Damming the dam sixty years on: continued conflict over the Manapouri hydro-electric power scheme, New Zealand.

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Abstract

Almost half of New Zealand’s electricity is generated from hydro-power and the Manapouri Hydropower Scheme, which first began generating in 1969, is New Zealand’s largest, with a current maximum output of 800MW, enough for 619000 homes (Meridian Energy, n.d.). The Manapouri plant takes water from a lake and river system largely located in Fiordland, a National Park located in the mountains of Southland, South Island, New Zealand. This is an unusual hydro scheme in that its freshwater take is diverted directly into the ocean after passing through turbines, thus it can be considered as freshwater abstraction rather than diversion. Most New Zealand river or lake based hydro power plants retain or divert freshwater, releasing it after use back into the freshwater system (Young, Smart and Harding, 2004).

Before the plant was built, freshwater from the lake and river system flowed out to sea via the Lower Waiau River, which used to be New Zealand’s second largest river, with a flow of around 400 cumecs1 (“Waiau River”, n.d.). However, this river was deemed a sacrificial river2 (Guardians annual report, 1994) and most of its flow was diverted to the ocean once the power plant began operating. Any water allowed to flow down this river would not pass through the turbines and thus would entail a loss of electricity production for the Manapouri Power Scheme.

This paper examines public involvement with environmental impacts of this hydro plant through the lens of Environmental Communication literature. It discusses the history of this public involvement, with a focus on the Lower Waiau River. Three participatory groups are examined: The Guardians of the Lakes, originating in the early 1970s, the Waiau Working Party, originating in the early 1990s, and the Waiau Rivercare Group, originating in 2017. All three groups are still operational. Using desktop research as well as interviews with locals living along the Lower Waiau River and email and telephone communications with members of relevant community groups, the paper probes the changing picture of public involvement with Manapouri power plant impacts.

Despite exemplary approaches to public participation with environmental decision-making related to the hydro plant from the 1970s through the 1990s, the paper concludes that the power of community participation groups to effect change has reduced in recent years due to a combination of increased formality in New Zealand public participation processes and drives for increased profitability from the plant managers. This research is still ongoing.

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1 Cumecs means cubic metres per second
2 Sacrificial river means there would be no attempt to keep the river flowing well; it would be sacrificed for the power scheme.
**Introduction**

*The Manapōuri Hydropower Scheme*

The Manapōuri Power Scheme (MPS) is owned by Meridian Energy, a company which generates over a third of New Zealand's electricity, with 51% of its shares owned by the New Zealand Government ("The New Zealand Government", n.d.). The main driver for the construction of this plant was generating enough electricity to power an aluminum smelter located near Bluff, Southland, South Island (Fitzgerald, 2000). This smelter, which is now owned and operated by Rio Tinto (a global mining company), currently requires a high percentage of Manapōuri’s generating capacity (“New Zealand’s Aluminium Smelter”, n.d.).

The MPS can be seen in Figure 1. The Upper Waiau River links Lake Te Anau to Lake Manapōuri, while the Lower Waiau drains Lake Manapōuri. The Mararoa River also flows into Lake Manapōuri. Control gates at Lake Te Anau control water flowing through the Upper Waiau River to Lake Manapōuri. The Manapōuri control structure ensures the waters of the Waiau and Mararoa rivers initially flow into Lake Manapōuri, with a controlled outflow to the lower Waiau, which can be seen to the left of the control structure shown in Figure 2 (ringed in red). The Mararoa river can be seen to the right of Figure 2., as it flows into the larger body of water seen in Figure 2. This larger water body is actually the Lower Waiau River, with most of its waters diverted from its natural flow to be sent back into the lake.

![Diagram showing Manapouri Power Scheme. From personal photograph, Palliser, 2019. Taken from interpretation board sited at Manapouri control gates.](image)

The power station is located on the West Arm of Lake Manapōuri, inside a large constructed tailrace tunnel that leads through the mountains to Deep Cove in Doubtful Sound, a fiord linked to the Tasman Sea. In 2002 a second tailrace tunnel was completed, running parallel to the first, as it was discovered the single tailrace did not allow the generating capacity originally proposed (Meridian, n.d.).
Initial plans for the MPS proposed raising the Manapōuri Lake level by 25 metres, (although this was later amended to 8.2 metres) and raising Lake Te Anau levels to their maximum natural level for unnaturally long periods of time. The proposal resulted in a rapidly growing protest from the New Zealand public, who opposed damage to the scenic values of this iconic area of natural beauty and the environmental values of the surrounding native vegetation\(^3\) (Fitzgerald, 2000). Under the National Parks Act 1952, areas so designated, like Fiordland National Park, should be preserved as far as possible in their natural state in perpetuity, for the benefits of the New Zealand people, principles the hydro proposal was overriding (Mark, Turner and West, 2001).

By the late 1960s the protest had become a nation-wide “Save Lake Manapōuri Campaign”. A petition organised by Forest and Bird, the largest New Zealand conservation NGO, was signed by 10% of New Zealanders and nation-wide marches took place (Mark et al., 2001). This was New Zealand’s largest ever environmental campaign to that date. Nationally co-ordinated, it included speaker tours around the country, selling one dollar share certificates to support the campaign and free boat tours on Lake Manapōuri (Warne, 2009). The protest is widely considered to have been the birth of environmental awareness in New Zealand and

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\(^3\) Lowland podocarp forest and beech forest
to have toppled the government of the time; in the 1972 general elections, the Labour party ousted the National party Government on the strength of Labour’s commitment not to raise lake levels (Warne, 2009).

In an unprecedented move, the incoming Labour prime minister then appointed a group six of the most prominent campaigners to become the “Guardians of the Lakes”, to supervise the management of the two lakes and associated rivers (Warne, 2009). Provision for the “Guardians of the Lakes” was enshrined in legislation under the Conservation Act 1986 and the Guardians continue in their role to the present day. Their role will be discussed further below in the results section. Figures 3 and 4 show a rock placed near Lake Manapōuri at the point the lake level would have reached had it been raised and a placard commemorating the campaign, which is placed on the rock.

![Figure 3. Rock marking the spot where the lake levels would have reached. From Palliser, 2019, personal photograph taken near Lake Manapouri. Lake Manapouri can be seen in the distance.](image)

**Literature Review**

**Some impacts from hydropower dams**

The use of dams for hydropower can have a significant number of impacts. If natural water levels are raised by the dam structures, shoreline natural and human habitats can be flooded, leading to changed ecosystems and human resettlement. Sediment flow patterns are also disrupted, while rapid changes of river flow rates and lake levels can also impact ecosystems. In addition, dams create an obstacle, both to natural water flows and to the movement of fish and other wildlife (Young, Smart and Harding, 2004). Diadromous fish, which migrate between sea and fresh water, such as New Zealand eels and lamprey, may be blocked from their natural migrations to the sea, or may be killed by passing through turbines, while their young may be blocked from migrating back up river to mature. For more detail on hydropower impacts in New Zealand see Young et al. (2004).
A brief overview of the Resource Management Act 1991: aspects relevant to this paper

This act replaced more than 50 previous Acts and provided an integrated approach to the management of New Zealand’s natural resources (Mark et al., 2001). Underpinning this Act is the concept of sustainable management of physical and natural resources. Any development requires environmental impacts being appropriately managed (“Environment Guide: Introduction”, n.d.). Under this Act, New Zealand’s regional councils are responsible for developing regional plans that detail activities that are permitted and activities that require a range of different consents or permissions before they can be carried out (Waitaki District Council, n.d.). For example, if an activity is classed a controlled activity in a regional plan, the council must grant consent for this activity, although it may impose conditions under which the activity must be carried out. Another activity may be classed a discretionary activity, in which case the council may either withhold or grant a consent and if it grants the consent, may impose conditions under which the consent will be granted (Ministry for the Environment, n.d.).

If activities are classed as notified, then the public must be informed and have a right to put in a submission for or against the activity. Resolving the issues raised in these submissions may require a hearing organised by the Regional Council, where people can discuss their submissions with the council forming a decision after this (Ministry for the Environment, n.d.). If submitters are unhappy with this decision, they can apply to the Environment Court, which holds a hearing and makes a final decision after this (Ministry for the Environment a., n.d.). When regional councils update or write new plans, the public can follow the same process of making submissions, attending hearings and appealing to the Environment Court regarding

Figure 4. Placard commemorating “Save Lake Manapouri Campaign”. From Palliser, 2019, personal photograph taken near Lake Manapouri. This placard is placed on the rock shown in Figure 4.
the contents of the proposed plan. The Regional Council that covers the area occupied by the MPS is Southland Regional Council (SRC).

**Environmental Communication**

It is increasingly being recognized that effective public participation is essential for successful environmental governance (Conley and Moote, 2003; Cundill, Cumming, Biggs and Fabricius, 2012; Philips, Carvalho and Doyle, 2012; Senecah, 2004) and many studies aim to understand what constitutes effective participation (Brulle, 2010; Philips, 2011; Spangenburg, 2011, Stirling, 2010). Reed (2008) considers empowerment, equity, trust and learning to be key principles underlying participatory approaches. However, in practice stakeholders may have a limited degree of input; for example, local knowledge and perspectives may be marginalised in favour of those from government agencies and scientists. This can undermine the development of the collaborative relationships that appear necessary for successful governance approaches (Ulrich and Reynolds, 2010). Scientists may assume their role is to present the facts, with local roles limited to presenting local values (Healy, 2009) or government agency representatives may consider locals are not able to grasp the complexity involved and so not able to make reasoned decisions (Senecah, 2004). Policies may call for public participation, yet participants may become disillusioned and demotivated if their knowledge is devalued (Linke and Jentoft, 2014) or if science is presented in ways opaque to non-experts (Wilson and Jacobson, 2013).

If participatory processes are not considered meaningful by participants, conflict can result (Senecah, 2004). Locals may develop a deep distrust of authorities if participatory approaches do not allow access to participants (that they are heard and can engage with understanding), standing (that their perspectives are given respect, esteem and consideration) and influence (that they can play a meaningful role in decision-making) (Senecah, 2004). Formalising participatory approaches into institutionalised processes, for example formal hearings and submission-writing, rarely fulfil these three criteria (Philips, 2011; Senecah, 2004). Such formalised processes are usually designed and controlled by the government authorities who have the final decision-making power (Philips, 2011) and having no say in how such processes should happen can leave local people feeling disempowered and resentful (Adger, Brown and Tomkins, 2005). In addition, even if local groups work collaboratively towards good environmental outcomes, national legislation may mean they are excluded from any meaningful final decision-making (Dodson, 2014).

Well-designed stakeholder engagement brought in early in a policy-making process can build outcomes which are effective and socially legitimate (Kemmis and McKinney, 2011). Processes that engage the public in dialogue and deliberation and the co-production of knowledge are increasingly being considered more likely to lead to such outcomes (Irwin, Jensen and Jones, 2014; Philips, 2011; Popa, Guillermin and Dedeurwaerdere, 2015). The ‘deliberative turn’ in public participation theory and practice calls for dialogue and deliberation about the knowledge used to inform policy and the management options available. When stakeholders deliberate together they can form understandings regarding diverse perspectives and different knowledges and can have discussions that lead to effective decisions (Daniels and Walker, 2001; Philips, 2011; Walker, 2007). One deliberative participatory approach that has been used successfully for over twenty years is ‘collaborative learning’ (see Daniels and Walker, 2012). Such approaches are still not common in New Zealand (Eppel, 2014).

The challenges of environmental governance arise from the complex social-ecological systems in which such governance is embedded. In these systems all available knowledge usually contains inherent uncertainties, while the values and perspectives of stakeholders may
be diverse and even conflicting (Anderies, Walker and Kinzig, 2006; Armitage, 2008; Waltner-Toews, Kay and Lister, 2008). In such situations, effective participatory approaches require knowledge holders to be transparent regarding uncertainties, assumptions, their values and interests and to be open to questions, criticism and discussion from stakeholders regarding the value of their knowledge for the situations in question (Jasanoff, 2017; Uriih and Reynolds, 2010; van den Hove, 2007). Consequently, when the knowledge used to inform environmental governance is uncertain and incomplete, dialogue and deliberation between stakeholders becomes of key importance (Lindenfield, Hall, McGreavy, Silka and Hart, 2012). ‘Deficit approaches’ to science communication, which simply inform the public of scientific results can impede effective participation, reducing the opportunities for stakeholders to work together in problem-solving (Brulle, 2010). As Dutta (2011) explains, dialogue builds trust and assists groups with different cultures and values as they strive to reach common understandings.

Methodology

Desktop research

This paper relies quite heavily on desktop research because the researchers were asked to delay interviews planned for this year until after the Environment Court Hearings discussed below. Consequently, the history of public involvement of the MPS, and much of the information about the Guardians of the Lakes, the Waiau Working Party and the various consents and hearings discussed has come from material found on-line.

Interviews

In early 2018 the researchers were invited by the Waiau Rivercare Group to interview local residents in the Lower Waiau area about the changes they had seen in the Waiau Estuary and coastal region over their time in the area. Eight interviews were undertaken with residents who had mostly lived in the area all their lives (several residents were over sixty years of age). These interviews all took place in the homes of the residents and lasted between an hour and three hours. The interviews were semi-structured, so although there was a list of topics to be covered, the conversations ranged over a wide variety of topics depending on what interviewees considered important. The interviews were recorded and notes and quotations taken from the recordings. Information sheets and consent forms were given to all interviewees. All notes were examined in detail multiple times to look for themes.

Two telephone conversations took place in 2019 with stakeholders involved with the local groups discussed in this paper. These were approximately of 30 minutes duration and were not recorded; notes were taken throughout the conversation. The focus of these conversations was on group processes. This is a small community, so all identifiers were removed from quotations in this paper, with interviewees given a numerical identifier only in order to protect anonymity. Relevant information from these interviews and telephone conversations, information from statements submitted for an Environment Court hearing, and details from the Guardians of the Lakes annual reports are discussed in the results section below.

4 Topic areas: 1. How long have you lived here? 2. How do you understand the rivers cycles and changes taking place before and after the Manapouri Scheme? 3. Species are indicators of the health of these systems, what changes have you seen in species? 4. What have you seen from modifications to the river system? 5. Do you think the community has been heard or considered by the developers or councils?
Results

The Guardians of the Lakes

The Guardians were chosen for their relevant expertise and included a plant ecologist, a civil engineer, a farmer and the manager of a local tourism operator (Mark et al., 2001). Their remit was to recommend MPS operational limits to preserve the health of the lakes and associated rivers (Warne, 2009). They were also required to make recommendations related to any ecological or social impacts arising from the MPS. They were to produce an annual report to the Department of Conservation (DOC) and were allowed access to all relevant information gained over time by the government and to request any information they needed to carry out any required studies (Mark et al., 2001).

The guidelines for management eventually proposed by the guardians were approved by government in 1977 and formally gazetted in 1991. They have changed very little since 1991 although a review of them has recently been proposed (Guardians annual report, 2018). The power company must comply with these guidelines to their best endeavours, reporting on any exceedances (Mark et al., 2001). The Guardians are also involved in environmental monitoring of the lakes and rivers system. Intrinsic to the role of the Guardians is building good relationships with the company controlling the MPS. Initially this was the Electricity Corporation of New Zealand (ECNZ), a New Zealand State-owned Enterprise. However, in 2000 this company was split into three and Meridian Energy took over the MPS, with the government selling off 49% of Meridian’s shares to a private company in 2013. Annual reports of the Guardians from 1994 show many examples of MPS consulting with and asking permission from the Guardians. Examples are:

‘Consultation between ECNZ and the Guardians during these periods of low inflows was important’ (Guardians annual report 1997);

‘The Guardians were notified of a possible flush of dirty water entering lake Manapouri from backflows of the Mararoa River during construction of the fish pass’ (Guardians annual report 1999);

‘The year ending June 2013 saw a continuation of the strong consultative and advisory processes established throughout the long history of the Guardians…… Meridian Energy responding by keeping in close contact with Guardians (Guardians annual report 2013).

Annual reports also show several examples of the Guardians opposing MPS proposals; for example, in 2009 they submitted against a proposal from Meridian to SRC to increase the maximum discharge to Doubtful Sound (Guardians annual report 2010). SRC acted against the Guardians submission in this case, which is discussed further below. In 2018 the Guardians opposed a proposal by Meridian to lower the minimum level of lake Te Anau; subsequently, Meridian decided to withdraw this proposal (Guardians annual report 2018).

Waiau working party

The passing of the RMA 1991 meant consents had to be issued for the MPS by Southland Regional Council (SRC). During the process of developing these consents (with attached conditions) the Waiau Working Party was established. Funded by ECNZ, it consisted of interested members of the community, Guardians representatives, conservation NGO representatives and was chaired by a member of SRC (Mark et al., 2001). Focused on MPS impacts to the Waiau River, this group decided on scientific studies to be carried out and proposed conditions that should be applied to any consents granted to the MPS. The Waiau Working Party is still in operation (Mark et al., 2001).
While the Upper Waiau River had minimum flow levels established to preserve ecological values, under original agreements the Lower Waiau did not. Severe effects on the Lower Waiau were noted in the Guardians annual report of 1994, including the loss of a clean freshwater supply to Tuatapere township (located on the Lower Waiau), polluted water from the Mararoa River being passed into the Lower Waiau to prevent pollution building up in Lake Manapōuri, loss of recreational fishing and boating in the river and the development of silt banks inundated with non-native vegetation.

In response to this, one of the conditions imposed on MPS consents, because of the work done by the working party, was a minimum flow down the Lower Waiau of 16 cumecs in the winter and 12 in the summer (Mark, 2001). Studies have shown these flows have increased populations of fish and invertebrates (Jowett and Biggs, 2006). Despite this achievement, this flow is much reduced from the natural 400 cumecs natural flow (“Waiau river”, n.d.).

Figure 5. Shows the size of this river before the hydro plant, while Figure 6. shows the increased sedimentation and reduced flow currently seen. Another outcome of the new consents process was the formation of the Waiau Trust, which “was designed to mitigate and remedy the adverse effects the Manapouri Power Scheme had, and continues to have, on the fisheries and wildlife values of the Waiau Catchment, Southland, New Zealand” (Waiau Trust, n.d., para 1). Established from negotiations between the Waiau Working Party and the Electricity Corporation of New Zealand (now Meridian Energy), the trust runs four main restoration projects, one of which is the restoration of the wetlands surrounding the Waiau estuary, which have been impacted by the reduced flow down the Lower Waiau River.

Figure 5. Waiau River and Clifden Bridge, 1906. From personal photograph, Palliser, 2019. Taken from interpretation board sited at Clifden Bridge on the river Waiau, Southland, New Zealand.
As a result of the work done by the Waiau Working Party and because SRC adopted the conditions proposed by the Working Party, there were no submissions against the new consents, which were granted in 1996. Under these consents and conditions, the MPS is allowed to be operational under until 2031, when new consents will have to be applied for (Mark et al., 2001).

**A new consent requested by MPS**

In 2009 Meridian applied to SRC for a consent for 550 cumecs discharge; the Guardians submitted against this. Two concerns were effects on eel populations and on the Lower Waiau River health. A working group investigating impacts on eels found that the MPS was currently causing the loss of 71% of adult eels trying to migrate back to sea and the increased water take would likely cause a further 6% loss (Guardians annual report 2008).

Despite opposition from the Guardians and the Waiau Working Party, SRC granted the consent for increased discharge, placing conditions that partly but not fully addressed concerns raised. For example, one condition was that a new flushing flow regime for the Lower Waiau was to be developed by the Working Party and other relevant stakeholders. However, a request that a positive flow of 5 cumecs be maintained in the Waiau Arm in front of the Manapouri control structure, to assist eel migration through February until May, was not made a condition; instead a working group was to explore options for mitigating MPS impacts on eel populations. It appears the Guardians accepted these conditions and did not take their submission to the Environment Court (Guardians annual report 2010).

**Feedback from meetings of Waiau Working Party** Interviewees 1. and 9. spoke about meetings they had attended of the Waiau working party. In these meetings Meridian

![Figure 6. The Waiau today. From Palliser, 2019, personal photograph taken from Clifden Bridge.](image-url)
presented reports of work done and plans for future operation of the MPS, while scientists presented reports of research done. Interviewee 9. explained that there was a lot of tension at these meetings, that the science was presented in detail but in ways that many would struggle to follow and that there were some instances of the science being challenged by locals, which at least one scientist found difficult to handle. This interviewee didn’t see any instances of local knowledge being listened to and discussed, or of the science being explained clearly in ways that permitted locals to query what may have been missed out or what assumptions had been made during the design of the research.

Interviewee 1. was quite angry about one of the meetings attended as it confirmed to them that local Waiau residents were not being listened to. This was a meeting in 2017 where Meridian were discussing their wish to lower the minimum lake level of Lake Te Anau by 20 cm and to increase the draw down rate of both lakes when the lakes are at low levels. Regarding this meeting, interviewee 1 angrily said:

“A meeting was held to propose this 20cm² increase and all the big-wigs and scientists came... past data, didymo cases, all this for 3 long hours and all it did was baffled locals as their time run out and cut short the last speaker, they all got up told the crowd they had a plane to catch end of meeting. No time for any explanations or question time it just baffled everyone as to what to do with such a meeting…”

Waiau Rivercare Group

This group was established in 2017 through a public meeting in Tuatapere township. Its purpose is to advocate for the health of the Lower Waiau river. A key focus of the group is its current appeals to the Environment Court on the proposed SRC Southland Water and Land Plan, which is discussed further below. The group wants: “meaningful community involvement in decision-making about the future of the Waiau River” and has been collecting accounts of the changes seen to the Lower Waiau, its estuary and related beaches from long term, local residents (Waiau Rivercare Group Facebook page).

Many MPS impacts on the Lower Waiau were discussed by interviewees and in the Waiau Rivercare Group’s statement for the Environment Court. Residents spoke of the Lower Waiau being used as a spillway for the MPS, with dirty water from the Mararoa being flushed down the Lower Waiau, saying when the Mararoa ran clean, the clean water was always diverted to the lake. Interviewee 6. said: “The only time we get the Mararoa down here it's in flood, full of dirty water and they don't want that in the lake”. The Rivercare group’s statement pointed out that the sediment in this dirty water ended up dumped in the river, and the normal low flow rate was not enough to flush it out to sea. This was partly what had changed this once fast-flowing river in a single channel to what is now more like a braided river with a wide flood bank and islands of sediment (ENV, 2018).

Residents discussed sediment issues in relation to the coastal region, explaining how large sandy beaches, gravel spits and dunes in the Bluecliff beach area had all but disappeared, along with the ecosystems they supported. One resident explained that much of the sediment that used to travel down the Lower Waiau is now trapped behind the dam at the control structure, and because the river flow is normally so low, sediment, rocks and gravels don’t reach the sea like they used to. Regarding coastal erosion, interviewee 3. said: “What they don't accept is that the erosion that is happening is because of the lack of gravel coming down the river” and went on to explain that the large gravel spit that used to protect the coastal area is “getting thinner and thinner and thinner, till the point now where there is
lots of areas where it’s completely devoid of gravel and the sea is crashing into the bank and eroding the cliffs and the gravel and the mud banks, everything, yes, total annihilation.”

Several residents spoke of the way the sound of churning rocks crashing against each other used to be a feature of quiet nights along the Waiau. Several also said the massive loss of sand from the beaches occurred after the second tailrace was opened in 2002. The Rivercare statement explained how the Waiau Working Party had signed off the resource consents for the second tailrace, believing scientific reports that said its impacts would be low. However, those reports never investigated possible effects on the beaches (ENV, 2018).

Many interviewees discussed their grief at the loss of these beaches, explaining how people used to go down there at weekends and holidays, fishing for flounders and toheroa (a local shellfish), lighting fires on the beach and spending time in small holiday homes there. Interviewee 4. said: “I think if they had left the Waiau alone, it would’ve still been pristine beach, well, I can remember a time, the toheroa season and two, three, four hundred cars out there, digging, digging for toheroas, now there’s no beach”. Dependent on sand, the toheroa and flounders have reduced massively in numbers and people hardly visit the small rocky shores that remain. Interviewee 7. said:

“The beds were covered in sand5, about 10 years ago the sand disappeared, eroded away and down to rock, now mussels grow there. Gravel beaches are gone so the sea has pushed back the lagoon area at the mouth. You could also drive in front of the cribs down on the beach, that’s gone now too. The road was never replaced once the sand was gone”.

The statement spoke at length about the erosion of the river banks into the river that occurs when the MPS releases high flows into the river, resulting in the loss of farm land and flooding of properties below where the sediment has dumped (ENV, 2018). Interviewee 1. said: “The Waiau is a deep bedded river, no flow means it silts up-no longer has a deep bed-so has now seeped into the surrounding lands and pastures instead of out into the Bay”.

Both the statement and several interviewees spoke of the loss of the town potable water supply, which used to be straight from the Waiau with 95% pristine Alpine waters. Now it came from bores and was often discolored and unpleasant, and as one bore had silted up there were fears regarding security of supply. Interviewee 8 said: “... have been trying to find a decent bore for the local community to use and drill below the river to find a recharged aquifer. As of yet, nothing has been found.”

Proposed Southland Water and Land Plan

In 2016 SRC notified the public of a proposed new plan covering objectives and rules for the use of land and fresh water in Southland (SRC, n.d.). After receiving submissions and holding a hearing on the plan a ‘decisions version’ of the plan was released (SRC, 2018), which resulted in a significant number of appeals to the Environment Court, including submissions related to MPS. These hearings are still ongoing. The Guardians voiced their objections to the plan and asked the Minister of Conservation to ensure the Department of Conservation appealed in the hearings regarding these objections (Guardians annual report 2018). The Waiau Working Party could not submit against the plan as they have an SRC chairperson (Interviewee 9.). The Waiau Rivercare Group, the Director General of Conservation, Southland Fish and Game Council6 and others are making statements to the

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5 Referring to the toheroa beds
6 A public organisation of people with an interest in hunting and fishing. It has a council elected from this group and has a powerful presence in New Zealand.
court objecting to aspects of the plan related to the MPS (Appeals evidence, 2018). Meridian challenged the right of the Waiau Rivercare Group to be part of the hearings, but the judge deemed them entitled to participate (Decision No. [2018] NZ EnvC218).

The objections related to MPS centre on three parts of the plan. Opposition to Objective 10 (SRC 2018, p.24) focuses on the part which says the structures of the MPS are to be considered as part of the existing environment. Opponents say that if MPS is so considered then its lakes and rivers will never need to be ecologically improved beyond their current values. As the Fish and Game statement (ENVa, 2018, Para, 3) says:

‘The taking and use of water for the MPS is consumptive in terms of the Lower Waiau River. Accordingly: 1. Flow rates / flow variability in the Lower Waiau River are highly modified and severely comprised compared to historic levels; and 2. The highly modified flow regime is largely ineffective in flushing the bed of the Lower Waiau River and removing nuisance periphyton.”

Opposition to Rule 52A (SRC, 2018, p.79) objects to the plan saying current activities of the MPS for which consents are held are to be considered controlled activities, calling for these to be discretionary activities instead. If they are controlled activities then SRC will not be able to reduce the MPS water take in the future, when current consents run out, even if reports show environmental degradation if take is not reduced (Guardians annual report 2018).

Opposition to Appendix E (p.145 of the plan), which explains water quality standards, focuses on the part that says that the water quality standards to be given to water bodies will not apply to waters affected by the MPS operation. This would mean council had no obligation to raise the water quality of the water bodies involved in the MPS beyond their current values (Guardians annual report 2018). The Fish and Game statement (ENVa, 2018) objects to this, saying the effects of the MPS need to be measured against natural water quality standards, not standards that have been amended downwards due to the MPS.

The Environment Court Hearings are still ongoing, so the outcomes of these objections are currently uncertain.

Discussion

When the incoming government appointed the Guardians in the early 1970s, public participation in environmental management was in its infancy across the world; the first legislation requiring environmental impact assessments (the U.S. National Environmental Policy Act of 1969) had only recently arrived (Boslaugh, 2016). Inviting a group of environmental activists to design guidelines for MPS operation was unprecedented, certainly in New Zealand but probably globally as well, as can be seen from examples of public participation literature from this period (e.g. Boothe & Seligson, 1979; Derrick, 1974). Establishing the Waiau Working Party in the early 1990s to design the conditions under which the consents for the MPS should operate, was also revolutionary in terms of public participation at the time. Both the Guardians and the Waiau Working Party are examples used by Chapin, Mark, Mitchell and Dickinson (2012) to show how socio-ecological degradation can be transformed into more sustainable pathways by developing stakeholder collaborations. However, this current paper argues that an examination of these two groups over time, through the lens of Environmental Communication literature, shows important limitations in their ability to participate in environmental decision-making.

When the Guardians of the Lakes first began, they were the key governance body for the MPS; however, this changed with the introduction of the RMA 1991, which required MPS to obtain consents from SRC for their activities. From this point, although the Guardians
guidelines were still followed and the Guardians still consulted, the consents process under SRC became the key governance tool. This shift changed MPS governance in important ways. The key governing body became SRC rather than a stakeholder group reporting to DOC, yet SRC and the Guardians operate under very different principles. The Guardians operate under the Conservation Act, 1987, which was created to conserve natural and historic resources, and only supports development under special circumstances (DOC, n.d.). However, SRC operates under the RMA, 1991, which supports development as long as it complies with rules and consents in relevant plans (Environment Guide: introduction, n.d.).

Since the RMA, 1991, although the Guardians and the Working Party remain important advisory bodies for both the MPS and SRC, if MPS submit a proposal to SRC, SRC may agree the proposal even if the Guardians and the Working Party oppose it (as was seen in the consent given for increased MPS water take in 2010, discussed above). In addition, although the Guardians have submitted against certain MPS proposals, the legislation and guidelines they operate under does not give them a clear mandate to submit against consent requests and plan changes, something they are currently trying to change (Guardians annual report, 2018). The Waiau Working Party has not made any submissions against consents or plan changes as this could be considered a conflict of interest because they have a chairperson from SRC (Interview 10.). Therefore, these two groups are limited in their power to effect change. The empowerment, equity and trust discussed by Reed (2008) were clear components of these two groups to begin with, but the formal nature of participatory processes under the RMA has reduced the access, standing and influence these two groups have in MPS management, in ways discussed by Senecah (2004).

Consequently, the Guardians and the Working Party are limited in their ability to oppose requests for MPS operational changes, yet MPS is free to submit proposals to SRC even if the Guardians and/or the Waiau Working Party object. When the Waiau Rivercare Group stated their aim to have “meaningful community involvement in decision-making” (Waiau Rivercare Group Facebook Page, n.d.), they were aware of these limitations and wanted locals impacted by the MPS to have more opportunity to participate in decision-making. In interviews locals reported anger and grief, both because of the changes they have seen to the river and coast and because they feel they have not been listened to. As Phillips (2011), Senecah (2004) and Adger et al. (2005) discuss, such feelings can result in stakeholder resentment, conflict and loss of trust in governing institutions.

A second reason for the formation of the Waiau Rivercare Group originates in the designation of the Lower Waiau as a sacrificial river back when the MPS began (Guardians annual report 1994). Consequently, the guidelines designed by the Guardians did not consider the lower Waiau River, which had no regulatory control until the conditions imposed by the consents in 1996 (as discussed above). As interviewee 6. said: “Well, when we were fighting to save Manapōuri, we didn’t give a thought to what would happen to the river, you know it wasn’t explained and nobody had enough brains”. Although the minimum flow levels designated in 1996 ensured the lower Waiau would support healthy populations of fish and macroinvertebrates (Jowett and Biggs, 2006), the resulting river was completely different from the river many locals remembered, and according to locals many unaddressed impacts on local communities and ecosystems remain.

Locals are aware that the river cannot be restored to what it was, however they want flow regimes that permit beaches to restore and sediment dumping in the river to reduce (ENV, 2018). Importantly however, such flows would impact severely on MPS power production; thus, MPS submissions called for their activities to be viewed as controlled rather than discretionary to the proposed Water and Land Plan focused on requests for current regimes
of flows and water takes to be considered as part of the existing environment, and consents to be viewed as controlled rather than discretionary activities. MPS also tried to have the Rivercare group banned from participating in the Environment Court appeals. However, when SRC incorporated MPS requests into the decisions version of the plan⁷, many appeals to the Environment Court resulted.

Despite laudable beginnings to public participation in environmental management of the MPS, almost fifty years later the Rivercare group voices the frustration and discontent of people who feel their concerns have not been heard and their local environment is being severely degraded. Their statement to the Environment Court and interviewee feedback about meetings of the Waiau Working Party voices these concerns. Feedback about Waiau Working Party meetings indicates that scientists presented their research with little concern that locals may not understand scientific jargon used and that there was scant opportunity for locals to question and deliberate over the value of the research done, what was included and left out when framing the research, and underlying assumptions in the research process. Without good processes that encourage stakeholder deliberation over such issues, any research done is likely to lack social legitimacy (Jasanoff, 2017). This is important because without social legitimacy stakeholders are unlikely to trust research and may continue to oppose decisions based on it (Irwin et al, 2014; Kemmis and McKinney, 2011; Popa et al., 2015). Interviewees also said some scientists were resistant to their knowledge being questioned; this can impede good stakeholder collaboration and problem-solving (Brule, 2010). As Dutta (2011) and Lindenfield (2013) explain, dialogue and deliberation of stakeholders and knowledge holders is important, building trust between stakeholders with different experiences, cultures and understandings.

Conclusion

Since 2010 Meridian has proposed several changes to MPS operation that have been opposed by the Guardians and the Working Party. SRC has shown through its response to the 2010 Meridian proposal and to Meridian submissions to the proposed Water and Land Plan that it is willing at times to override opposition from two groups that were set up to advocate for good MPS environmental management. Despite the auspicious beginnings of the Guardians and the Working Party, lower Waiau residents have become so disillusioned about the effectiveness of these two groups that they have set up their own group and entered their own submission to the Environment Court hearings.

While the RMA embraces public participation, the formal processes it uses have limited the power of the Guardians and the Working Party. MPS is still required to comply with the guidelines established many years ago by the Guardians and to conditions set on consents by the Working Party. However, both groups are currently limited in their ability to effectively oppose MPS changes that may negatively affect the environment.

Consequently, it is important to recognise that exemplary public participation may not be a lasting phenomenon. Unless governance institutions understand what is needed for effective participation and fully embrace processes that provide it, good beginnings can be eroded. In this case, where participation has been of historic importance and research papers have considered it exemplary, the incremental creep of pressure from the power company on the one hand and increasing bureaucracy of the governance institutions on the other hand have eroded laudable beginnings and resulted in a disenchanted and resentful public.

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⁷ The Report and Recommendations document and Appendix B (SRC, 2018) illustrates this.
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