changed over time. As described in Table 1, the four review processes span a period of 30 years, starting around 20 years after the MPS was established, providing a longitudinal element to the research. This temporal distribution enabled examination not only of the changing outcomes and processes compared with normative changes, but also the changing power constellations between actors over time. There are processes reviewing operational permits initiated by statutory review, initiated by the generator, and regulatory reviews at both a regional and a national level. This variety of processes enabled the research to explore how the actors interact and operate in different roles and at different spatial scales. Of particular note is who initiated each review process. There is a distinct lack of opportunity for the community to initiate and scope review processes, they are consistently cast as the respondent to the proposals of others. The remainder of the results chapter presents the findings in relation to each of the review processes in chronological order, starting with the WWP and finishing with the NPSFM 2020. For each process, the section commences with a summary of the review process, followed by a description of the strategies of power that were employed, and finishes with the outcomes and consequences of the review process.

Table 1: Summary of the four review processes.

Review characteristics		The Waiau Working Party (WWP)	Manapōuri Tailrace Amended Discharge (MTAD)	Proposed Southland Water and Land Plan (pSWLP)	National Policy Statement for Freshwater Management (NPSFM) 2020
Timing of review		1990-1996	2003-2010	2016-current	2018-2020
Initiated by		Electricity Corporation of New Zealand (ECNZ) and SRC but required because the RMA 1991 was enacted.	Meridian Energy Ltd	Regional Council, required to implement NPSFM 2014.	Central government.
Review purpose		Review operational permits for the MPS, required because the RMA 1991 was enacted.	Review operational permits for the MPS to take additional water.	Review Regional Water Plan 2010 to implement national regulation under the RMA 1991.	Review NPSFM 2014 (amended 2017) by central government. Included an exception clause for 'big hydro', including the MPS.
Statutory and regulatory context		RMA 1991 was new; resource consents were required for the first time.	New consents sought under the RMA 1991.	Required to give implement the NPSFM 2014, which was promulgated under the RMA 1991.	Central government decided to review the operative NPSFM 2014 (amended 2017).
Outcome		Mandatory minimum flow regime implemented.	Resource consents to take additional water granted.	Decision on appeals yet to be released.	An exception was included in the gazetted version of the NPSFM 2020, but it was not as strong as the draft NPSFM released in 2019.
Planning style adopted		Communicative	Synoptic, described as adversarial	Synoptic with elements of communicative planning	Synoptic
Key actors in relation to the MPS	**Generator**	ECNZ (generator)	Meridian Energy Ltd (generator)	Meridian Energy Ltd (generator)	Meridian Energy Ltd (generator)
	Regulator	SRC	SRC	SRC	Minister for the Environment supported by the MfE
	Iwi	Ngāi Tahu representative on the WWP	Te Ao Marama	Ngā Rūnanga o Ngāi Tahu ki Murihiku/Te Ao Marama	Te Rūnanga o Ngāi Tahu
	Local community	WWP (community consultation group)	WWP	WRLC WRG	WWP WRG
	Local government as a submitter	-	-	-	SRC
	Conservation	Department of Conservation Fish and Game Southland	Department of Conservation Fish and Game Southland	Department of Conservation Fish and Game Southland	Department of Conservation Fish and Game Southland

5.2 The Waiau Working Party (WWP) and the 1996 consent process

5.2.1 Introduction

The WWP's work in the lead up to the first resource consent process for the MPS provides an example of communicative planning in practice. Driven by the regulator and the generator, this process enabled broad involvement of the various stakeholders and interested parties. But opportunities for Iwi involvement were modest, reflecting the normative settings at the time, and while less overt than in subsequent formal reviews, power tactics were visible in this process. Ultimately, a compromise position was reached, and the process resulted in improved outcomes for the Waiau River, namely the establishment of a minimum flow downstream of the MLC.

5.2.2 Background

When the RMA 1991 was passed, there were no regulatory controls to protect the Waiau River, and there was no minimum flow required into the Lower Waiau River south of the MLC (ECNZ, 1996a; Rackham, 1996; D. Riddell, 2009; D. Riddell, Freestone, & Nutting, 1993). Section 4 of MTADA 1963 gave the generator 'full power and authority,' to 'raise and lower the levels of Lakes Manapōuri and Te Anau and the Waiau and Mararoa Rivers and their tributaries'. These rights were considered deemed permits under the RMA 1991, which would expire in 2001 if resource consents were not sought. To that end, the generator, ECNZ at the time, applied for resource consent in 1996 (Feierabend, 2019b).

The WWP was set up in 1990 as a consultation group between the generator, the Regional Council and the community (J. Riddell, 1996). The Working Party provided a forum for identifying, recommending research and resolving issues associated with the significant adverse effects of the MPS on the Lower Waiau River and catchment (J. Riddell, 1996). The Working Party was an example of communicative planning in practice, described by interviewee 1 as "successful and fit for purpose". The original aim of the WWP was to reach agreement between the community and the generator ahead of the resource consent process for the MPS (J. Riddell, 1996). However, while not formally a Committee of Council, the WWP were given a review capacity through consent conditions, and 30 years on the Working Party still meets once or twice a year primarily reviewing consent monitoring data from the generator (interviewee 1).

The WWP began as a "venting session basically" (interviewee 1), in April 1990. While this was prior to the RMA 1991 gaining royal assent, the Resource Management Bill was "well and truly sorted by then' (interviewee 1). It was clear by this time that there would be a resource consent process required under the RMA 1991, and ECNZ, who owned the MPS at that time, and SRC were committed to following a consultative process with the community. After that first meeting the WWP was formally formed and included within its membership a broad church of community members and interest groups. Member organisations included: the Director-General of Conservation, Federated Farmers Southland Inc., the Fiordland Promotion Association, the Guardians of Lakes Manapōuri Monowai and Te Anau (the Guardians), the New Zealand Jet Boat Association Inc, Te Rūnanga o Ngāi Tahu, the Secretary for the Environment, the Southland Conservation Board, the Southland Fish and Game Council, the Southland District Council, the Te Anau Rod and Gun Club and Tuatapere and District Promotions Inc (J. Riddell, 1996). Prior to Te Ao Mārama Inc. being established in 1996, which represents Murihiku tangata whenua for resource management purposes, Te Rūnanga o Ngāi Tahu were represented by individuals with whakapapa to the Waiau River on the WWP (interviewee 4).

Over the next 6 years the WWP worked closely with ECNZ, who at that time was considered a member of the WWP, to address the concerns raised by the community through scientific enquiry. There were seven sub-committees of the WWP, one to address issues pertaining to: national/legal; Iwi; hydrology; coastal; aquatic ecosystems; recreation; and erosion/sedimentation (J. Riddell, 1996). These task groups helped select the scientists and set the scope for the science that was funded by ECNZ, and the final reports were presented to the full WWP. Interviewee 1 recalls that this was a largely successful process, with most member organisations agreeing to support the proposed conditions of consent. Ultimately, of the WWP member organisations only Forest and Bird declined to sign the joint submission from the WWP in favour of the proposed consent conditions (ECNZ, 1996b; J. Riddell, 1996; Waiau Working Party, 1996). Interviewee 1 recalls that Forest and Bird were not convinced that there was enough water, and submitted in opposition to the consent application, as did the South Island Eel Industry Association as well as Christine Henderson (Kingston Morrison, 1996). While several other submitters raised concerns about specific elements of the conditions, there were eight individual submissions in support, including the WWP, whose submission was signed by 13 member organisations (Kingston Morrison, 1996). All submitters agreed not to be heard and the consent was processed and issued with little fanfare (McClelland, 1996).

5.2.3 Strategies of power

As a communicative planning process, power tactics are less overt than in the other processes assessed in this research. The WWP process highlighted the importance of individuals in shaping institutional responses, and the legitimacy early community involvement can lend to consenting processes. This comprehensive involvement in developing the science meant that most member organisations of the WWP did not contest the consent application when it was made. However, power tactics were not absent from this process. It seems that knowledge as power emerged in relation to some of the scientific work supporting the minimum flow regime, and one interviewee noted that ECNZ were “hard negotiators” when push came to shove.

The Waiau River “was forgotten about except by people who didn’t have much political clout” (interviewee 2). But the WWP process came hot on the heels of a lengthy and expensive litigation exercise concerning a hydro-scheme in New Zealand’s North Island. ECNZ was keen to avoid repeating such litigation further south, particularly given the “ill-feeling about the whole Lower Waiau, about how it had been neglected and forgotten about at the community level” (interviewee 1). Interviewee 1 speculated that ECNZ knew at the start that it would have to put some water back in the Waiau River, and interviewee 2 recalled that, “we always thought that ECNZ had about $10,000,000 to spend” paying off the various stakeholders in the community. At first glance, the catalyst for the WWP’s early participation and scientific legitimacy appears to have been a product of ECNZ’s litigation anxiety.

Yet perhaps that paints too simplistic a picture, after all, the actor organisations are nothing without the individuals who comprise them. While a protracted approval process further north may have sharpened ECNZ’s focus, the WWP marked a distinct change in style for ECNZ. The generator had previously simply bought affected land at a discounted rate (Interviewee 1 and 5). This alternative approach speaks to the role of the individual in shaping institutional behaviour. Interviewee 1 noted that one ECNZ employee in particular was “instrumental” in the WWP, and “put his job on the line”. While noting there was a bit of suspicion on both sides, interviewee 1 said that “ECNZ never quibbled about work that we all agreed to”. Interviewee 2 recalled the “great job” done by the WWP chair, who “let everyone have their say and was welcoming of anyone who wanted to come along.”

While the WWP chair remained involved in the WWP for the next 30 years, there has been less continuity of individuals from the generator. Interviewee 3 suggested that generator's decision to centralise staff in Christchurch saw reduced connection, understanding and consideration of the Lower Waiau and its community. This is supported by the reflections of interviewee 1, who noted that, "they[6] weren't so scary in those days".

Greater good arguments and path dependencies, including those created by statute, framed the WWP's options for improving the outcomes for the Waiau River. Interviewee 1 and 2 noted that there was a strong recognition within the WWP of the greater good arguments, and the need to work within MTADA 1963, particularly with the value of the smelter to the local economy. Interviewee 1 commented that, "we[7] were trying to win small things" and, "do our best with what we could". Interviewee 1 noted that there was a feeling that any additional water was a step forward, that even a minor change was better than nothing. While there has subsequently been more recognition of the Lower Waiau River, "people weren't talking in that way then, we were just trying to do our best with what we could, which meant increasing the minimum flow" (interviewee 1).

In the 1990's Te Rūnanga o Ngāi Tahu's engagement opportunities were primarily as a member of the WWP, although ECNZ's Assessment of Effects on the Environment (AEE) notes there was additional consultation undertaken with local Rūnaka (Davis, 1996; ECNZ, 1996a). When the WWP was established the Te Rūnanga o Ngāi Tahu treaty settlement was still some years away (Ngāi Tahu ki Murihiku, 2008), and interviewee 2 reflected that, "none of us really understood the relationship Māori had with the river at that time". Interviewee 4 noted that the $1,000,000 that was paid by ECNZ for Ngāi Tahu to establish the Te Waiau Mahika Kai Trust was quite modest compared to other trusts which were established, "quite different to how you would expect it today". At that time Iwi didn't have the structures to support the people involved, and there wasn't financial support either, so there was significant volunteer effort (interviewee 4). Subsequently, Te Ao Marama Inc was set up to engage in resource management issues on behalf of the Rūnaka ki Murihiku (Ngāi Tahu ki Murihiku, 2008), and the WWP sent agenda to Te Ao Marama (interviewee 1). There were two cultural reports undertaken in the lead up to the resource consent application, one looking at tikanga and cultural values, the other at mahinga kai (Davis, 1996). These reports sought to capture the physical impediment the MPS presents to tangata whenua in practicing their culture (Davis, 1996). However, there were no cultural monitoring requirements proposed in consent conditions (ECNZ, 1996a). Interviewee 4 commented that, "data equity and connection with the technical information is quite low". This speaks to the elevation of scientific knowledge over indigenous knowledge in decision making at that time, and the legacy of information deficits such decisions create by setting the monitoring requirements decades into the future.

While the WWP process was characterised by high levels of scientific legitimacy, the positivist approach to decision making at that time made it susceptible to power's influence. Interviewee 2 recalled that the modelling used to determine the minimum flow focused on highly channelized reaches of the river. This meant that additional water in these locations would make very little difference to the amount of habitat available beyond about 15 cumecs, it would just increase the height of the water up the bank. Interviewee 2 reflected that, had more braided, less channelized reaches been selected, the optimum minimum flow may have been quite different. But at that time the WWP was "trying to do the best with what we had,"

[6] The generator.
[7] The WWP.

(interviewee 1) and the "big mistake we made was thinking that providing a consistent minimum flow would fix the problems, we didn't realise the importance of a variable flow" (interviewee 2). These knowledge deficits placed the WWP at a disadvantage when it came to negotiating outcomes for the river. Particularly given the generator had "basically captured all the people with those skill sets in New Zealand" (Interviewee 1).

As a small, geographically isolated local community downstream of the MPS (Smith, 2009), the Waiau community suffered from a significant power asymmetry. By comparison, ECNZ were "hard negotiators", and interviewee 2 recalls that the environmental lobby were negotiated down to their bottom dollar limit, while at the same time internalising guilt for the unfairness to other groups who received less still, particularly the Mahika Kai Trust. Interviewee 1 noted that ECNZ funding both the WWP meetings and the studies, and "ECNZ never quibbled about work that we all agreed to, but they never funded the people's time either". The WWP process involved the community early, the science was co-designed and considered legitimate, and ECNZ had a local presence and connection at that time (interviewee 1 and 3). As a result, most of the parties represented in the WWP signed up to the conditions ECNZ proposed for the resource consent, and there was no further litigation (ECNZ, 1996b; McClelland, 1996; J. Riddell, 1996). This example reinforces the literature around the importance of early participation, local ties and benefits, and the importance of formal consultation opportunities. Interviewee 1 reflected that people on the WWP felt empowered by being involved in the process. While this process represented a significant improvement on the status quo, both for ecological outcomes and community engagement, ECNZ ultimately utilized the power asymmetry between itself and the stakeholders to further its own agenda.

5.2.4 Outcome

The consent process culminated in several changes to the status quo. A minimum flow at the MLC was written in as a consent condition, requiring a summer minimum flow of 16 cumecs, 12 cumecs in the winter, and 14 cumecs on the shoulders (Feierabend, 2019a). This change resulted in a significant improvement to the first 12 kilometres of the Waiau River downstream of the MLC, which had previously often run dry. But this was a negotiated compromise (interviewee 2). Pre-control the low flow in the Waiau River was around 200 cumecs (McConchie, 2022; D. Riddell et al., 1993). Today, SRC considers a catchment fully allocated if the take is 30% of the low flow (Southland Regional Council, 2017b). If it weren't for the Waiau specific exception, this would be equivalent to a total take from the Waiau River of less than 70 cumecs. The maximum take for the MPS, described in the consent conditions as the maximum discharge from the tailrace tunnel, was set at 510 cumecs and granted for a term of 35 years (Feierabend, 2019a). Further, the science of the time was unclear about the necessary minimum flow (Jowett, 1993), but interviewees 1 and 2 recalled discussions at the time that a minimum flow of around 30 cumecs would optimise trout habitat in the reaches assessed. This was based on the optimum flow conditions for brown trout within three discrete stretches of the Waiau River directly downstream of the MLC. It did not address the habitat requirements of any other fish species or invertebrates, assess the flow requirements to reinstate riparian wetlands, or undertake a spatial assessment of the broader catchment. A contemporary assessment with a broader focus would likely recommend a more nuanced flow regime, both temporally and spatially, and require significantly higher minimum flows (J. Riddell, 2022).

Despite the evidence in favour of a higher minimum flow, the generator negotiated a lower minimum flow, with the residual effects to be mitigated through the provision of $5,000,000 into a Trust charged with fisheries and wildlife habitat enhancement throughout the Waiau Catchment (J. Riddell, 2022). Since then the Waiau Fisheries and Wildlife Habitat Enhancement Trust has, in conjunction with farmers and in

some instances QEII, put in 450 km of fences, protecting 2824 ha of land (and 100s of kms of streams) (J. Riddell, 2022). The consent also required five recreational flushing flows of 35 cumecs over the summer months (Feierabend, 2019a). These provide recreational jet boaters with sufficient water to get up the bed of the Waiau to the MLC Structure five times a year. There is also a requirement to provide a single annual flow of 150 cumecs on the request of the Regional Council to enable passage of migratory fish species at the mouth (Feierabend, 2019a). It does not appear that this condition has been exercised (interviewee 1).

The generator made some financial contributions to other affected parties. ECNZ contributed $1,000,000 to Ngāi Tahu to set up the Mahika kai te Waiau Trust and donated buildings relocated from West Arm. Another $1,000,000 was paid to the Tuatapere Amenities Trust, SDC received funding for boat ramps, and an agreement between SRC, the generator and Federated Farmers culminated in the formation of a special rating district (interviewee 1 and 5). The special rating district requires the generator to meet the landowner rate dollar for dollar and make an annual contribution of $200,000, adjusted for inflation against the Consumer Price Index (Horrell, 2018). This money, administered by the WRLC is primarily for maintaining and spraying the berm fence, needed once the Waiau River no longer provided an adequate physical boundary between properties (Horrell, 2018). Any unspent funds are added to a disaster reserve, and interest earned is placed into a special projects fund (Horrell, 2018). To put these figures in context, it was generally acknowledged at the time that each cumec was worth about $1,000,000 to the generator each year (interviewee 2). The generator got up to 510 of them (Feierabend, 2019a). While the negotiated changes were improvements on the status quo, arguably what the community got was small change. Ngarita Dixon, a stalwart of the Tuatapere community reflected that they were, “babes in the woods”, up against the generator’s team of experienced lawyers and scientists (interviewee 5). In 1996, the consents were granted with little fanfare for the maximum term of 35 years (Feierabend, 2019a; McClelland, 1996).

5.2.5 Summary

The WWP’s work in the lead up to the 1996 resource consent process for the MPS was a communicative planning process championed by specific individuals employed by the regulator and the generator (ECNZ). This speaks to the important role individuals play in driving institutional responses. Some interviewees reflected that while during this time there were ECNZ staff involved in and connected to the community, the subsequent move to centralise staff further north saw a weakening of the relationship between the generator and the community. Members of the WWP had the ability to voice their concerns and be involved in scoping and reviewing the science designed to investigate these concerns, the result was that most stakeholders chose not to contest the resource consent process itself.

The positivist approach to decision making that prevailed at that time saw science elevated above other knowledge types, making decision making susceptible to the influence of power. Engagement with local Iwi was modest, and primarily done through the WWP. While cultural impacts received some consideration, the lack of cultural monitoring required by the consent speaks the ongoing marginalisation of indigenous knowledge compared to scientific knowledge. It also appears that had the science regarding the minimum flow been scoped more broadly, to include braided sections of river, the recommended minimum flow, and the ultimate negotiated position, may have been higher. As it was, despite the WWP process being described as, “fit for purpose” by those involved, when final negotiations were being made, ECNZ remained “hard negotiators”. At the time, 1 cumec was considered worth around $1 million a year. ECNZ secured access to up to 510 cumecs of water for a 35-year term in exchange for a 12-16 cumec minimum flow and $5 million in on-off contributions to local Iwi and community groups.

5.3 The Manapōuri Amended Tailrace Discharge (MTAD) consent process 2009-10

5.3.1 Introduction

The generator-initiated consent process referred to as the MTAD, had a distinctly different flavour from that of the 1996 consent process detailed above. The generator did undertake consultation with Iwi and other stakeholders in the lead up to applying for resource consents. However, when faced with community push-back, the generator embarked on a litigious consent process. A plethora of experts were engaged in response to concerns raised by local submitters, and the nuance of the RMA 1991 process was used to narrow the scope of decision making. While a voluntary flushing flow regime was established to assist with the invasive periphyton *Didymosphenia geminate* (didymo), the generator was successful in obtaining more water. This meant a further 18% reduction in the flow of the Waiau River, a negative outcome for River health.

5.3.2 Background

Under the RMA 1991, many activities can only be carried out if a user has a resource consent to undertake them. If a user wishes to alter the way they are undertaking their activity and would no longer comply with the resource consent, they have two options. They must either apply to change their consent conditions or apply for a new resource consent (Ministry for the Environment, 2021).

The consents ECNZ obtained in 1996, addressed in the previous section, allowed ECNZ to discharge up to 510 cumecs of water into Deep Cove through a single tailrace tunnel, which enabled the water from Lake Manapōuri to be discharged into Deep Cove after it had been used to generate electricity (Feierabend, 2019a). In 1998 ECNZ got permission to build a second tailrace tunnel, as the first one constrained how much electricity the MPS could generate (Feierabend, 2019b; D. Riddell, 2009). Once the second tunnel was built, the MPS could operate closer to its potential, and between 2002-2007 a refurbishment of the generators increased the generating capacity of the MPS from 700 MW to 850 MW (Christensen, 2022). Now the limiting factor was the maximum discharge specified in the resource consent (interviewee 3). The generator sought to rectify this by initiating the MTAD Project, which sought to increase the maximum discharge through the tailrace tunnels into Deep Cove from 510 to 550 cumecs (Christensen & Baker, 2009). To do this required a change to the resource consents held for the MPS, which was applied for in 2009.

By this time generator was no longer ECNZ. In 1999 the government divided up ECNZ into a number of smaller entities as part of the broader electricity sector reviews (Ministry of Business Innovation and Employment, 2015). The entity that took over the ownership and operation of the MPS was Meridian Energy Ltd (Meridian), which was, at that time, a 100% government owned state-owned enterprise (SOE) (Ministry of Business Innovation and Employment, 2015). Subsequently, 49% of Meridian was publicly listed in 2008 (Ministry of Business Innovation and Employment, 2015).

The WWP was, as it had been in the 1996 process, a key vehicle for community consultation for the generator. Consultation with the WWP began in 2003, with a proposal to increase the maximum discharge from 510 to 640 cumecs (interviewee 1). There were significant concerns voiced about the effects of that proposal, and it was brought back to 550 cumecs, which remained unacceptable to the WWP. Two interviewees noted a distinct change in the generators treatment of the local community following partial privatisation. In contrast with the communicative planning approach pursued in 1996 discussed in the previous chapter, the MTAD consenting process took, “the adversarial route” (interviewee 1).

By the time MTAD was in development, Meridian had also begun to consult separately with Iwi through Te Ao Marama. Te Ao Marama Inc. represents the four Papatipu Rūnaka ki Murihiku, which are part of Te Rūnanga o Ngāi Tahu, in matters of policy and resource management. The Rūnaka which holds mana whenua over the Waiau River is Ōraka-Aparima Rūnaka (Te Ao Marama Inc., 2009). Te Ao Marama agreed to prepare a Cultural Values Assessment for Meridian, which formed part of the MTAD application, but also submitted on the consent application (Te Ao Marama Inc., 2009).

Submitting on the consent application was one of the few opportunities for the community to formally participate in MTAD. In total there were 31 submitters on the application (Engel, 2009b). Of these one was in support, 23 were opposed, and seven were neutral (Engel, 2009b). 26 requested to be heard, and 14 ultimately appeared at the hearing (SRC Consents Committee, 2009). Submitters included larger regional and national organisations such as Fish and Game, Royal Forest and Bird Protection Society (Forest and Bird), and the Department of Conservation, as well as smaller local organisations, such as the Waiau Habitat Trust, Tuatapere Promotions and the Guardians of the Lakes, and individual community members. The WWP became a submitter against the proposal, as did many of its members, both individuals and organisations.

Meridian submitted the MTAD application to SRC for approval in 2009 (Meridian Energy Ltd., 2009b). SRC engaged a hearing panel and gave it delegated authority to consider and decide the application. The panel's membership comprised three councillors and two independent experts (Engel, 2009a).

The MTAD project proposed increasing the maximum that could be discharged from the power station into Deep Cove from 510 cumecs to 550 cumecs (Meridian Energy Ltd., 2009b). Meridian's modelling suggested that this would increase the take from the Waiau River by 10 cumecs on average, or a further 315 billion litres of water per year (Mabin, 2009). This, the modelling said, would reduce the flow down the Lower Waiau River by an additional 18% (Mabin, 2009).

The MTAD application documents contended that the effects would be less than minor and used the existing baseline (post the second tailrace tunnel) as the point of comparison (Christensen & Baker, 2009; Meridian Energy Ltd., 2009b). But the community had learnt a lot since 1996, and while still poorly resourced compared to the generator, the WWP argued their case to the panel as a submitter in opposition (Waiau Working Party, 2009). However, despite the community's opposition, the consent was granted, and the baseline effectively reset again (J. Riddell, 2022).

5.3.3 Strategies of power

Meridian sought to employ the power of process throughout the MTAD process. The way process was used to limit the consideration of effects and narrow the discretion of decision makers made contestation challenging. Knowledge as power was successfully used to undermine and overwhelm community opposition to the proposal, the environmental assessment as part of the MTAD proposal running to hundreds of pages of expert evidence. The MTAD process highlighted the pre-eminence of scientific knowledge within RMA 1991 consent processes, in the compelling language both the way knowledge and uncertainty are articulated.

The MTAD application was for new consents, rather than amending the existing consents that were granted in 1996. Meridian choose to apply for new consents for the discharge between 510 and 550 cumecs, rather than applying to alter their existing consents which allowed them to take a maximum of 510 cumecs (Meridian Energy Ltd., 2009b). This approach meant that the cumulative impacts of the MPS

on the Waiau River were not explicitly addressed by Meridian in its consent application (Christensen & Baker, 2009; Meridian Energy Ltd., 2009b). Instead, Meridian argued that the existing consents, and the activities they authorise, form part of the 'existing environment' (Christensen & Baker, 2009). The existing environment is a concept that has emerged through RMA 1991 caselaw which defines the existing environment as the baseline state of the environment against which the effects of the proposed activity are measured. By taking this approach, it was possible for Meridian to effectively reset the baseline against which its proposed activity was measured. It also meant that the panel was unable to make changes to the existing resource consents granted in 1996 (SRC Consents Committee, 2009).

This strategic and technical use of the regulatory process made opposing the MTAD proposal difficult, as such a conceptualisation was illogical to non-planners. By way of example, Te Ao Marama 's submission states:

> The adverse impact upon Ngā Rūnanga, especially Ōraka/Aparima, is significant. They feel a greater responsibility than other Rūnanga in terms of Kaitiakitanga as the Waiau River is within their Rūnanga boundaries. Members of this Rūnanga have seen the changes in the river since the diversion of water from the Waiau River for the Manapōuri Power Station in 1969. Many members who were interviewed could not dissociate the less than minor effects the new MTAD proposal will have and the major effects the Waiau River has seen since 1969. There are unknown accumulative effects of the MTAD project. The ability of Kaitiaki to make relevant and meaningful decisions as a result of these effects is seen as an impact (Te Ao Marama Inc., 2009, p. 9).

The panel disagreed with Meridian's argument that the cumulative effects of MTAD on top of the MPS could not be considered, stating 'if an effect of MPS was more than minor, then the additive effect of MTAD, no matter how small, had to be more than minor as well' (SRC Consents Committee, 2009, p. 44). However, Meridian's evidence only assessed the effects of MTAD alone, and it does not appear that experts were asked to reconsider their advice with the MPS effects also in mind. Ultimately, the panel concluded that except for the potential impact on long-fin eels, the effects were 'believed to minor or less than minor with the proposed mitigation in place' (SRC Consents Committee, 2009, p. 53). This appears to be something of an internal inconsistency in their logic, and perhaps speaks to the challenge the MTAD proposal presented to a hearing panel predominantly comprised of elected officials rather than technical or planning experts.

Meridian was also able to influence the composition of the hearing panel. An item presented to SRC Consents Committee on the issue noted that while it was the Council's decision, Meridian had expressed a preference for a panel three councillors and two independent experts (Engel, 2009a). The memorandum from the consenting officer recommending the two commissioners notes that the applicant did not object to them and that the panel chair was satisfied with their qualifications and experience (Engel, 2009a). Both were professional consultant ecologists with significant experience, including undertaking assessments for hydro-electric schemes. One of them lists among relevant experience, 'assisting with the preparation of a comprehensive AEE for Meridian Energy's proposed new hydro-electric facility on the Mokihinui River on the West Coast' (Engel, 2009a, p. 7). It does not appear from the documentation that similar input was sought from the community or local Rūnaka (Engel, 2009a). By endorsing the decision maker, Meridian was afforded a means to influence the hearing panel, and as such, the outcome of MTAD consent process.

The panel's membership was not without controversy, addressed through an overt power challenge using the power of process by one of the submitters early in the hearing. Mr Loose formally accused the panel chair, Cr Wilson, of being biased, because of her involvement in a previous application by Meridian (SRC Consents Committee, 2009). The tone of the response in the hearing decision report is both defensive and dismissive, and capitalised on the power of process by stating that it was not a matter for the hearing panel, but for SRC:

> Cr Wilson advised that it was a matter for the Council and not this Hearing Panel to decide who should be on the Panel. Her personal view was that she had no bias at all in this matter, nor had she ever had a bias in any matter relating to MEL, so there was no reason to stand down, nor would she be doing so…This was not a matter that needed to be considered by the Hearing Panel and would not at all interfere with the running of this hearing (SRC Consents Committee, 2009, p. 5).

The hearing process provided both a forum for formal challenge, and an procedural justification for dismissing it, the outcome reflected the power relationship between the lay-submitter and the commissioner, who had access to legal advice through SRC (SRC Consents Committee, 2009).

Interviewee 4 recalled that Whānau found MTAD a frustrating process and weren't very satisfied. "There are huge consequences for Whānau, and each generation that goes on it is harder as we can't pass it[8] on unless it's practiced" (interviewee 4). Interviewee 4 noted the challenge faced by, "a couple of Iwi reps in a room with a powerful power company", who act as "gatekeepers" for who interprets the data. While there is state of the takiwā[9] work being done in the Waiau, interviewee 4 noted that more broadly, there is a failure to "connect the dots between the science and the cultural data". Interviewee 4 made the comment that "the environment is part of us', and "objectivity distances you from the environment". These reflections highlight the power asymmetry between local Iwi and Meridian in the space of knowledge production. By "not looking at the right indicators" (interviewee 4), monitoring systematically ignores cultural values and impacts. For example, kanakana (lamprey) and torrent fish, taonga species for Ngāi Tahu, were not even thought about in the MTAD process.

Te Ao Marama did not support or oppose the proposal, but submitted in order to ensure the matters raised in their Cultural Values Assessment were adequately considered (Te Ao Marama Inc., 2009). Te Ao Marama 's submission states that at the time it was in the process of finalising a Relationship Agreement with Meridian, aiming to 'implement a combination of the recommendations set out in the Cultural Values Assessment which is a desired outcome under the agreement' (Te Ao Marama Inc., 2009, p. 14). This included a recommendation to promote the use of the Cultural Health Index as a tool to facilitate monitoring of streams, rivers, and water body health, and to provide long term data that can be used to assess river health over time. The submission also notes that at that time many of Te Ao Marama's recommendations were absent from Meridian's proposed consent conditions.

The generator had commenced discussions with the WWP in 2003, with an initial proposal to increase the maximum discharge from 510 to 640 cumecs (interviewee 1). Even once the proposed maximum was reduced to 550 cumecs the WWP had reservations about the proposal. At that point Meridian decided to take what interviewee 1 described as "the adversarial route". The recollection of several WWP members

[8] Traditional cultural practices such as mahinga kai.
[9] Territory.

at the time was that MTAD was a very different process to the 1996 consents, a step away from the collaborative process, instead driven by what Meridian wanted (interviewee 1 and 2). Interviewee 1 said that the WWP "has never forgiven Meridian", for the way it behaved through MTAD. It is of note that at the time of the MTAD application, the WWP considered Meridian a WWP member, and decisions of the WWP were generally made by consensus, in the same way they had been in the lead up to the 1996 consent process (J. Riddell, 1996). It demonstrates the strength of opposition to the proposal that the WWP made a formal submission against Meridian's application, and that several members also made individual submissions in opposition. Whereas in 1996, the WWP had not submitted on the application, and most of the member organisations had supported the proposed conditions.

The disparity in resources between Meridian and the community was brought to bear in the use of knowledge as power. While one would expect that a consent applicant, on whom the burden of proof sits, would expend more resources on a project than submitters, the disparity in resources is evident in the documentation which accompanies the application and its consideration by SRC. Meridian put up 27 expert witnesses, contributing to an AEE which totalled 343 pages, with an additional 486 pages of expert evidence (Meridian Energy Ltd., 2009b, 2009c; SRC Consents Committee, 2009). The fact that Meridian didn't provide further funding for the WWP after the 1996 consent process, despite the WWP's ongoing mandate, left the WWP with no ability to fund independent science when it came to MTAD (interviewee 1). The WWP was left to do what it could with the expertise held by its individual members. This was substantive, including expertise in hydrology, engineering, and aquatic ecology. However, it was provided on a voluntary basis, without the funding to assist any studies, and so was limited to providing comment on the assessments of Meridian.

Further, as the funder of the science that was undertaken, Meridian was able to exert some influence on the scope and content of the science. Interviewee 1, speaking of one of Meridian's technical experts said, "She's as independent as she can be, but you can imagine that Meridian go through all her reports with a fine-tooth comb. At the MTAD hearing she said to me, "good luck", which says it all really". This approach was not limited to the MTAD process. Interviewee 1 had observed a change since the 1996 process: "science was more independent then and people were confident about that…not like these days where Meridian has basically captured all the people with those skill sets in New Zealand".

The technical knowledge supplied by Meridian exacerbated the power asymmetry as it was challenging for submitters to engage with, understand, and contest. This is addressed by the Te Ao Marama submission, which notes that, 'it was extremely difficult to convey information and advice from reports to our people because of their comprehensiveness and the technical terms used' (Te Ao Marama Inc., 2009, p. 14). Submitters were in most cases providing local or indigenous knowledge, without the support of costly, and epistemologically favoured, expert evidence. In response to submissions, Meridian prepared an 88-page document compiled by its experts, addressing, and in most cases discounting, the issues raised by submitters, often capitalising on doubt. For example, in relation to the reduced sediment transport down the Waiau River, one expert noted that it would be '... difficult to detect an unambiguous MTAD signal from the pattern of ongoing geomorphic change that is already occurring there' (Mabin, 2009, p. 6). It could easily have been articulated in simpler language, for example: it would be hard to link any changes on the beach specifically to MTAD. This use of such technical, authoritative language to support strategic use of uncertainty leans on the perceived epistemological superiority of science to employ knowledge as power.

The power of scientific knowledge over other epistemologies was utilized heavily by Meridian. By way of example, the following two passages address the decline of the toheroa clam at Bluecliffs Beach. This excerpt from the Te Ao Marama submission is an example of the indigenous knowledge provided to the MTAD panel:

> There is real concern for the ecology of Te Wae Wae Bay and the Foveaux Strait Toheroa. Our Kaumatua have seen real change in the condition of the Toheroa beds and their productivity. Concerns range from a loss of the sandy beach environment to large changes at the mouth and lagoon of the Waiau River (Te Ao Marama Inc., 2009, p. 11).

Which contrasts with how the issue was addressed by Meridian's experts in the AEE for the application:

> The recreationally and culturally important surf clam, toheroa (*Paphies ventricosum*), is known to be present in substantial numbers at only two locations in the South Island; Te Waewae Bay and Oreti Beach to the east (Miller & Olsen 1995). Te Waewae Bay supports the larger of these populations off Bluecliffs Beach; however the habitat has been described as marginal and therefore particularly susceptible to environmental change (Keeley et al. 2002). Toheroa populations in Te Waewae Bay began to decline in the 1960s prior to implementation of the Manapōuri Power Scheme in 1969. This decline continued subsequent to implementation of the scheme, raising concerns that reduced flows of the Lower Waiau River may have been partially responsible. However Cranfield (1996) investigated possible causes of the declining toheroa populations and concluded that they were the result of natural variation in the physical character of the beach habitat. He found no evidence that reduced river flows were implicated. Beentjes et al. (2006) reported that the Bluecliffs Beach toheroa population had declined between 1997 and 2005 due to a net loss of sand (Meridian Energy Ltd., 2009b, Appendix 18, p. 8).

There is a distinct difference in language used. The paragraph from the AEE is dispassionate and factual and includes references to scientific papers and nomenclature. It paints a compelling picture, and yet, it is not clear that the authors have spent any time at Te Wae Wae Bay themselves. Further, of the papers they reference, the two that suggest the toheroa decline is unlinked to the MPS were both commissioned by the generator. This is just one paragraph in a 44-page document, which is one of 23 expert reports that are appended to the AEE. This tally does not include the main AEE, expert evidence prepared for the hearing, and responses to submitters from Meridian. The significant weight of scientific knowledge brought to bear on the community to undermine their opposition to the MTAD proposal is a clear example of knowledge as a tactic of power.

Rationalisations aligned with normative values were also presented as rationality through the MTAD process. The application documents for MTAD, Meridian's lawyer, and a number of their experts discussed the importance of increased generation from the MPS to assist in meeting New Zealand's climate change commitments, and the government's goal of (then) 90% renewable energy (Christensen & Baker, 2009; Meridian Energy Ltd., 2009a, 2009b, 2009c). Interviewee 2 commented that this energy generation argument makes it more difficult to get more water down the river than it was in the past, even though it was difficult then. This is a compelling argument for the greater good, which appeared to satisfy the hearing panel. But as interviewee 2 noted, this argument does not recognise that the Waiau River has been more damaged by hydro-electric generation than other rivers in New Zealand, the level of water extraction means the Waiau situation is unique. Nor does it recognise the significant financial incentive

for Meridian in increasing energy generation, interviewee 3 suggested that following MTAD, Meridian was making approximately a million dollars profit a day from the MPS.

5.3.4 Outcome

Ultimately, Meridian was granted the requested increase from 510 to 550 cumecs, which resulted in an additional 18% decrease in the flows in the Waiau River. The consent was granted for 21 years, which brought its expiry in line with the 1996 consents (SRC Consents Committee, 2009). This went against the advice of SRC staff, who recommended granting consent for 10 years given the level of uncertainty (Engel, 2009b).

While the community was opposed to MTAD, the consent process did provide an opportunity to address the nuisance periphyton, didymo. Didymo was discovered in the Waiau River in 2004, a devastating biosecurity incursion attributed to visiting North American anglers. Thriving in the nutrient poor, now stable and slow flowing Waiau River, didymo flourished during the summer. Didymo had a significant impact on the Waiau River, coating the mosaic of rocks on the riverbed, suffocating macroinvertebrates, entangling anglers' lines, and drifting in the current (Moss, 2022). Swimmers describe the uncomfortable reality of swimming amongst a didymo bloom being like someone upstream releasing clumps of wet toilet paper, which tickle your skin as you swim (Marshall, 2022). Despite thorough investigations, there were few viable options for dealing with didymo. Unlike other affected rivers, the MLC Structure meant that the flow in the Waiau River could be increased temporarily to slough the didymo off. The generator, however, was initially disinclined to provide such relief, as water down the Waiau River was considered wasted fuel for the Power Station (interviewee 2).

As a compromise, a condition was added to the new resource consents requiring Meridian to work with the WWP, Te Ao Marama and the Guardians of the Lakes to establish a voluntary flushing regime to address didymo blooms (interviewee 1). It was partly with this in mind that an MOU between Meridian and the WWP was signed (interviewee 1). The development of this regime has been an iterative process, but currently, the approach is that a flushing flow of at least 160 cumecs, for 24-48 hours is required to slough off a didymo bloom (Meridian Energy Ltd., 2010). Meridian have undertaken to provide up to 15 GWh worth of power as flushing flows per annum, approximately 0.3% of the MPS's annual generation output. With the existing design of the MLC structure and the associated lake levels, Meridian has advised the WWP that Lake Manapōuri must be two thirds of the way up its main operating range to be able to deliver such a flow (interviewee 2). Seldom has this been the case at the time of year flushing flows have been required, and so the reliability of flushing flows is low, delivered about 30% of the time they are required (interviewee 2). Meridian is uniquely situated to manage both the level of Lake Manapōuri and alter the MLC structure, but it appears that the 'voluntary' nature of the flushing regime has not provided sufficient impetus to do so.

Unfortunately, because the consent condition makes the provision of flushing flows voluntary, there is little ability to enforce them. Interviewee 2 described the ongoing frustration felt by the WWP about the "lack of real commitment on their (Meridian's) part to address the issue" noting that "we all know what is needed, but Meridian have made it clear they don't want to give up any more water". The interviewee went on to say that "all of this has led to mistrust of Meridian, as they are pushing back on everything, and when the WWP members see the high profits, it does not sit well". Further, interviewee 2 noted that Meridian "have been pretty hard-nosed about it", while at the same time claiming that because the flows

are voluntary, ""we[10] are the good guys really"". Interviewee 1 reported feeling "more intimidated than I ever have", by Meridian's current attitude, noting that this has changed substantially from the 1996 process.

Meridian is currently investigating dredging part of the Lower Waiau River upstream of the MLC, which it says currently constrains the provision of flushing flows, alongside the sill height of the MLC gates (Feierabend, 2022b). Despite ongoing requests from the WWP to address the sill height, Meridian is pursuing the channel dredging in the first instance, and if that is unsuccessful has suggested that they will look at the sill height subsequently. In relation to this, interviewee 2, commented that if "the gate is still limiting, their argument is not really credible".

5.3.5 Summary

The MTAD consent process provides a contrast to the 1996 consent process described previously. Interviewees generally considered it adversarial, intimidating, and frustrating. It appears that the generator capitalised on the significant disparity of resources to overwhelm the community's opposition. Despite more targeted consultation with local Iwi compared with the 1996 consents, Whānau concerns were largely discounted and overlooked in the consent conditions. The dominance of scientific knowledge was used to undermine the arguments of others through strategic use of uncertainty, supported by significant volumes of technical reports, drafted in specialized, authoritative language which was difficult for laypeople to understand and engage with.

The power of process was also successfully employed by Meridian. The decision to apply for new consents, rather than modifying the existing consents enabled it to argue that it was only the additional effects caused by the take between 510 and 550 cumecs that could be considered, on the basis that the unchanged consents formed part of the existing environment. While the hearing panel appeared to disagree, there is no evidence that Meridian was required to undertake any further assessment of the effects. This approach also made it challenging for the community to understand and engage with the proposal, particularly local Iwi, whose holistic approach to understanding the environment is at odds with this reductionist approach.

The common good was, as it had been in 1996, again utilized as a rationalisation. Reflecting the changing normative setting, the MTAD process saw the importance of renewable energy highlighted in relation to climate change, rather than to support the regional economy. Meridian was successful in increasing its maximum discharge to 550 cumecs, for a period of 21 years, more than double the council's recommended duration. While a voluntary flushing flow regime was implemented to assist in managing didymo, Meridian's commitment to the programme has been questioned, with flushing flows being provided only 30% of the time they are triggered by didymo blooms, falling well short of the 15 GWh[11] of power Meridian undertook to provide as flushing flows. Ultimately, MTAD appears to have damaged the relationship between Meridian and the community, with several interviewees expressing ongoing scepticism about Meridian's commitment to the health of the Waiau River.

[10] Meridian.

[11] Giga watt hours. A measure of electricity production. The MPS generates approximately 4,900 GWh per annum (Hunt, 2022).

5.4 The proposed Southland Water and Land Plan (pSWLP) 2016 onwards

5.4.1 Introduction

The pSWLP process is a review of the regional regulations under the RMA 1991 that has been underway since 2016. Its scope is broad, with a focus on agricultural provisions, but also includes regulations that applied to the MPS. The ensuing regulatory processes reveal power and politics, with the generator utilizing a range of power tactics to disempower local voice, seeking to have regional regulation constrain decision makers and minimise community participation in future consent processes. The Council hearing on the pSWLP, which preceded the Environment Court appeals, found in favour of the generator. However, despite several interim decisions, a final Environment Court decision on the Waiau River provisions is yet to be released and would be appealable to the High Court on a point of law, meaning the outcome for the pSWLP is still some time away.

5.4.2 Background

Near the bottom of the RMA 1991 hierarchy of planning instruments, regional plans must give effect to both national policy statements (NPS) and regional policy statements and must not be inconsistent with any national environmental standards. Under the RMA 1991, regional plans already in force must be amended to incorporate these high-level requirements. SRC's Regional Water Plan 2010 (RWP) was in force at the time central government approved the first NPSFM in 2011. Consequently, some changes were needed to the RWP to implement the NPSFM, this commenced in 2015 (Southland Regional Council, 2016a). The process for doing this is called a 'plan change' in RMA 1991 nomenclature, where only the specific provisions being reviewed and are up for debate. Not long before public notification under Schedule 1 of the RMA 1991 in mid-2016, the plan change was recast as a new plan (McCallum-Clark, 2020). The seemingly innocuous change meant that all the unamended provisions, including those addressing the water takes, diversions and discharges for the MPS, were now open for submissions. This led to major changes to the way future resource consent applications for the MPS would be treated.

The pSWLP was originally conceived as a first step in giving effect to the NPSFM 2014. Material from SRC at the time pitched the pSWLP as a plan change to 'hold the line' while SRC continued the science programme to understand the impact of agriculture on the region's water quality (Fraser, 2017). This science would inform further plan changes to give full effect to the NPSFM. The spotlight was on the contentious new farming rules, and the 'Waiau provisions' notified in June 2016 were carried over from the operative plan with little fanfare, retaining the incumbent discretionary activity status (Southland Regional Council, 2016a). Discretionary status enables a resource consent process that considers all the effects of an activity, with regulator discretion to grant, decline, or grant in part, with whatever conditions on the consent deemed necessary.

The hearing panel comprised two independent experts, one of whom was the chair, and three SRC councillors (pSWLP Commissioners, 2018). The panel heard the submissions, wrote a recommendation to SRC, and SRC released the Decisions Version of the pSWLP in 2018. The Decisions Version of the proposed plan saw the Waiau Provisions amended, with many of the changes sought in Meridian's appeal included. Most notably, the activity status for the existing water takes, diversions and discharges for the MPS had moved from a discretionary activity to controlled, with the controlled activity defined as the status quo (pSWLP Commissioners, 2018). A controlled status means the regulator must grant consent and has limited discretion on the conditions it can put on the consent. 'Controlled' activities are typically

considered to have minor environmental effects, relative to their context. Importantly, this classification provides for consent applications to be considered without public involvement (RMA 1991 s95A).

The change to controlled status appears to have been controversial, or at least contested. The hearing panel were advised by SRC planning staff against the change, advising that the controlled activity status 'would not enable a re-assessment of the appropriateness of the volume of water abstracted or the rate of take' (SRC Officers, 2017, p. 92). Further, the 'water abstracted for the power station is not returned to the Waiau River and therefore cannot mitigate any potential effects or be available for other users' (SRC Officers, 2017, p. 92). Rather, SRC staff recommended a restricted discretionary status. One of the councillors on the hearing panel likewise disagreed with the controlled activity status, and had his dissention noted in the hearing panel's report (pSWLP Commissioners, 2018). This was the only substantive issue on which the hearing panel did not have a united view (pSWLP Commissioners, 2018). It was also the only substantive issue on which the hearing panel's advice differed from that of SRC planning staff (pSWLP Commissioners, 2018; SRC Officers, 2017).

Once apprised of the reality of a controlled activity status, the decisions version was a shock to the unsuspecting local community (interviewee 5). In addition to concern over the lack of Council discretion over future MPS consents, under the newly minted Resource Management Amendment Act 2017, there would be no public notification of the application, unless the rather nebulous 'special circumstances' were deemed to apply. Few had thought to submit on the innocuous notified provisions, and as Meridian had requested this change through the submissions process, few parties had appeal rights. Of those that did, Ngāi Tahu, Forest and Bird, Federated Farmers and Aratiatia Livestock Ltd. (Aratiatia) appealed to the Environment Court to have the controlled activity status removed.

Meridian appealed the Decisions Version too, seeking to make the Waiau Provisions even more favourable towards the MPS, including changing the relevant objective be expanded to enable 'enhancement' of the MPS. All of which meant that by the time the pSWLP got to Environment Court, there were five primary appellants, down from the 900 original submitters on the Plan, only two of which, Ōraka-Aparima Rūnaka (as part of Ngāi Tahu's) and Aratiatia, were based in the Waiau Catchment.

The WRG, a community environmental group, joined the appeals under s274 of the RMA 1991 as a party with 'an interest greater than that of the general public'. Procedurally, this was the only option for the WRG to join the proceedings because it was formed after submissions on the pSWLP had closed. The WRG was established after three farmers from the Lower Waiau Catchment held a public meeting in Tuatapere to discuss whether people wanted to start a catchment group (Marshall, 2018). Most catchment groups focus on riparian enhancement, but the WRG had a clear mandate from that initial public meeting that the Waiau River needed more water. As a result, when the Decisions Version of the pSWLP was released with a controlled activity status that might exclude the community and lock in the status quo for another 50 years, the WRG joined the appeals. Two of the farmers who held the public meeting became the first co-chairs of the WRG (Marshall, 2018).

Over the ensuing four years there have been two decisions of the Environment Court relating to the Waiau Provisions. The first was the issue of the standing of the WRG and the WRLC ("NZEnvC 218," 2018). These two community groups did not have appeal rights, so had to rely on s274 of the RMA 1991 to join the appeals. SRC and Meridian sought to have these organisations struck out of the proceedings. The Court subsequently struck out the WRLC and allowed the WRG to remain involved. The second decision to date was the first interim decision on the pSWLP objectives, called 'Topic A' ("NZEnvC 208," 2019). One of these

objectives, Objective 10, is one of the Waiau Provisions. When read alongside the other objectives in the pSWLP, Objective 10 provides the high-level policy rationale to support the subordinate provisions of the pSWLP which deal with the MPS, including the controlled activity status. At the time of writing, the hearing on the subordinate provisions, called 'Tranche 3' is adjourned, part way through evidence being heard.

5.4.3 Strategies of power

Strategies of power brought to bear in the pSWLP process provide examples of knowledge as power, the power of process and rationalisations as rationality. They provide examples of how difficult statutory processes are for laypeople to navigate, and how process can be used to limit community involvement in both regulation making processes and the regulation itself. The strategic use of knowledge as power appears in a slightly different way to previous processes, with scientific knowledge being woven with cultural and local knowledge to create locally situated, scientifically robust arguments. The Environment Court provides a forum in which rationality is elevated, tempering the power asymmetry between the generator and the community.

Community participation was impacted from the start due to poor understanding of the process, and the consequent impact on appeal rights. Over 900 submissions were made on the pSWLP, mainly focused on the new farming provisions. Only three submitters mentioned the activity status relating to the MPS (Southland Regional Council, 2016b). One of these was Meridian, which explicitly sought to reduce scope and opportunity for public participation for its dam consenting processes (Southland Regional Council, 2016b). It sought to achieve this by having the activity status (resource consent process) changed from 'discretionary' to 'controlled' (Southland Regional Council, 2016b). The RMA 1991 Schedule 1 process includes a time period after submissions are received during which people can make 'further submissions'. Further submissions enable people to submit in support or opposition on the submissions of others. It appears that this part of the process was not well understood by laypeople. Only forty-seven further submissions were received, most from organisations familiar with the Schedule 1 process, including a number of further submissions received on Meridian's submission (Southland Regional Council, 2017a). This meant that of the 900 submitters on the pSWLP, only a handful had appeal rights on the activity status for the MPS. Because the community didn't submit in support of the discretionary status when it was carried over without change, and they were largely unaware of the further submissions process, the community was largely excluded from appealing the activity status changed to align with Meridian's submission. In this instance, even without a particular actor using the power of process to advance their own agenda, the process reinforced the power asymmetry between the actors. The structural settings disadvantaged those who didn't have the resources to seek expert advice on how to navigate them.

Meridian also sought to leverage the power of process to exclude community members from participating in appeals. In July 2018, after a conversation with Meridian, SRC submitted a memorandum requesting that the WRG, a local community group advocating for the health of the Waiau River, be struck out of the proceedings (Feierabend, 2018; Maw & Wyss, 2018b). SRC argued that WRG had not demonstrated an 'interest greater than that of the general public', as required under s274 of the RMA 1991 (Maw & Wyss, 2018b). The WRG relied on the goodwill of a local law firm acting pro bono to fight for its standing in the Court, and after the WRG responded with affidavits and legal submissions SRC stepped back, saying that it would abide the decision of the Court (Maw & Wyss, 2018a). Meridian then took up the fight to remove the WRG (Christensen, 2018a). Ultimately, the WRG was granted standing, and extended the caselaw in the process, an 'interest greater than that of the general public' can now be demonstrated through connection to a stretch of river ("NZEnvC 218," 2018). But that win cost the WRG an estimated $20,000

worth of legal time, not to mention the hours spent crafting affidavits (interviewee 5). While Meridian didn't obtain the outcome sought, it was a strategic use of the procedural process to burn off the opposition.

SRC and Meridian also sought the removal of the WRLC, who had greater ability to fund an appeal than WRG. The WRLC is a group made up primarily of landowners who live on the banks of the Lower Waiau River, Meridian is also a member, as is SRC. It is funded by a local rate, and its main roles are maintaining the berm fence along the length of the Lower Waiau River, and undertaking weed control in the channel (Horrell, 2018). Both are necessitated by the reduction in Waiau River flow to feed the MPS. The WRLC has done this efficiently and has accumulated funds over the years as a disaster reserve for flood events. The interest on this disaster reserve goes into a special projects fund which had amassed more than half a million dollars (Horrell, 2018). The WRLC was one of the submitters on the pSWLP who had to rely on s274 of the RMA 1991 because it did not have scope to appeal the Waiau Provisions. It was struck out of the proceedings as it was deemed by the Court to be a 'committee of council', and hence unable to appeal SRC's plan ("NZEnvC 218," 2018). The WRLC had hoped to make use of some of the 'special projects fund' for the pSWLP appeals, whereas the WRG had only a $40,000 grant from the Environmental Legal Aid Fund (interviewee 5). The WRLC's removal was a significant blow to the community's ability to fund its involvement in the pSWLP appeals, exacerbating the power asymmetry in the process.

The power of process was also employed by Meridian to attempt to limit the involvement of parties opposing it in the Environment Court through Tranche 3. Meridian undertook negotiations with Ngā Rūnanga on the wording of Rule 52A in an attempt to reach agreement. Despite repeated requests from the other parties for their involvement, Meridian resisted, suggesting that instead, the expert planners for the other parties would have the ability to discuss it at conferencing (Feierabend, 2022a). This approach excluded three parties, Federated Farmers, the WRG and Hamish English, none of whom engaged expert planners. Meanwhile, Meridian attempted to have Aratiatia's expert planner excluded from the expert conferencing on the basis that they were not sufficiently independent (Maw, 2022). On 9 September 2022, SRC submitted a memo to the Court expressing the desire of a number of the remaining parties, to have Aratiatia's planner present despite Meridian's opposition (Maw, 2022). The Court ultimately allowed Aratiatia's planner to be involved (Kelly, 2022). However, Aratiatia had to fight for the right to participate, a resource intensive exercise which advantages actors with deeper pockets.

The judiciary is built on principles of participation and rationality, and a necessary delineation from the government. Once granted standing, the Environment Court provided a forum in which, with the support of gratis legal representation and planning support, the WRG was able to participate on a relatively equal footing with Meridian, at least compared to outside the Court process (interviewee 5). In the Topic A hearing, Meridian's shopping list included the extension of the pSWLP objectives to cover 'enhancement' of the MPS ("NZEnvC 208," 2019). But when extensive debate culminated in the Court making an explicit request for Meridian to explain what they meant by enhancement, Meridian abandoned the appeal point rather than provide a clear explanation ("NZEnvC 208," 2019; Feierabend, 2020). The interrogative process offered by the Court provided an environment where power could not so easily dominate reason.

But even within a context that elevates rationality, power strategies emerge. One is the use of rationalisations as rationality. These include black and white arguments that feed into normative ideas of what is appropriate. During the Topic A hearing, one Meridian witness suggested that providing for te

Mana o te Wai[12] was incompatible with the ongoing operation of the MPS, an untenable proposition in the face of climate change (Environment Court, 2019). But again, within the Court process this was an unsuccessful manoeuvre, the Court suggesting that such categorical language was unjustified (Environment Court, 2019).

Common good arguments, particularly those concerning climate change response, were a frequent theme in Meridian's case, in an attempt to justify Meridian's desire for the Plan to allow 'enhancement' of the MPS. Ultimately, the Court directed Meridian to articulate clearly and plainly what 'enhancement' meant, at which point Meridian chose to abandon the relief sought, rather than provide a straight answer ("NZEnvC 208," 2019; Feierabend, 2020). This common-good argument was also challenged by other appellants. Ngā Rūnanga's expert policy witness articulated the ecological degradation of the Waiau River as a challenge to the normative view that renewable energy is green. 'In my opinion, if balance between renewable energy and mauri[13] is not sought in the pSWLP then any benefit from renewable energy is questionable' (Cain, 2022, p. 3). In doing so, the Ngāi Tahu expert not only challenged the normative assumption, but also the common-good arguments based on that assumption that were espoused in favour of the MPS.

Even when the use of rationalisations is uncovered, the actual rationality is not always obvious. For example, it is unclear why SRC, which in its original memo concerning standing was not concerned about the standing of the WRG and the WRLC, changed tack after a conversation with Meridian (Feierabend, 2018; Maw & Wyss, 2018b, 2018c). Perhaps it was an attempt to limit the litigation risk by minimising the number of parties involved. Or perhaps the rationality was more complicated. The SRC memo that requested the Court strike the WRG and WRLC out of the proceedings suggested 'various Appellants' had raised concerns with SRC about the standing of the WRG and WRLC (Maw & Wyss, 2018b, p. 3). The WRG obtained information under the Local Government Official Information and Meetings Act 1987 confirming that only one appellant had raised concerns about WRG and WRLC with SRC, and it was Meridian (Hicks, 2018). The suggestion that several parties had taken issue with the WRG and WRLC lent SRC's challenge a convenient gravitas that was not real or deserved. It is not clear whether this impacted the Court's consideration, and may have simply been a mistake, or it may be an example of power dominating rationality. The fact that the reason remains invisible speaks to the challenge of uncovering hidden information.

Path dependencies created by the physical infrastructure were internalised and then structurally embedded in the Decisions Version of the pSWLP. The pSWLP Commissioners (2018) suggest that it is inconceivable that the MPS would be declined consent. This appears to have influenced their decision to grant the MPS water take controlled activity status. From a regulatory design perspective this is a bold assertion that speaks to the internalisation of the enduring nature of established infrastructure. The decision to grant or decline further water takes is a matter for a yet un-appointed decision maker, on a resource consent application that has yet to be prepared, in a planning, social, and scientific context that may be significantly different from that when the panel produced its report, as the current water had 15 years to run at that point. Yet, the Commissioners deemed it appropriate to deprive the future decision

[12] A Te Ao Maori concept which has been included in the NPSFM. It recognises the vital importance of water, intrinsically, and in supporting healthy ecosystems and the health and wellbeing of communities.

[13] Mauri is a Maori concept akin to life force. In the context of a river, it includes the health and resilience or hauora, including habitat, ecology, naturalness, connection, water quality and quantity.

maker of the ability to reach a different conclusion by providing a controlled activity status, setting up a self-fulfilling prophesy. In this way, the power of the existing structure, and the internalisation of its ability to endurance, defined reality.

Dismissive language often used as a strategy to undermine opposition from NIMBY communities was also brought to bear on the WRG. In the first 18 months of its existence, the WRG was referred to dismissively by some ES staff as, “Peter and Paul’s group”, after the first names of the two co-chairs (interviewee 5). In the Environment Court, key among Meridian’s ammunition was the fact that one of the co-chairs of the WRG was also a director of Aratiatia Livestock Ltd, and so would already have his concerns heard under Aratiatia’s appeal (Christensen, 2018a). This was an attempt to undermine the validity of the WRG by dismissing the concerns of the group as being those of an individual. Such power tactics re-emerged in later pSWLP hearings, where Meridian’s legal submissions suggested that the WRG bought into conspiracy theories and was driven by a fundamental, and unwarranted, mistrust of SRC and Meridian. Meridian suggested that the Children’s Kaitaiki Project, which formed part of the WRG’s evidence, was just the children parroting their teachers. Other witnesses were not subjected to this treatment, it was a tactic brought to bear exclusively on the local community.

5.4.4 Outcome

At the time of writing two Environment Court Decisions of particular relevance to this research had been released. The first was the decision to strike out the WRLC and allow the WRG to remain involved in appeals ("NZEnvC 218," 2018). The second was the series of interim Topic A decisions, including in relation to Objective 10, which is the objective of the pSWLP which specifically addresses the MPS. The Court found in favour of Aratiatia and the WRG, among others, who requested that the version of Objective 10 from the notified version of the pSWLP be reinstated ("NZEnvC 208," 2019). There is no reference to ‘enhancement’ of the MPS, nor incorporating either the water takes or the existing structures into the ‘existing environment’ ("NZEnvC 208," 2019). The Meridian appeal sought the addition of both (Christensen, 2018b). The ‘existing environment’ is a concept that has emerged through RMA 1991 caselaw which defines the ‘existing environment’ as the baseline state of the environment against which the effects of the proposed activity are measured. The decisions version of the pSWLP incorporated the existing structures into the existing environment, and Meridian’s appeal sought to incorporate the existing water takes themselves into the existing environment too (Christensen, 2018b). This would have had the effect of significantly reducing the consideration of environmental effects through the next resource consent process.

The Environment Court hearing of the rest of the ‘Waiau Provisions’, is currently adjourned part way through, written evidence has been exchanged. In addition to planning and technical arguments, local and indigenous knowledge also feature in the evidence. Ngā Rūnanga’s freshwater expert witness has incorporated indigenous knowledge into her scientific evidence, articulating Whānau’s loss in relation to mahinga kai, a cultural practice of seasonal harvest from the natural environment which includes looking after those resources and their associated ecosystems (Kitson, 2022). The evidence for the WRG amplifies both the voices of elderly stalwarts in the fight for the Waiau River, and the voices of local children, and provides locally situated scientific responses to the evidence of others. The crux of the case appears to be how certain we can be about the next stage in the process of implementing the NPSFM 2020. Meridian is arguing that the outcomes are sufficiently certain to justify constraining SRC’s consideration of the MPS in the future. Conversely, the parties opposing Meridian are of the view that the process to come carries sufficient uncertainty to justify retaining SRC’s decision-making flexibility into the future. Time will tell

what weight indigenous and local knowledge will receive in these proceedings, and whether the strategic use of uncertainty will be successful, but both will provide a commentary on the tactical use of power.

5.4.5 Summary

The pSWLP has been through two levels of decision maker to date. First a council hearing, run by a hearing panel, and then the Environment Court. In the first process, the power of internalised path dependencies was reflected in the change from a discretionary to controlled status for the MPS's consent renewals on the basis that it was inconceivable that consent would be declined. This process also highlighted the exclusionary power of process, as the community were largely excluded from appeals as few had understood the importance of being engaged in the further submissions process.

Subsequently, the Environment Court appeals process provided a forum which elevated rationality, tempering the power asymmetry between Meridian and the community. Yet power tactics still emerged. Meridian utilized the power of process to limit the involvement of opposing parties and attempted to write community concern off as a conspiracy-based front for the concerns of the individual. SDC and Meridian sought the removal of the several community-based organisations from the Environment Court appeals using a process technicality. The underlying rationality for this approach from SRC was unclear, highlighting that the 'backstage' rationality is not always easy to decipher. Additionally, climate change mitigation was again presented by Meridian as the common good rationalisation to justify continuing the lucrative status quo. But it was not left unchallenged, with both the Court and Ngā Rūnanga's expert policy witness questioning these black and white arguments. As in previous review processes, knowledge was employed as power by Meridian through a series of expert witnesses. Interestingly, Ngā Rūnanga's freshwater scientist wove cultural knowledge through her scientific evidence, arguably a reflection of the move to post-positivism.

At the time of writing the Environment Court hearing was adjourned, scheduled to continue in April 2023, so it will be some time before the ultimate outcome of the pSWLP process is known.

5.5 The National Policy Statement for Freshwater Management (NPSFM) 2020

5.5.1 Introduction

The NPSFM 2020 process provides an example of actors leveraging political influence to influence regional decision making, as regional regulations must give effect to national regulations. The initial development process for the NPSFM 2020 provided a significant opportunity to large power companies, to the exclusion of local communities. The power companies sought to frame their dams at the national level to narrow the scope of SRC when its resource consents came up for renewal. In the subsequent public process, the community sought to amplify its voice in formal and informal ways.

5.5.2 Background

The NPSFM was originally gazetted in 2011. The NPSFM 2020, was the fourth iteration of the NPSFM. National Policy Statements sit at the top of the hierarchy of RMA 1991 planning instruments. They are secondary legislation approved by the Minister for the Environment with the power of regulation[14].

The ministers who proposed the NPSFM 2020 were the Ministers of Agriculture and for the Environment. The NPSFM 2020 was part of a package of regulatory changes named the 'Essential Freshwater Package',

[14] Except for the Coastal NPS, in which the Minister of Conservation has a role.

and, not unlike the pSWLP, the key focus of the package was addressing diffuse contaminants from agriculture and the associated freshwater degradation (Ministry for the Environment, 2019a).

Select stakeholder consultation in the development of the draft NPSFM 2019 was underway for at least a year prior to the approval of the draft NPSFM 2019 by Cabinet. The power companies, including Meridian, were afforded this opportunity while the local community was not. Cabinet was provided with an interim regulatory impact assessment (RIA) to support its decision making. Like the pSWLP, which as a regional plan must give effect to the NPSFM, the draft NPSFM 2019 underwent a public notification and submission process.

The draft NPSFM 2019 built on the previous NPSFM 2014 (amended 2017), elevating the concept of 'Te Mana o te Wai' as the 'fundamental principle' within the NPSFM 2020. But it also contained an exception clause which provided an exception for the MPS (among other large hydro-generation schemes) when it came to implementing the NPSFM (Waiau Rivercare Group Inc., 2019). Correspondingly, there was significant concern raised about the impact the exception would have on the Waiau River.

But making this concern heard was not easy. The draft NPSFM 2019 was part of a policy package with significant impact on agriculture meant that provisions in favour of hydroelectric generation risked slipping under the radar. More than 17,000 submissions were received on the draft NSPFM released in 2019, mostly addressing the agricultural provisions (Ministry for the Environment, 2022a). Due to the huge numbers, submitters were not given the opportunity to be heard in person by the Environment Select Committee, including those on the hydro exemption. Opposition to the hydro-exemption was not only lost in the noise, but the participatory opportunity to speak to one's submission in person, was also removed.

Following consideration of submissions, some minor alterations were made to the draft NPSFM. The gazetted version of the NPSFM 2020 reduced the strength of the exception for the MPS compared to the draft NPSFM 2019, but it represented a significant weakening of the regulatory status quo. The NPSFM 2014 (amended 2017), which the NPSFM 2020 replaced, did not contain any specific consideration of the MPS, although there was an empty 'Appendix 3' to enable special consideration of significant infrastructure, which Meridian had hoped would eventually list its MPS.

5.5.3 Strategies of power

The tactics of power exhibited in the NPSFM 2020 process occurred at a central government level, rather than the regional level of the other review processes examined in this research. Meridian leveraged its political influence to influence the NPSFM's development outside the public process, while Ngāi Tahu and the local community's first opportunity to provide comment was the public submissions processes 12 months later. Along with other submitters, they used rational argument, statutory roles, and normative values such as fairness, justice, and environmental protection to support their argument. The WRG attempted to raise public awareness of the issue through media and a parliamentary petition. Rationalisations presented as rationality formed the basis of Meridian's petition response. Unfortunately, the focus on the agricultural provisions in the NPSFM and the accompanying NES took the spotlight, and concern around the hydro-exemption struggled to be heard in the noise.

There was some cross-over in timing of the NPSFM review with the Environment Court's consideration of the pSWLP, and Meridian made the most of its political clout in the NPSFM review to influence the outcome of the pSWLP process. On 28 November 2018, two weeks after the Environment Court decided

to allow the WRG to participate in the pSWLP appeal despite Meridian's protestations, the Minister of Energy received a briefing (Ministry of Business Innovation and Employment, 2018). That briefing raised Meridian's concern that Appendix 3 of the NPSFM 2014 (amended 2017) needed be populated as quickly as possible because the pSWLP was due to be considered by the Environment Court in the next 6-12 months (Ministry of Business Innovation and Employment, 2018). The implication was that populating Appendix 3 was necessary to protect the MPS within the Environment Court process, as the pSWLP had to give effect to the NPSFM.

Following two letters to the Minister for the Environment in October 2018 requesting involvement in developing the draft NPSFM, Meridian and other large hydro generators participated in four MfE workshops in the lead up to having final policies 'set in stone' by the end of February 2019 (Ministry for the Environment, 2019b, p. 5). The first meeting was on 26 November 2018, around the same time as the Minister of Energy was briefed. Notes taken by MfE staff during these meetings provide an insight into the power held by the hydro-generators, including Meridian[15]. Some of the suggestions made by the hydro-generators are in contrast with normative values, particularly around protecting freshwater and improving consideration of Te Ao Māori in national regulation. This boldness suggests the hydro-generators considered themselves in a powerful position, and that they and the MfE officials had a common goal. For example, in relation to Iwi opposition to an exception clause for big hydro the generators stressed the need for 'officials around the room to help us through that' (Ministry for the Environment, 2019b, p. 2). Generators discussed a number of options for their 'get out of jail free card' (Ministry for the Environment, 2019b, p. 9), including 'an alternative for rivers such as these would be for a regional council to not treat them as fresh water' (Ministry for the Environment, 2019b, p. 9). 'Rivers such as these', make up 50% of all New Zealand's surface water. The hydro-generators seemed keen to ensure the rules did not apply to them, but that 'other resource users would have to reduce their impacts on the catchments to compensate for the hydro schemes operating at full capacity' (Ministry for the Environment, 2019b, p. 9). The hydro-generators wanted the rules for everyone else to be watertight.

It seems the justification for this approach, feeding into normative preconceptions, was that renewable energy is green, agriculture is responsible for the degradation, and regional councils are ineffectual. Examples from the meeting notes include, 'hydro are neither consumers or polluters, (and) do not feel like they should be blamed for water quality issues' (Ministry for the Environment, 2019b, p. 2), 'Hydro-generators cannot wait for more meaningful management of what they[16] chuck in our river!' (Ministry for the Environment, 2019b, p. 4) and specific to the MPS, Meridian noted that 'in the Lower Waiau River it would be unreasonable to assume Manapōuri river water for flushing flows. Perhaps a more directive policy that tells them to not rest on their laurels' (Ministry for the Environment, 2019b, p. 10). It is not clear who 'them' refers to, but it is either the community of the Waiau Catchment or SRC. Either way, the view expressed is that the responsibility for addressing degradation in the Waiau lies with others, not with the generator.

The NPSFM 2020 process saw SRC take a different role in the power assemblage, rather than a decision maker, SRC became a key stakeholder. The MfE consulted with SRC on several occasions prior to public notification (interviewee 2). There was a feeling within SRC that the MfE Staff coming down were quite

[15] The MfE specifically states that these notes do not reflect the Ministry's policy position but were taken to capture as much of the discussion during the meeting as possible.
[16] The context for this comment suggests 'they' referred to agricultural users.

remote from and ignorant of the real situation on the ground, and not very practical (interviewee 2). One of the interviewees reflected that most of the information came from the MfE via Council staff, and that it was quite a hands-off process. The MfE would communicate with the Council Staff, who would report to the Councillors. The Councillors would then have a workshop, after which comment was provided back to the MfE via SRC staff (interviewee 2). Unlike council meetings, council workshops are not open to the public, and are not minuted. Workshops offered SRC an opportunity to make strategic use of process opacity. This approach to consultation also provides an insight into the power relationships within organisations, the councillors relying on their technical experts to convey the key points raised by the MfE. Interviewee 2 had no recollection of the proposed exception for the MPS being discussed through this consultation process, "the focus was on agriculture".

The difference in political influence enjoyed by Meridian compared to the Waiau community is stark. Unlike Meridian, the first time the community organisations of the Waiau saw the draft of the NPSFM 2020 was when it was released for public consultation on 5 September 2019 (interviewee 5). In addition to the hydro-generation policy meetings with the MfE, Meridian made a direct attempt to influence the direction of the advice to Minister for the Environment during the development of the draft NPSFM. Meridian's CEO lobbied to have a hydro-generation representative in the Freshwater Leaders Group, one of the four panels providing advice to the Minister. The CEO wrote to, and subsequently met with the Minister to discuss the matter (Ministry for the Environment, 2019b). In contrast, the Minister for the Environment has never met with the WRG, a community-based advocacy group for the Waiau River, despite repeated requests to do so (interviewee 5).

Even among the other hydro-schemes, the unique situation in the Lower Waiau was lost in the noise. The interim regulatory impact assessment (RIA) that accompanied the draft NPSFM to Cabinet did not mention the Waiau community nor Ngāi Tahu. Both were lumped into the catch-all 'other parties' in a summary table which described adverse effects on them from the proposed NPSFM exemption as N/A (Ministry for the Environment, 2019d). The RIA does note that the Kahui Wai Māori advisory group, tasked with providing a Te Ao Māori perspective on the proposals, were strongly opposed to any exceptions framework (Ministry for the Environment, 2019d). The RIA states that this view was taken into account by only applying the exception to the six biggest schemes, which comprise 89% of New Zealand's hydroelectricity. There is also no acknowledgement that unlike the other big schemes, the MPS is a consumptive take, the section on water use explicitly excludes hydroelectricity generation uses (Ministry for the Environment, 2019c), without explanation. This approach appears institutionally embedded, the MfE's 2019 report on consumptive water takes includes a note at the bottom of the table stating that hydro-electricity takes have been excluded on the basis that they are non-consumptive (Ministry for the Environment & Statistics NZ, 2019).

The way the problem definition and options assessed are articulated in the RIA demonstrate how rationalisations were brought to bear in the NPSFM development process. The option of not having an exceptions framework was not assessed in the RIA, despite that, in effect, being the situation under the status quo at the time. Further, the justification for intervention focused on the impact of the status quo on the potential impact on the revenue of power companies, marginal increases in electricity prices, and increased costs associated with other sources of electricity generation (Ministry for the Environment, 2019d). Because a 'no exception' option was not assessed, the benefits of such an approach on ecological health, cultural and recreational values was not articulated in the RIA. Further, the objectives against which the other options were assessed did not include consideration of ecological, cultural and

recreational values (Ministry for the Environment, 2019d). The comment was made that 'water quality will be above national bottom lines in most places' (MfE 2019d, p. 211). The subsequent assessment was that this means the NPSFM's objectives for freshwater will be met despite the exception (Ministry for the Environment, 2019d). Unpacking the logic of this argument exposes it as a rationalisation. If the NPSFM aspirations could be met despite the exception, an exception would not be necessary, yet an exception was doggedly pursued, the unstated rationality was clearly more nuanced than simply complying with national bottom lines.

The draft NPSFM and its accompanying documentation highlighted to the WRG the power asymmetry their members were intimately familiar with. The draft NPSFM came out prior to the first interim decision on Topic A from the Environment Court for the pSWLP, but after the Topic A hearing on the objectives of the pSWLP was complete. WRG had been pleased with the successes it had had in the Court up to that point, particularly building relationships with other appellants and interrogating Meridian's case through cross-examination (interviewee 5). The WRG felt deflated when the draft NPSFM 2019 came out, because the NPSFM is above the pSWLP in the hierarchy of planning instruments under the RMA 1991 (interviewee 5). The new NPSFM effectively trumped the pSWLP, just as had been suggested by the briefing to the Minister of Energy nearly a year earlier. The WRG felt like it had been giving it's all in the court process, without knowing that the real game was being played behind closed doors in Wellington (interviewee 5).

The WRG rallied, and put its efforts into several fronts, publicity, membership, and submissions to increase its influence. Members attended every public information session on the draft NPSFM meeting run by the MfE in Southland (interviewee 5). While the MfE's focus was on the agricultural provisions, the WRG made sure the Waiau River got plenty of airtime in questions. At one meeting, a senior MfE official defended the exception for the MPS by suggesting that, "we can't risk the lights going out" (interviewee 5). This was another 'rationalisation as rationality', as approximately 80% of the MPS electricity powers Tiwai Aluminium Smelter, rather than residential electricity supply. WRG approached the media, and several print media articles were run, as well as a WRG member being part of a panel on the Radio NZ show 'nine to noon' (interviewee 5). The membership drive, which relied heavily on WRG members being present in the community, grew the membership from around 50 to over 400 (interviewee 5). WRG also ran a T-shirt design competition, which developed into the 'children's kaitiaki project' (Vaughan, 2022). This project involved the WRG working with local schools to educate pupils about the Waiau River and collecting their thoughts on why the Waiau River is a taonga to them and their family. These sentiments were included as part of the WRG submission on the draft NPSFM, which ran to more than 40 pages.

The WRG also penned a parliamentary petition urging the Government to remove the exception for the MPS from the Draft NPSFM, which attracted some 2,500 signatures. Just over 500 of these were online, the rest were collected in person by members of the WRG in the community (interviewee 5). The reason for the petition, the facts of which had to be independently verified prior to the petition could appear on the parliamentary petition website, read:

> Manapōuri Power Station consumes 64% of all surface water available in New Zealand. Unlike other power stations, it removes water from the Waiau River and discharges it straight to sea, taking 95% of our river's flow - leaving us with a mere 5%. The ongoing environmental, cultural, and social effects are significant, and dire, and makes the Waiau unsafe to swim in. This exception removes our community's voice for the Waiau River for the next 50 years. To be heard, hydro must not be exempt.

Other submitters on the exception for the MPS draft NPSFM included the WWP, the Waiau Habitat Trust, Tuatapere and District Promotions, Southland Fish & Game, Te Rūnanga o Ngāi Tahu, the Southland Conservation Board, ES, Meridian Energy and the Guardians of the Lakes (Ministry for the Environment, 2022a). Of these, only Meridian Energy was in favour of the exception clause. Further, Meridian sought the removal of any council discretion when implementing the NPSFM as follows, 'regional councils must ~~have regard to the importance of~~ not adversely impact~~ing~~ the generation ~~capacity~~ output, storage and operational flexibility of a Scheme' (Meridian Energy Ltd., 2019, p. 8). In regard to the change from capacity to output, Meridian noted that capacity is the 'installed megawatt rating…whereas output is the electricity produced' (Meridian Energy Ltd., 2019, p. 8). Neither of these changes were made.

Of the remaining submitters, those who hold legislated standing in relation to the Waiau River used it to argue against the exception, utilizing the power of process. The Guardians of the Lakes, who have a statutory ability to provide advice on protecting the Waiau River under section 6X of the Conservation Act 1987, in addition to their submission, wrote to the Minister of Conservation outlining their concern with the proposed exception, and requested that it be removed from the NPSFM. Te Rūnanga o Ngāi Tahu notes in its submission that:

> Three of the six proposed hydro-scheme exemptions are located within the Ngāi Tahu takiwā[17] and critically, all three are statutory acknowledgement areas afforded protection and recognition under the Ngāi Tahu Settlement[18]. Statutory Acknowledgments were instruments provided under the Settlement which recognised the mana of Ngāi Tahu in those areas and sought to improve the effectiveness of Ngāi Tahu participation in RMA 1991 processes. Nevertheless, these proposals were developed without engagement or discussions with Ngāi Tahu and without considering the implications of excluding three major hydro-schemes and what that could do to freshwater health within the Ngāi Tahu takiwā (Ngai Tahu, 2019, p. 16).

ES's submission, in a passage that reflects its desire to both retain its regulatory power and echoes the concerns about the MfE's understanding of the issues raised by interviewee 2, states that:

> The Manapōuri scheme has particular unique characteristics (for example the scale of the take and the diversion of the take outside of the catchment) that require the unimpeded ability to apply a local solution. Environment Southland wishes to retain the ability to apply methods that will allow for all of the values in the Waiau catchment to be met (Southland Regional Council, 2019, p. 2).

Submitters played to their strengths, using rational arguments, policy and planning expertise, cultural and local knowledge, emotive language, imagery, and normative concepts of fairness to argue against the exception. In common was the strength of their opposition. Te Rūnanga o Ngāi Tahu took a policy approach, arguing, 'these exemptions to be contradictory to Te Mana o Te Wai and…fail to provide the desired 'balance' between climate change action and instead places hydroelectricity above that of freshwater and ecosystem health' (Ngāi Tahu, 2019, p. 17). Similar sentiments were conveyed by SRC's submission, which suggested the exception was 'fundamentally inconsistent' with the 'overarching principle of Te Mana o Te Wai', a principle, SRC argued, that 'cannot be partially applied' (Southland

[17] Territory or region. This includes the MPS.
[18] Legislated under the Ngai Tahu Treaty Settlement Act 1998.

Regional Council 2019, p. 9). ES, consistent with the expertise it holds as in regulation development, pointed out flaws in the MfE's policy analysis, stating that:

> Environment Southland **strongly disagrees** with the Interim Regulatory Impact Analysis for Consultation which states that: "Not having to improve to meet bottom lines may also reduce the impacts on the catchment community that they would otherwise have felt from the requirements to meet bottom lines." This statement does not appear to be based on any evidence despite enquiries made to MfE for clarification. Environment Southland submits that independent impact analysis should be undertaken to demonstrate this claim and the broader rationale for proposing exemptions (Southland Regional Council, 2019, p. 10). [Emphasis in original.]

The WRG's submission expressed similar dissatisfaction with the MfE's RIA, noting that beyond consideration of the hydro-generators and government:

> The impact of the proposed exemption on the "Other" stakeholders which includes Iwi, the Waiau Community (and those in the other five catchments), the Lower Waiau River system itself, and the businesses it sustains, is described as 'NOT APPLICABLE'. The lack of rigour and detail evident in MfE's analysis casts doubt on the assertion in the Cabinet Paper that 'the proposed exceptions will not lead to declines in water quality (Waiau Rivercare Group Inc., 2019, p. 24).

The absence of fairness was raised in several submissions. SRC commented that, 'there is an inequity in the proposed exceptions that preferences one consumptive use over the uses and values of other industries and the community' (Southland Regional Council 2019, p. 9). Fish & Game suggested that the exception, 'risks creating 'sacrifice catchments' whereby greater degradation is permitted than elsewhere' (Southland Fish and Game Council, 2019, p 5). The WRG submission discusses the 'exclusion of the community', and notes that:

> There has been no meaningful consultation on the exemption proposal for the MPS with the most affected community…Restoring the health of the Waiau River without being able to address the MPS water take is probably impossible… Our catchment is not an affluent place, we do not have the financial resilience to shoulder such a regulatory burden. Nor do we have the resources to engage scientists and economists to demonstrate this through expert reports. Make no mistake, we are committed to improving the health of the Waiau River, for our Community, now and in the future. But we cannot do it alone, and Section 3.22(4) of the draft NPSFM, by forcing us to try, is a death sentence for the Waiau River and its Community (Waiau Rivercare Group Inc., 2019, p. 24).

Several organisations focused on conveying their local knowledge and using it to predict the likely outcomes of the exception. WRG provided detail of the impacts its members have witnessed first-hand, and stressed that the proposed exemption would perpetuate the status quo of ongoing degradation (Waiau Rivercare Group Inc., 2019). The WWP provided an extensive list of effects, as well as a history of its experience dealing with Meridian for over 20 years. WWP noted the frequent taking of more water by resetting the 'existing baseline' over time, and WWP's frustration in this regard (Waiau Working Party, 2019a). Key points made by the WWP, the WRG and Southland Fish & Game, included that the impacts of the MPS on the Waiau River are significant and ongoing, there remain may unresolved issues, and the operation of the MPS is complex and constantly evolving (Southland Fish and Game Council, 2019; Waiau Rivercare Group Inc., 2019; Waiau Working Party, 2019a). These arguments highlight that what are viewed

as environmental sunk costs associated with the MPS require closer examination. There remain opportunities to avoid, remedy and mitigate the ongoing effects of the MPS.

At a local level, Meridian sought to leverage normative arguments as a rationalisation to convince the WWP to withdraw its submission on the draft NPSFM. Meridian appealed to the members' internalised sense of duty and proper process. Meridian expressed 'increasing concern at the WWP moving away from its function and purpose' by submitting on the draft NPSFM without obtaining prior agreement from members (Waiau Working Party, 2019b, p. 15). The minutes of the WWP meeting on 4 December 2019 record that, 'Meridian considered that the WWP, acting in a principled manner and consistent with its mandate, should resolve to withdraw the submission lodged on its[19] behalf' (Waiau Working Party, 2019b, p. 15). Following a discussion of Meridian's proposal the minutes record that, 'All members present of the WWP except Meridian Energy staff endorsed, in retrospect, the submission made to the Ministry of the Environment on the 2019 Freshwater Reforms. Meridian Energy staff were completely against the endorsement[20]' (Waiau Working Party, 2019b, p. 16). Given that the WWP's submission was opposed to Meridian's own, it appears that Meridian's key concern was the content of the submission rather than the process of its approval. As such, this incident is another example of presenting rationalisation as rationality, albeit an unsuccessful one.

5.5.4 Outcome

The Government gazetted the NPSFM 2020 in August 2020 (Ministry for the Environment, 2022b). Section 3.31 of the NPSFM 2020 provides a process by which, in certain circumstances, SRC may exempt the Waiau River from meeting the national bottom lines for water quality because of the benefits of renewable energy generation provided by the MPS. Further, Section 3.31(2) of the NPSFM 2020 sets up a general requirement for SRC when implementing the NPSFM 2020 to have regard to:

- meeting New Zealand's climate change obligations,
- protecting the security of electricity supply, and
- the MPS's generation capacity, storage, and operational flexibility.

This is significantly more protective of the MPS than the NPSFM 2014 (amended 2017). However, it is less so than the draft NPSFM. The key difference between the draft and gazetted versions is the removal of the phrase 'not adversely impacting' in relation to the generation capacity, storage, and operational flexibility of a Scheme. Removing this text was important for the Waiau River because any water released down the Waiau River is not available to generate electricity. Because of this design, releasing any additional water into the Waiau River could have been interpreted to be in direct conflict with that provision of the draft NPSFM 2019.

The other outcome of the NPSFM 2020 development was the WRG petition. The petition started as a classic situation of a community railing against the proposals of others. Unfortunately, it wasn't considered by the Environment Select Committee until after the NPSFM 2020, including the exception, had been gazetted. Rather than accept that the object of the petition had failed, the WRG instead argued that the intent of the submission, to ensure due regulatory protection of the Waiau River, could still be

[19] The WWP's.

[20] There was one other person who did not endorse the submission. This person declared a conflict of interest early in the discussion and did not participate.

achieved another way. WRG used the petition as a platform to suggest statutory reform of MTADA 1963 to require the MTADA 1963 guidelines to consider the Waiau River alongside the lakeshores and optimising energy generation. WRG presented evidence showing the breadth of support across the community for increased protection of the Waiau River, including presentations from local school children outlining how important the Waiau River is to them and their families (Waiau Rivercare Group Inc., 2022). This placed WRG in an unusual and powerful position where others, including Meridian, ES, the Guardians, and various government departments, were commenting on WRG's proposals.

Meridian's response sought to leverage rationalisations as rationality, espousing a preference for pursuing the RMA 1991 Environment Court process over changing MTADA 1963 on the basis that the RMA 1991 provides statutory public participation (Meridian Energy Ltd., 2022). In practice, the MTADA 1963 Guidelines are implemented as a non-negotiable requirement around which management of the Waiau River through the RMA 1991 must adapt. In that context, it seems more likely that Meridian's rationality was a desire to avoid elevating consideration of the Waiau River. An altruistic preference for participatory planning processes seems unlikely considering Meridian's overt attempts to limit public participation in the pSWLP Environment Court appeals. It appears that this 'frontstage-backstage' argument was not lost on the Chair of the Select Committee, who responded to Meridian's submission with the comment, "the children we heard from don't participate in the Environment Court" (Environment Select Commitee, 2022).

Select Committee consideration of the petition is ongoing at the time of writing, with the Environment Select Committee yet to report back to parliament on the petition.

5.5.5 Summary

Political influence was used by Meridian to influence the direction of national regulation in the development of the NPSFM 2020. This had the effect of limiting the discretion of SRC at a regional level, as regional plans, such as the pSWLP, must give effect to national policy statements under the RMA 1991. Meridian was involved in consultation meetings exclusively for the big hydro generators a year before the draft NPSFM was notified to the public. The notes from those meetings suggest that the hydro-generators considered themselves to be in a powerful position with a sympathetic audience, expressing their regulatory desires and their views about other stakeholders in a very candid way.

Unlike the other processes in this research, the NPSFM 2020 process cast SRC as a stakeholder rather than the decision-maker. SRC, and others cast in the role of respondents to central government's proposals, made use of the public submissions process to highlight their statutory roles and obligations, or their process power, as well as capitalising on normative values around fairness, equity, participation, and the importance of local solutions to support their arguments.

The cross-over with the pSWLP process left the WRG with the unpleasant knowledge that there were 'backstage' discussions going on to change the regulatory context for the pSWLP, while the WRG was actively engaged in the Environment Court Appeals. In addition to its formal submission, WRG's response included a membership drive to improve the reach of its message, engagement with media, and a parliamentary petition. However, like the pSWLP process, the focus of the draft NPSFM was on agriculture, and the proposed hydro-exemption was largely lost in the noise. The petition, while initially a response to the draft exception in the NPSFM, morphed into a new proposal, casting others, including Meridian, in the role of respondent. Meridian's response provided another example of rationalisation as rationality,

advocating for retaining the RMA 1991 approach because it facilitated public participation, despite actively working to minimise public participation through the pSWLP appeals. The Environment Select Committee was yet to report back to parliament on the petition at the time of writing.

6 Discussion

6.1 Introduction

Despite its apparent uniqueness, the story of the MPS echoes the power dynamics of other large-scale infrastructure projects. These power dynamics have seen the normative, structural, and institutional changes that have occurred over the lifetime of the MPS poorly reflected in outcomes for the Waiau River. Firstly, this chapter looks at changes in wider environmental norms that could be expected to influence consent conditions, regulation, and management of the MPS. Generally, the increases in the consideration and status of indigenous rights and interests worldwide, improved knowledge of environmental effects, post-positivism and communicative planning have had little real impact in improving the health of the Waiau River.

The discussion then turns to how power has influenced the endurance of the status quo. It is perhaps obvious that big corporates consistently and constantly possess more power than small communities. However, it is only by examining the interactions within these taken-for-granted relationships that the methods which support the stable dynamics of power can be made visible. Once these methods of power are categorised and articulated they can be understood, utilized, and ultimately challenged. To that end, this chapter explores the specific interactions between actors examined in the previous chapter in the context of four categories: path dependencies, knowledge as power, rationalisations and rationality, and the power of process.

This research shows that these power tactics, which the literature suggests are typically brought to bear ex-ante on the NIMBY community, persist ex-post. Some of the power tactics require agency, others are so embedded that they impede less powerful actors in passive, but no less-effective ways. Right from the point of initiating a formal review process, local communities are on the back foot, perpetually cast as the respondents to the proposals of others. Ultimately, power tactics create ongoing, exacerbated hurdles for small, geographically isolated communities to be active participants in democratic processes. Ex-post, the trifecta of political influence, money, and alignment with (or influence over) normative values is strategically used to maintain the status quo.

Even when less powerful actors are successful in wielding these power tactics themselves, doing so consistently against the well-resourced is a challenge. The obvious solution for the disempowered is legislative change to even the power dynamics. But there's the rub, legislative change requires political will, money, and normative alignment (or influence). This leaves less powerful actors caught in a power-paradox where the solution to meet their objective is clear but is unattainable without more power. Perhaps that is why Flyvbjerg (1998) suggests that the critical ingredient for upsetting stable power relationships is the perpetually illusive 'beneficial circumstance and pure luck' (Flyvbjerg, 1998, p. 236). By unpacking the ways in which power is brought to bear in ex-post processes through the case study of the MPS, it is hoped that this research will help others to recognise the power asymmetries that exist in their own circumstances and to recognise their ability to inject more equity in them.

6.2 Expectations of change - normative changes and the status quo

The MPS has witnessed significant change in normative values over its lifetime. Even in the period this research spans, there has been significant change, specifically in relation to indigenous rights and interests, consideration of freshwater, and climate change acceptance and mitigation. This section addresses each of these in turn, highlighting how seldom changing normative values have translated into outcomes for the Waiau River, and the role that power plays in this regard. Even when there appears to be alignment between outcomes and normative values, the causality appears to lie with power dynamics. Arguably, alignment with normative values in such circumstances is little more than a rationalisation for an outcome that reinforces the existing power landscape.

Of the four formal processes assessed in this research, the WWP process in the lead up to the 1996 resource consent application occurred when the normative and structural support for prioritising freshwater was at its lowest. While the importance of rivers and protecting their dynamic essence had been recognised in Aotearoa through water conservation orders, interviewee 2 noted that "the (Waiau) river was forgotten about except by people who didn't have much political clout". Normative recognition of indigenous rights and interests was also modest at this time, the Ngāi Tahu treaty settlement was still some years away and interviewee 2 reflected that, "none of us really understood the relationship Māori had with the river at that time". ECNZ enjoyed reasonable alignment with normative values in the region at the time, particularly given the importance of Tiwai Smelter to the struggling regional economy. That said, at that time climate change was without general acceptance, and the place of renewable energy in climate change mitigation was yet to be cemented into the national psyche. This has subsequently become embedded, lending further normative support to the generator's agenda.

Within that context, it is not clear from a normative perspective alone, why the WWP process was the most successful of the four in terms of outcomes for the Lower Waiau River. It transpires that the WWP followed a lengthy and expensive litigation exercise concerning a hydro-scheme in New Zealand's North Island. This was a situation ECNZ were keen to avoid repeating, particularly given the "ill-feeling about the whole Lower Waiau, about how it had been neglected and forgotten about at the community level" (interviewee 1). Interviewee 1 speculated that ECNZ knew at the start that it would have to put some water back in the river, and interviewee 2 recalled that, "we always thought that ECNZ had about $10,000,000 to spend" paying off the various stakeholders in the community. Despite this, the WWP process encouraged early participation and decision-making legitimacy, well aligned with contemporary planning best practice, and was ahead of its time, at least in Southland, New Zealand. Possibly then, elevation of participatory planning approaches was less of a response to normative change and more a reaction to an unstable power dynamic further north.

One of the most significant normative changes since the WWP process is the increasing consideration of the Treaty of Waitangi, or Te Tiriti o Waitangi (Natcher et al., 2013). Over the lifetime of the MPS this increased consideration has gradually translated into structural and institutional change (Bess, 2010; Forster, 2016). Meridian's engagement with Ngāi Tahu appears to have followed a similar path. The available information suggests that in the 1990s Ngāi Tahu's engagement opportunities were primarily as a member of the WWP. In accordance with the trend identified by C. L. Miller (1998), Ngāi Tahu's influence grew post treaty settlement, and by 2010 Meridian was engaging with Ngāi Tahu separately from the rest of the community (Interviewee 4). Yet it is clear in the Te Ao Marama submission on MTAD in 2010 that

many of the things Te Ao Marama sought were not among Meridian's proposed consent conditions (Interviewee 4). Further, while the pSWLP process was ongoing, behind closed doors with the MfE, the generators requested that officials 'help us through' Iwi opposition to the exceptions clause for large hydro-scheme when developing the NPSFM 2020 (Ministry for the Environment, 2019b, p. 2). While Meridian has recognised Ngāi Tahu's unique role as mana whenua, it has continued to protect its own interests in the Waiau catchment.

Arguably, this speaks to the enduring power imbalance between Māori and the Crown, Meridian's majority shareholder. Te Tiriti promised Māori Rangatiratanga, a Te Ao Māori concept translated as ranging from governance to ownership (Natcher et al., 2013). And yet, in the formal review processes explored in this research, Ngāi Tahu are neither the decision maker nor owner of the resource Meridian seeks to secure access to. While rangatiratanga has been largely withheld through dominant power assemblages, Māori have been successful at gaining recognition as kaitiaki[21], something of an touchstone for long-term, holistic environmental consideration (Natcher et al., 2013). Arguably, it is not rangatiratanga that drives Meridian's engagement with Ngāi Tahu, but Kaitiakitanga, a Te Ao Māori concept requiring both whakapapa (ancestral connection) and behaviour akin to guardianship or stewardship (Interviewee 4). Kaitiaki wield a cultural rationality, which is unique to Māori as Tangata Whenua[22] of Aotearoa. Recognition of local Rūnanga as kaitiaki has elevated consideration of Māori interests and concerns. In terms of outcomes however, it appears that Kaitiakitanga, like other forms of rationality, continues to be dominated by prevailing power assemblages.

In relation to freshwater, normative change has been structurally embedded over time. When the MPS was established, the rhetoric was around the scenic beauty of the lakes, which expanded to include their ecological functioning, in a transition akin to that identified by Davoudi (2012). From 1981 water conservation orders marked increased acknowledgement of the inherent value of New Zealand's wild and scenic rivers, albeit too late to protect the Waiau River. 2011 saw the first iteration of the NPSFM, and subsequent versions have progressively increased the level of protection and consideration of freshwater (Ministry for the Environment, 2022b). The current NPSFM, first gazetted in 2020 and amended 2022, elevates Te Mana o te Wai as the 'fundamental concept'. Broadly, there is now a hierarchy of consideration, health of waterbodies first, health of people (such as drinking water) second, economic considerations third. It is difficult, on its face, to reconcile prioritising the MPS's massive water take and the associated environment effects, with this hierarchy.

This inconsistency speaks to Kamate's (2011) suggestion that the less normative alignment one enjoys, the more subversive the tactics of power tend to be. For example, Meridian sought to short-circuit the Environment Court process on the pSWLP by requesting, through a Ministry[23] briefing paper, that the Minister of Energy amend the superior planning instrument (the NPSFM) to provide an exemption for the MPS (Ministry of Business Innovation and Employment, 2018). This utilization of political will occurred outside formal public processes and was not visible or available to other actors. A. M. Hansen et al. (2013) suggest this is by no means an uncommon strategy among the powerful. Previous iterations of the NPSFM, which gave lesser consideration to Te Mana o te Wai, contained no such exception. It was only when

[21] Those who have the responsibility of undertaking kaitiakitanga.
[22] Literally 'people of the land', the indigenous people who belong to a particular place.
[23] Ministry of Business Innovation and Employment.

structural implementation of normative values caught up with the MPS that such subversive power tactics were employed to protect it.

Climate change also provides an example of normative change since the 1990s (Davoudi, 2012). Unlike the above normative changes, in this instance the tide has been aligned with Meridian's interests. As a renewable energy generator, the MPS benefits from the normative assumption that renewable energy is low carbon and green (Murphy & Fox-Rogers, 2015; Richardson, 2005). The MPS (and renewable energy more broadly) appears to be a technological solution to our consumption problem, a guilt free ticket to maintain our existing lifestyle. While O'Neil (2021) dismisses this as a futile approach, the rhetoric has a clear political appeal. Arguments presented by both officials and Meridian have utilized this normative context. A senior official, justifying the NPSFM hydro-generation exception at a public meeting in 2019 suggested the proposed exemption was to avoid "the lights going out" (interviewee 5). Evidence and legal submissions to the Environment Court by Meridian Energy expounded at length about the benefits of renewable energy generation, and the importance of the Manapōuri Scheme specifically (Christensen, 2022; Christensen & Baker, 2009; Feierabend, 2019b). Scenarios examined by Meridian's experts look at the consequences if reconsenting the MPS resulted in its closure, or a reduction in generation potential by 50% (Whyte, 2022). By contrast, the WRG have advocated publicly for, "just 3% more water", looking to strike a balance where renewable energy can co-exist with an ecologically vibrant river' (interviewee 5). In light of the modest request of the WRG, the catastrophizing on the part of officials and Meridian seems to be little more than scaremongering in an attempt to dismiss the concerns of the community. As Flyvbjerg (1998) might refer to it, rationalisation presented as rationality.

In relation to changing normative values, it appears that there is usually an underlying power rationale for a particular outcome, even when there appears to be normative alignment. While normative change has occurred over the lifetime of the MPS and has been structurally embedded, it doesn't appear to have materially influenced outcomes for the Waiau River. What this normative change may have done is alter the power tactics employed by the various actors involved.

6.3 How power strategies support endurance of the status quo

Power supports the persistence of aging hydroelectric generation schemes in the face of normative change. It does so both passively, through path dependencies created by the status quo, and through the power tactics employed by various actors. These power tactics are most visible when the prevailing power assemblages are stable and asymmetric, as is the case in relation to the MPS. The four formal review processes this research examines provide snapshots of these power dynamics by forcing the actors to interact in pursuit of a favourable outcome. This section explores the ways path dependencies, knowledge as power, rationalisation and rationality and the power of process have played out through the four review processes.

6.3.1 Path dependencies - capitalising on concrete

The concrete structures of the MPS form a monument to the might of the engineering technocracy of the 1960s, creating a view that the MPS will endure through the generations (pSWLP Commissioners, 2018). These path dependencies are reinforced by the statutory context making replacing the MPS nearly impossible. This section discusses the long shadows cast by the MPS in relation to the structures themselves, normative assumptions, environmental sunk costs, and the regulatory landscape.

One of the long shadows the concrete casts into the future is in relation to the location of the MLC. Interviewee 3 suggested that this was built in the wrong place, and that in the context of making $1,000,000 a day from the MPS, it shouldn't be beyond the realms of possibility to move it. Yet the pSWLP Commissioners was sufficiently convinced of the MPS's longevity that they included the structures as part of the existing environment. While their decision was subsequently overturned by the Environment Court, it speaks to the inertia of established physical infrastructure, institutional and normative ideas of what is acceptable and realistic. Further, consistent with Flyvbjerg (1998) and Henrysson and Hendrickson (2021), the pSWLP Commissioner's decision demonstrates how the power of the status quo can be employed to create structural barriers to reinforce these path dependencies.

The normative perception that the environmental effects associated with large hydroelectric power schemes are essentially a sunk environmental cost also reinforces the status quo. While sunk costs are normally viewed in a narrow financial or economic sense, the concept translates well to irreversible adverse environment effects. In relation to hydro-electric generation the normative assumption of irreversible adverse effects has its roots in the classic high-dam, which often result in flooding valleys and changing the course of rivers. The design of the MPS, which uses natural lake storage and diverts the river rather than changing its course means that while the environmental effects are ongoing, they are not sunk costs i.e. they could be mitigated or reversed by modifications to the operation of the MPS. Unfortunately, that nuance is not generally well understood. The normative assumption of irreversibility then becomes a path dependency applied generally which sees the status quo structurally embedded, highlighting the importance of questioning whether environmental such costs are really sunk.

In almost the same breath, changing structural and normative approaches to the environment have made it nearly impossible to establish new large-scale infrastructure, creating more structural path dependencies (Ministry for the Environment, 2010). Such changes serve to heighten the value of the MPS, as it cannot be replaced. Barriers include higher specified minimum river flows, water conservation orders, Iwi management plans highlighting the cultural importance of rivers, and increased regional and national regulation of water quality and quantity under the RMA 1991 (MfE, 2020; Ngāi Tahu ki Murihiku, 2008; Southland Regional Council, 2017). This is not lost on Meridian, whose experts used this to argue for more enabling regulation in evidence to the Environment Court sighting 'major policy and legislative barriers to the construction of new hydro, particularly large-scale hydro' (Purdie, 2022, p. 22).

6.3.2 Knowledge as power

Knowledge acts as power in relation to review processes, particularly within a positivist context which elevates science as the preeminent form of knowledge (Ortiz et al., 2018). This section explores the ways in which knowledge acts as power within the formal review processes examined here. This includes the strategic use of technical language and uncertainty, as well as knowledge deficits, and how they are hidden in the noise created by knowledge abundance. It then turns to the ways in which Ngāi Tahu and the local community have articulated their knowledge to support their interests and how that links with the rise of post-positivism.

Technical language and uncertainty can be used to reinforce the pre-eminence of science and dismiss local and indigenous knowledge. This was used successfully by the generator in the MTAD process, where a plethora of technical information made it 'extremely difficult to convey information and advice from reports' to members of the local Rūnaka (Te Ao Marama Inc., 2019, p. 14). While science still enjoys a normative elevation above other knowledge types, post-positivism has provided increased consideration

of local and indigenous knowledge (Bond et al., 2018). Evidence on the pSWLP appeals from Ngā Rūnanga and WRG incorporated indigenous and local knowledge into scientific evidence. By acknowledging that objectivity is unattainable, post-positivism provides space for science to be enriched by the researcher's cultural knowledge and lived experience. This marks a change from scientists having to maintain the facade of a dispassionate observer in order to be considered legitimate. By renouncing objectivity, post-positivism helps dismantle one of the systemic barriers to considering cultural knowledge, as interviewee 4 put it, "objectivity distances you from the environment, and the environment is part of us".

The review processes examined here span the move from positivism to post-positivism in local planning practice. When the WWP process was underway, the dominant knowledge paradigm was a positivist one. Science was the dominant epistemology, and great faith was placed in objective scientific enquiry. While much of this faith may have been justified, it also provided an opportunity for power to influence decision making through the strategic scoping of scientific knowledge. Lave (2015) calls this commercial science, and Bond et al. (2018) identify this as a means by which knowledge legitimacy is undermined. The modelling used to determine the minimum flow provides an example. The modelling focused on highly channelized reaches of the river. This meant that additional water in these locations would make very little difference to the amount of habitat available beyond about 15 cumecs, it would just increase the height of the water up the bank. Interviewee 2 noted that, on reflection, had more braided, less channelized reaches been selected, the optimum minimum flow may have been quite different. But at that time the WWP was "trying to do the best with what we had," (interviewee 1) and the "big mistake we made was thinking that providing a consistent minimum flow would fix the problems, we didn't realise the importance of a variable flow" (interviewee 2). These knowledge deficits placed the WWP at a disadvantage when it came to negotiating outcomes for the river. Particularly given Meridian has "basically captured all the people with those skill sets in New Zealand" (Interviewee 1).

Subsequently, the literature has called into question legitimacy as the normative core of science (Bond et al., 2018). The rise of post-positivism has also seen increased recognition of cultural knowledge as an alternative epistemology to traditional scientific knowledge (Bond et al., 2018; Lave, 2015). This has given Māori the ability to present their indigenous knowledge in a way that has more validity in formal review processes such as the Courts, an alternative rationality (Natcher et al., 2013). Ngāi Tahu have used the concept of mahinga kai to articulate the loss of cultural values in relation to the Waiau River (Davis, 1996; Kitson, 2022; Te Ao Marama Inc., 2009). Mahinga kai is a physical manifestation of Māori culture, an act of implementing place based Mātauranga Māori[24] from their tūpuna[25] and passing it on to their tamariki[26] (interviewee 4). Despite being a Te Ao Māori[27] concept, because mahinga kai involves harvest, an act common across cultures, it provides a useful mechanism for non-Māori to engage with the concept of cultural degradation. It also links well with conventional science concepts of ecosystem health and degradation, as successful mahinga kai relies on a healthy environment. In this way it provides common ground between indigenous and conventional scientific knowledge. Kitson's (2022) approach extends the post-positivist concept of indigenous knowledge as an alternative epistemology, by incorporating both science and indigenous knowledge into a single way of knowing. It seems at once to be both culturally situated science, and scientifically articulated indigenous knowledge. Such an approach requires caution,

[24] Maori knowledge and traditions.
[25] Ancestors.
[26] Children.
[27] Maori worldview.

as attempts to articulate indigenous knowledge within the dominant scientific epistemology risks diluting its essence (Bond et al., 2018). In this instance however, Kitson (2022) has the whakapapa and the scientific expertise to speak with authority in both epistemologies and weave them together.

The WRG possesses an alternative form of extramural knowledge, what Lave (2015) describes as local knowledge. The group was able to capitalise on its collective lived experience, which has experienced increased legitimacy through post-positivism (Bond et al., 2018). The strength of this evidence was in the social effects it articulated. Scientists are well placed to rebut examples of observed effects on the environment raised by the community. For example, during the MTAD process an 88-page document was produced to systematically refute the concerns of the community. However, it is impossible for experts to counter collectively expressed feelings of grief and marginalisation. With decision making legitimacy increasingly tied to fairness, participation and equity, such reflections become increasingly powerful (Bond et al., 2018). These expressions of grief not only undermine the decision-making legitimacy of processes to date, but also add weight to legal and planning arguments advocating for prioritising communicative planning processes moving forward. The evidence of the WRG was particularly effective in this regard, amplifying both the voices of elderly stalwarts in the fight for the Waiau River, and the voices of local children, both systematically excluded demographics (Horrell, 2022; Vaughan, 2022). The intergenerational marginalisation of the community's voice provided an argument for meaningful re-evaluation of the MPS's water take that was difficult to refute.

Power influences not only knowledge, but also knowledge deficits. The maintenance of an absence of knowledge is less visible. While the literature deals with knowledge deficits being strategically used by groups opposing proposals (Bond et al., 2018; Flyvbjerg, 1998), the above example also highlight how they can be maintained to support proposals. In a regulatory context of constrained statutory timeframes, and a requirement on decision makers to use the best available information, knowledge deficits become an effective tactic of power. It is a tactic which enables scientists defending proposals to deflect awkward arguments by pointing to a lack of knowledge, as was done through the MTAD proposal. In this way commercial science maintains its claim to objectivity as it yields to power. While one might anticipate that the precautionary approach might temper the value of such a tactic, this doesn't appear to be the case in processes examined here. Perhaps this is because the deficits are hard to identify in the noise created by abundant technical information, such as the hundreds of pages of expert evidence provided to the hearing panel on the MTAD consent application. This noise can also be strategically employed. In the pSWLP appeals, Meridian contented that of Southland's rivers, the Waiau is particularly well understood (Feierabend, 2022b). While Meridian's contention was not untrue, WRG's hydrology witness was able to point out that existing minimum flow regime for the Waiau River is a negotiated position based on a 30-year-old scientific model which is no longer considered best practise and that this has not been reassessed using the updated methodology (J. Riddell, 2022). Essentially, while a lot of knowledge exists, there is a critical gap. This example highlights the ways in which power influences the scoping of scientific enquiry, thereby creating knowledge and ultimately rationality (Bond et al., 2018; Flyvbjerg, 1998).

Ultimately, commercial science remains dominant over local and indigenous knowledge in practice (Ortiz et al., 2018). That has certainly been the case in the review processes examined here. Such knowledge is subject to strategic employment by the powerful. In relation to the MPS, strategically scoped and articulated knowledge and knowledge deficits has been used as a tactic to overwhelm and discount community opposition. An abundance of knowledge has also been employed as a tactic to mask critical knowledge deficits. The absence of knowledge is often less conspicuous, but can be just as deliberate

(Bond et al., 2018). In the more recent of the review processes examined, there appears to be space for those who can bridge epistemologies, combining cultural and place-based knowledge with scientific enquiry. This might be an unexpected benefit of post-positivism. By lifting the veil of objectivity, post-positivism enables scientific enquiry to be enriched by the researcher's cultural and lived experience, rather than maintaining the facade of a dispassionate observer in order to be considered legitimate.

6.3.3 Rationalisation and rationality

Turning now to rationalisation and rationality, what follows is a discussion about the way arguments are framed to reinforce or align with normative assumptions as a tactic of power (Flyvbjerg, 1998; Henrysson & Hendrickson, 2021). This section discusses how the MPS has been recast to align with normative values as they have changed over time, and how this alignment is then used as a rationalisation to justify maintaining the status quo and undermine local opposition in a similar way to the arguments used on the NIMBY community.

Normative values are dynamic, and the MPS, like other large hydro-electric generation schemes, has been reinvented to align with the prevailing rhetoric throughout its lifetime. Rationalisations abound, ready to morph the MPS into a monument to the latest normative position. Initially, the MPS was a triumph of modern engineering, a testament to the technological prowess of New Zealand. It quickly transformed into the birthplace of the environmental movement in New Zealand, and example of industrial power production with a light-touch on the pristine lakes it drew from. In the depths of recession in the 1990s it was an enabler of regional employment through Tiwai Smelter, then an asset class in which investment could be made. More recently, it has gained currency as a significant source of renewable energy. Within that context Meridian has been careful to describe the MPS's utility in the broader context of supplying the national grid rather than the generator's previous approach of linking the MPS's importance to Tiwai Aluminium Smelter.

Climate change rhetoric remains dominant today, essentially - renewable energy is green and green will save us (Murphy & Fox-Rogers, 2015). This rationalisation is powerful because it provides hope without personal responsibility, which is politically attractive if somewhat misguided (O'Neil, 2021). However, there may be an emerging normative rhetoric questioning our carbon-obsession. One example to support this is Ngāi Tahu's suggestion that in instances where renewable energy degrades the environment it undermines the benefits of renewable energy (Cain, 2022). Similarly, the WRG have suggested that the MPS produces low-carbon energy, being fundamentally distinct from green energy (Waiau Rivercare Group Inc., 2022). Time will tell whether this emerging normative idea becomes broadly embedded, and if so, whether the MPS can be shoehorned yet again with clever prose. Perhaps this time, action will be required to secure ongoing normative alignment.

Rationalisations have also been utilized over the lifetime of the MPS to dismiss the community. The WRG's initial struggle for legitimacy in the eyes of the Regional Council was arguably because its rationality was interpreted as rationalisation. Its two original co-chairs were farmers, seen as potential alternative users of the water resource, a view encouraged by Meridian as it sought to have the WRG struck out of the pSWLP appeals. This approach played into a normative context maligning pastural farming, particularly dairy farming of cows. However, the WRG has managed to increase and broaden its membership over time, so that its membership now reflects the community more generally. It has also been consistent with its messaging and behaviour, aligned with its organisational purpose of advocating for the health and wellbeing of the Waiau River and the communities it sustains (interviewee 5). Overt power tactics re-

emerged in the final pSWLP hearings, where Meridian's legal submissions suggested that the WRG bought into conspiracy theories and was driven by a fundamental, and unwarranted, mistrust of ES and Meridian. It was suggested that the Children's Kaitaiki Project was just the children parroting their teachers. While this treatment of the local community is not textbook NIMBYism as the MPS is already 'in-my-back-yard', it has a similar flavour. While largely unexplored by the literature, this research suggests that attempts to undermine the post-NIMBY community remain focused on the suggestion that the community is operating from a position of unbridled self-interest (O'Neil, 2021). In this way the power-tactics commonly brought to bear on the NIMBY community are perpetuated through formal review processes of established large-scale infrastructure.

The similarities with the NIMBY community continue with the extensive reliance on common-good arguments to support proposals examined in this research. Meridian's favoured approach is justifying the externalities experienced in this geographically isolated location in the name of combatting climate change. Meridian have successfully conflated profitability of the MPS with its contribution to climate change. Interviewee 3 suggested that Meridian makes in the vicinity of $1,000,000 a day from the MPS. Yet Meridian has not been subject to the suggestion that its actions are driven by the profit motive described by O'Neil (2021). Arguably, this is down to the significant political and financial clout Meridian enjoys as a large, 51% government-owned company. As Flyvbjerg (1998, p. 232) suggests, 'the greater the power, the less the rationality'. Perhaps Meridian's Teflon exterior also speaks to the extent to which climate change response rhetoric has been internalised in the national psyche, what O'Neil (2021, p. 91) describes as the 'internal conflict of being both pro-environmental and against environmentally labelled project'.

In the New Zealand context, the Save Manapōuri Campaign is arguably the ultimate 'environmentally labelled project.' And with good reason, it marked the first mass-mobilisation of the public in defence of the environment in New Zealand. The proposal to raise the lakes became a key election issue in 1972 (Fox, 2001). It was hugely successful, not only preventing the raising of Lakes Te Anau and Manapōuri, but leading to the statutory validation of the Guardians of the Lakes, and the Operating Guidelines. The Operating Guidelines have the dual requirement to protect the vulnerable lake shores of Te Anau and Manapōuri by managing them within their natural limits as well as optimising energy generation. Unfortunately, the success of the environmental movement in protecting the scenic and ecological value of the Lakes, also enhanced the blindness toward to the Lower Waiau River. It was forgotten in the fanfare, being something of an inconvenient truth against the success of the Save Manapōuri Campaign (Horrell, 2022). This is reinforced in the ongoing operation of the MPS, this rhetoric used to justify not providing for the ecological health of the Waiau River. For example, when flushing flows to address didymo are not provided, it is explained as being necessary to stick within the guidelines and protect the lakes. While this has some currency with the WWP members, who typically fit O'Neil's (2021) description of being 'pro-environmental', it fails to acknowledge the other limb of the Guidelines, 'optimizing energy generation'. In doing so it becomes another of Flyvbjerg's (1998) rationalisation dressed up as rationality.

Other attempts at dismissing the community have been less overt though no less damaging. The MfE, in its 2019 report on consumptive water takes includes a note at the bottom of the table stating that hydro-electricity takes have been excluded on the basis that they are non-consumptive (Ministry for the Environment & Statistics NZ, 2019). While most hydro schemes are non-consumptive, the MPS is consumptive, and represents over 60% of the total consumptive water take in New Zealand. The MfE's analysis then, which purports to be of consumptive water takes in New Zealand, addresses less than 40%

of the consumptive freshwater take. Within that context, it is difficult to see the above note as anything other than a rationalisation. The fact that it is used by a public organisation, which are associated with upholding the normative values of fairness and truth, makes it less prone to discovery (A. M. Hansen et al., 2013). While the rationality behind this rationalisation is unclear, as Bond et al. (2018, p. 20) suggests, 'there is clearly a lot of hidden information – which is hidden for a purpose!' Flyvbjerg (1998, p. 98) describes such pairing of rationalisations and rationality as 'frontstage-backstage relationships'. Similarly, the regulatory impact assessment for the draft NPSFM 2019 described the impacts on the community of providing an exemption for the MPS as 'N/A'. Meanwhile the generator had enjoyed bespoke consultation opportunities over a year before the draft NPSFM was made public. Again, it is not clear whether the 'backstage' of this relationship has more to do with the prevailing normative values about the importance of renewable energy generation or the government's dividend stream. Perhaps as Henrysson and Hendrickson (2021) suggests even those making the recommendations are not cognisant of the assumptions behind them. Whatever the rationale, these behaviours reduce the visibility of both the issues and the actors, depowering them by not only undermining their legitimacy, but their very existence.

The tactics which depower the NIMBY community can be brought to bear on the post-NIMBY community too. In this instance, rationalisations aligning with normative values, presented as rationality have been used not only to undermine the WRG, but to justify the status quo. Both climate change and protecting the vulnerable lake shores of Te Anau and Manapōuri have been used as rationalisations to perpetuate the current treatment of the Waiau River. While the significant financial benefit the status quo delivers to Meridian and the government more generally is seldom acknowledged. There are also instances where the issues have been made invisible through the departmental reporting, further depowering the local community. But normative values are subject to change, and consequently, so are the rationalisations which utilize them. Time will tell what this means for the future of the MPS.

As anticipated, presenting rationalizations as rationality is a common power tactic used by actors looking to demonstrate that their agenda is aligned with normative values. In what Flyvbjerg (1998) describes as a 'frontstage-backstage' relationship, the common-good justification presented publicly is often quite different from the genuine rationale which is hidden from view. In the context of the MPS, this approach has been used both to justify the MPS's activities, and to undermine opposition to it. For example, in the 1990s the focus was on the MPS as an enabler of regional employment at Tiwai Aluminium Smelter. More recently, it has been recast as a significant contributor to the national grid and climate change mitigation. Neither of these arguments acknowledge the significant pecuniary benefit derived from operating the MPS, which is approximately $1,000,000 a day, a compelling incentive to maintain the status quo (interviewee 3). In relation to other actors, Meridian have attempted to undermine the WRG by labelling it as a vehicle to advance self-interest, not unlike the arguments commonly brought to bear on community opposition labelled as NIMBYism. Meridian suggested that the WRG's opposition was borne of conspiracy and a fundamental mistrust of SRC and Meridian through the pSWLP appeals. As government and government-owned agencies respectively, both SRC and Meridian are established with the normative expectation of rational argument and honesty. By suggesting unwarranted distrust, Meridian's approach sought to distance the WRG from these normative values.

6.3.4 Power of process

As a strategy of power, process can be used strategically by actors to further their own agendas (O'Neil, 2021). This chapter discusses the ways in which the power of process has played out in relation to the MPS. This includes how formal processes have been used in attempts to exclude the community and can

act to temper power asymmetries by elevating rationality in the courts and through communicative planning.

Instances of strategic use of the power of process abound in relation to the MPS. Meridian chose to apply for new resource consents through the 2009 MTAD process rather than amend the existing ones from 1996. Defining the scope in this way left decision makers unable to amend the existing consents. This strategic use of process had the effect of locking in the status quo, despite the protestations of the community. Later, in the pSWLP process, the community's lack of process knowledge meant that few made use of the 'further submissions' stage of the RMA 1991 Schedule 1 process, minimising the appeal rights of the community. Once appeals had been lodged, Meridian sought to exclude the community voice through a technicality in section 274 of the RMA 1991. S274 specifies that parties not involved as submitters in the original process can only be involved in appeals if they have an 'interest greater than the general public'. While it might seem obvious at first glance that this would be the case for the WRG, it is a concept that has evolved to have a specific legal meaning through case law. While the WRG rallied, and were ultimately successful, it was not without significant cost, which the WRG had precious few resources to fund. This speaks to the ability of the well-heeled to subvert court proceedings by drawing out the process (Sovacool, 2021). By out-resourcing opponents, what should be a participatory opportunity can be undermined, recast as a process of attrition.

Further, local communities and Iwi are systematically excluded from the initiation phases of review processes. Without the goodwill of those with the power to initiate such processes, there are limited opportunities for local involvement in scoping and initiation. This casts local Iwi and communities in the role of perpetual respondents to the proposals of others. This is not a phenomenon isolated to the MPS context, the Wai 262 report of the Waitangi Tribunal suggesting that New Zealand's RMA 1991, 'side-lines Māori in the role of objectors'.

While litigation is clearly exclusionary and prone to subversion, it is also a forum built on rationality. Bearing in mind Flyvbjerg's (1998) suggestion that rationality is the power of the weak, the Courts arguably provide a venue where a power imbalance might be lessened in favour of communities. But that premise relies heavily on the community having the resources to effectively participate in the Courts, which is not always the case. Further, some groups within communities remain systematically excluded. As the Chair of the Environment Select Committee observed to Meridian representatives, "the children we heard from are not involved in the Environment Court". Interviewee 5 pointed to the generosity of the local law firm acting for the WRG as the key to WRG's participation. The WRG built a case based on its organisational purpose, supporting its arguments with a mixture of local knowledge and scientific expertise (interviewee 5). Because the requested relief was guided by WRG's purpose its case was built on rationality. Conversely, Meridian's witnesses provided numerous rationalisations to the Court in an attempt to justify Meridian's desire for the Plan to allow 'enhancement' of the MPS. Ultimately, the Court directed Meridian to articulate clearly and plainly what 'enhancement' meant, at which point Meridian chose to abandon the relief sought, rather than provide a straight answer ("NZEnvC 208," 2019; Feierabend, 2020). In this instance the Court's commitment to rationality evened the playing field between the actors and enabled rationality to take a rare victory over power.

Formal review processes have the ability to temper power asymmetries. This is because, as evidenced by the Environment Court's relentless enquiry in the pSWLP appeals, they elevate the otherwise weak power of rationality. However, formal review processes also act to embed asymmetric power assemblages.

Those with greater financial resources are better able to actively participate in formal reviews, as demonstrated by the abundance of evidence Meridian provided to support its agenda in each of the processes examined. Further, there are systemic obstacle to participation that mean some actors are not involved in formal review processes at all. As the Environment Select Committee Chair pointed out, "the children we heard from don't participate in the Environment Court". Barriers to meaningful participation in formal review processes are systemic and significant. By way of example, the constrained appeal rights under the RMA 1991 meant that the community, who were unfamiliar with the further submissions process, were left without a clear right of appeal on the pSWLP. Further, the way these processes are codified provides opportunities for the powerful to further reduce the participation of less powerful actors (Flyvbjerg, 1998; Mulvaney, 2013). For example, constrained appeal rights meant the WRG had to rely on others' appeal rights and join the pSWLP appeals under s274 of the RMA 1991. This gave Meridian the ability to challenge WRG's involvement in the pSWLP appeals on a legal technicality. This challenge would not have been possible if the appeal rights were broader. In these ways, the MPS case study demonstrates how participatory processes are susceptible to distortion by power.

Despite the influence of power, the WWP process was a communicative planning success because it involved the community early, the science was co-designed and considered legitimate, and ECNZ had a local presence and connection at that time. As a result, most of the parties represented in the WWP signed up to the conditions ECNZ proposed for the resource consent, and there was no further litigation. This example reinforces the literature around the importance of early participation, local ties and benefits, and the importance of formal consultation opportunities. As anticipated by Franceschini and Marletto (2015), genuine community involvement, before it was mandated, avoided contestation and improved decision-making legitimacy. Interviewee 3 suggested that Meridian's decision to centralise staff in Christchurch saw reduced connection, understanding and consideration of the Lower Waiau and its community. This is supported by the reflections of community members interviewed and echoes the suggestion by O'Neil (2021) that lack of community connection can be a driver of conflict, particularly where benefits accrue nationally, and adverse effects are felt locally.

In conclusion, the power of process can be used to ameliorate power asymmetries or embed them. The review processes examined here provide examples of both. There are instances where the statutory technicalities have been used by powerful actors to limit community participation, and examples of powerful actors being called out on their rationalisations within the Courts, as a forum which elevates rationality. Significant obstacles for community involvement persist within formal processes, embedded in statute. These obstacles both disadvantage laypeople trying to engage in democratic process, and systematically exclude particular groups of people. The resourcing required to be involved in these processes creates a significant barrier, which can be leveraged to the advantage of more affluent actors.

6.4 Wider implications and ramifications

The stable, asymmetric power dynamics associated with the MPS are reminiscent of experiences elsewhere. The significant changes in environmental norms over the MPS's lifetime have been poorly reflected in outcomes for the Waiau River. These include improved knowledge of environmental effects, increases in the consideration and status of indigenous rights and interests, post-positivism, and communicative planning. These power dynamics have been maintained through the path dependencies created by the MPS and through strategic use of the power tactics explore in the previous sections. Several

themes have emerged through this enquiry, themes that align with and in some places extend the literature. This section draws out the key themes identified through the discussion, and reflects on their broader applicability, both in New Zealand and internationally. These themes are the similarities between ex-ante vs ex-post formal processes, the importance of questioning normative assumptions, and that articulating the strategies which support taken-for-granted power asymmetries is a critical step in challenging embedded power dynamics.

This research suggests that the challenges faced by the NIMBY community who opposes a large infrastructure project ex-ante persist ex-post. Indeed, it is arguably ex-post that the real issues begin. In addition to the overt power tactics experienced ex-ante, the ex-post community is further marginalised by the path dependencies created by the newly established status quo, and their inability to initiate review processes. The similarity between the treatment of the post-NIMBY community and the classic NIMBY community is an important output from this research seldom addressed in the literature. Given the alignment in this instance, it is anticipated that post-NIMBY communities elsewhere will have similar experiences. Such experiences shape communities' interactions with future formal processes. The WWP process suggests that given time to air their grievances, people can move forward constructively within a communicative planning process. However, the injustice of marginalisation persists, as demonstrated by the strength of feeling expressed by interviewees 1, 2, 4 and 5 regarding the MTAD process, now some 15 years ago. Given the number of large infrastructure projects worldwide, the post-NIMBY community is a common phenomenon which, this research demonstrates, warrants greater attention.

Environmental sunk costs are those which are practically irreversible. There exists a normative assumption, based on the high-dam experience of flooded valleys and altered river channels, that the adverse environmental effects associated with large established hydroelectric generation schemes are environmental sunk costs. The MPS provides a compelling counterpoint to this assumption, as the natural storage lakes and largely unaltered river channel mean that operational changes could significantly reduce the ongoing adverse environmental effects caused by the MPS. At a higher level, this points to a general need to question our normative assumptions. As Henrysson and Hendrickson (2021) point out, normative assumptions which shape policy and development pathways are seldom acknowledged. Arguably, normative assumptions should be explicitly articulated in policy documents, making them visible and open to contestation. Leaving them 'backstage' paints them as path dependency, creating conditions of impossibility for alternative outcomes.

Once made visible, normative assumptions can and should be questioned. For example, it is little surprise that a power asymmetry exists between a small, geographically isolated community and a large, 51% government owned corporate, it is a situation duplicated across New Zealand and internationally. Given that power negatively affects decision making (Cashmore et al., 2010; A. M. Hansen et al., 2013; Pope et al., 2013; Richardson, 2005; Sager, 2001), understanding how these asymmetric power dynamics are maintained provides a means of improving decision making. By articulating and categorising the specific power strategies which are used to maintain that asymmetry, this research provides a framework for others to the same in the power constellations they inhabit, and ultimately improve decision making therein.

7 Conclusion

The MPS provides a textbook example of power strategies being mobilised to maintain existing interests. Despite the MPS's unique characteristics, the stable power asymmetry between a large, 51% government-owned corporate and the small, geographically isolated, and marginalised local community is not uncommon. This stable power asymmetry explains why normative change, including increases in the consideration and status of indigenous rights and interests worldwide, improved knowledge of environmental effects, post-positivism, and communicative planning, have had little real impact in improving the health of the Waiau River.

Through examining four ex-post review processes associated with the MPS, this thesis aimed to unpack how power is brought to bear on local communities to support the persistence of large-scale infrastructure in the face of normative change. By articulating and categorising the specific power tactics utilized by various actors this thesis makes the tactics more visible, and subsequently subject to scrutiny and challenge. This research has identified four broad categories of power tactics: path dependencies, knowledge as power, rationalisation and rationality, and the power of process. All four have been used to support the persistence of established large-scale infrastructure in the face of normative change, and each is discussed briefly below.

Power stability is enhanced by the path dependencies created by the physical infrastructure itself, and the associated normative belief that large infrastructure will and should endure. The normative assumption of the MPS's longevity has been reinforced over time by regulations and long-term operating consents. In this way, the MPS's concrete casts a long shadow through time, a monument both to the enduring power of the MPS's operator and the inability of the local community to enact meaningful change.

But it is not just the passive power of concrete which is brought to bear in relation to the MPS. This research demonstrates that the existing physical and structural settings act to maintain existing power assemblages and are deliberately employed by powerful actors to the same end. Despite being ex-post reviews, the formal review processes examined in this research share many of the power strategies typically identified in relation to ex-ante processes. These power tactics fall into the remaining categories of knowledge as power, rationalisation and rationality, and the power of process.

The ongoing use of scientific knowledge as a key information source to support decision-making makes knowledge a power tactic for those seeking to influence decision making. Further, the expense associated with scientific knowledge production makes it a strategy most available to the powerful. While the rise of post-positivism has raised questions about scientific objectivity, local and indigenous knowledge are still systematically discounted as subordinate forms of knowledge. The elements of scientific enquiry around objectivity, repeatability and professionalism are not easy to replicate through other knowledge types, and given the price tag of scientific research, less affluent actors have few options beyond engaging another scientist as a reviewer.

Rationalisations, such as common good arguments, seeking to demonstrate alignment between normative values and a particular agenda present another strategy of power. Rationalisations are often quite different from the actual rationality, which may be hidden from view, making it difficult to expose for less powerful actors. This rationalisation-rationality dynamic has been described as a 'frontstage-

backstage' relationship. As only those behind the stage can see what is really going on, the power is not only how compelling the rationalisation itself is, but in the knowledge deficit the hidden rationality creates. Perhaps, for example, the normative vision of dams as clean and green energy needs to be considered more critically, with the profit motive in mind.

The power of process is structurally embedded as well as employed with intent to maintain existing power asymmetries and support the endurance of large-scale infrastructure in the face of normative change. The nuance of statutory processes often provides ample opportunities for parties to attempt exclusion of others less familiar with the legislation, or to extend expensive litigation processes to the detriment of the lesser-resourced. The specific statutory avenues for exclusion detailed here are of most relevance to others operating in the New Zealand context, but these strategic uses of power are more widely applicable.

This research shows that these power tactics, which the literature suggests are typically brought to bear ex-ante on the NIMBY community, persist ex-post. Some of the power tactics require agency, others are so embedded that they impede less powerful actors in passive, but no less-effective ways. Right from the point of initiating a formal review process, local communities are on the back foot, perpetually cast as the respondents to the proposals of others. Ultimately, power tactics create ongoing, exacerbated hurdles for small, geographically isolated communities to be active participants in democratic processes. Ex-post, the trifecta of political influence, money, and alignment with (or influence over) normative values is strategically used to maintain the status quo.

But less powerful actors are not without opportunity. It is unequivocally harder for those with fewer resources to make meaningful change. However, this research is peppered with examples of less powerful actors successfully utilizing the power tactics described above. The rise of post-positivism has increased consideration of local and indigenous knowledge in decision making, providing opportunities for actors to utilize knowledge as power in unconventional ways. Further, formal litigation processes, built on normative expectations of fairness and objectivity, can provide an avenue to elevate rationality, and in doing so temper the dominant distribution of power, at least for a time.

To date though, the relative success of the various actors in the Manapōuri case study broadly echoes similar examples elsewhere. While there have been some modest redistributions of power over time the dominant assemblages have remained rather static. Te Rūnanga o Ngāi Tahu has increased its influence following treaty settlement, becoming something of a touch stone for conversations about holistic environmental wellbeing. The WWP's ability to drive science-based change has diminished without ongoing funding, and the WRG has established itself as a legitimate advocacy group for the Waiau River. SRC has remained relatively static, perhaps because of its consistent statutory role. It is the generator however, first ECNZ and now Meridian that has remained dominant among the actors. Consistent with Flyvbjerg's trifecta, the generator's political influence, national importance and wealth has enabled it to transcend the milieu of actors, despite SRC holding the statutory decision-making power in three of the four review processes assessed.

This research has looked at four formal review processes for examples of power tactics, and has categorised these tactics as path dependencies, knowledge as power, rationalisation and rationality, and the power of process. In articulating and categorising these power tactics, this research has sought to make legible the ways in which power supports the persistence of established large-scale infrastructure. Increasing the visibility of power tactics aids our understanding of them, enabling greater scrutiny of

taken-for-granted power disparities. This research demonstrates the strength the status quo lends to the endurance of large-scale infrastructure, physically, structurally, and normatively. The inertia created by path dependencies, alongside the other power tactics commonly employed in ex-ante processes, have been brought to bear on this ex-post community, minimising any real opportunity for change in ex-post formal review processes. It is anticipated that other ex-post communities in the lee of large-infrastructure projects will have experienced power tactics and inertia in similar ways. Perhaps by articulating and categorising these power tactics as has been done here, other ex-post communities will be better placed to create future change.

8 References

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Appendix A – Interviewee consent form

Consent Form

Manapōuri Power Scheme Research Claire Jordan

- I have read the following paragraph which explains what this research project is about, and I understand it.

  This project is focused on four regulatory processes that have dealt with the Manapōuri Power Scheme over time, these are:

  1. The 1996 Resource Consent Process
  2. The Manapōuri Amended Tailrace Discharge (MTAD) Consent Process (2009-10)
  3. The proposed Southland Water and Land Plan
  4. The National Policy Statement for Freshwater Management 2020

  The research explores the power relationships between the stakeholders through these processes, and how this influenced the outcomes of these processes, and whether these outcomes are different than what one might anticipate based on the social context at the time.

- I have had a chance to ask questions about the project, and I am comfortable with the answers that I have been given. I know that I can ask more questions whenever I like.

- I have voluntarily agreed to participate in the research. I know that I do not have to participate in it if I don't want to.

- I know that I am free to withdraw at any time. If I do withdraw there will be no bad consequences for me.

- If I withdraw, I understand that none of the information I have given can be used in the research or used in Claire Jordan's master's thesis.

- I know that because of the small number of individuals with the knowledge and experience I hold, it may be possible for readers to ascertain my identity.
- I know that I won't get paid for participating in the research project.
- I have read this Informed Consent Form and I agree with it.
- I agree to having an audio tape made of the interview.

Signed by the research participant _____

Name of the research participant _____

Date _____