

Four propositions about how valuation intervenes in local environmental politics

Marc Tadaki¹  | Jim Sinner¹ | Charlotte Šunde¹ | Annabelle Giorgetti² |
Bruce Glavovic³ | Shaun Awatere⁴ | Nick Lewis⁵ | Janet Stephenson⁶

¹Cawthron Institute, Nelson, New Zealand; ²Envenco, Far North, New Zealand; ³School of People, Environment and Planning, Massey University, Palmerston North, New Zealand; ⁴Manaaki Whenua - Landcare Research, Hamilton, New Zealand; ⁵School of Environment, University of Auckland, Auckland, New Zealand and ⁶Centre for Sustainability, University of Otago, Dunedin, New Zealand

Correspondence

Marc Tadaki

Email: marc.tadaki@cawthron.org.nz

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Abstract

1. Environmental valuation provides a way of soliciting and organising information about how people relate to their environments. By canvassing a broad spectrum of human–nature relationships, valuation practice seeks to make environmental decision-making more inclusive of diverse human concerns and aspirations.
2. When valuation is undertaken in real-world decision-making settings, choices must be made about how to adapt valuation into context. Generic guidance illuminates choices of theory and method, as well as practical issues such as cost and complexity; however, little guidance exists on how to understand and respond to the political implications of valuation in places.
3. To address this, we develop four propositions on how valuation intervenes into conflicted environmental decision-making contexts, drawing on interviews with government officials and marine values-holders from Aotearoa New Zealand's Marlborough Sounds.
4. Valuation intervenes in politics by (i) vesting certain scales and actors with authority, (ii) aligning with or contesting existing regulatory categories, (iii) reallocating expertise about the environment and (iv) reproducing or reworking the uneven playing field of decision-making. Understanding these implications can support valuation practitioners to situate their work within locally relevant contexts and objectives.
5. These propositions provide a way of grasping the mechanisms through which valuation intervenes in local political struggles for environmental authority. Using these prompts, and developing others, can help valuation practitioners to 'do good' through seeking place-based environmental justice and sustainability.

KEYWORDS

decision-making, environmental justice, environmental politics, environmental valuation, power

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1 | INTRODUCTION

In a time where species extinctions and ecological degradation are occurring at an alarming rate (IPBES, 2019), researchers, governments, environmental organisations and others are promoting the language and concepts of values and valuation as a new *modus operandi* for environmental decision-making (Díaz et al., 2018; Jacobs et al., 2016, 2020; Zafra-Calvo et al., 2020). Some researchers hope that, by developing valuation methods to characterise the diverse tangible and intangible relationships, meanings and aspirations (i.e. values) that people associate with the natural world and their place in it, decisions about the environment can be informed by an integrated assessment of multiple values and not just the dominant forces of property and profit (Gould et al., 2019; Jacobs et al., 2016, 2020; Norton, 2015; Pascual et al., 2017).

In the past two decades, the number of conceptual frameworks for conducting valuation has grown (Harrison et al., 2018; Jacobs et al., 2018; Raymond et al., 2019; Tadaki et al., 2017). Economic approaches such as benefit–cost analysis aim to quantify in monetary terms how changes in environmental conditions will alter public welfare based on people's individual preferences for certain social and ecological outcomes. Biophysical approaches such as ecosystem services assessments seek to quantify change to ecological processes and outputs under different socio-economic scenarios. And social and cultural values approaches seek to elicit, grasp and compare peoples' narratives and meanings of environmental change. While debates about the relative merits of different conceptual frameworks are ongoing (e.g. Kenter, 2018; Peterson et al., 2018), these approaches share the premise that the *systematic characterisation of people's relationships to nature*—what we refer to here inclusively as valuation—can and should be used to underpin environmental decision-making (Jacobs et al., 2016, 2020).

But while there is agreement that valuation should be influential, to what ends should valuation serve? In recent years, environmental practitioners have become more explicitly political in their objectives for valuation. Some have argued that, rather than aspiring primarily to theoretical coherence or methodological innovation, those conducting valuation must hold themselves accountable for ensuring that valuation contributes to socially just and ecologically sustainable outcomes for communities and places *in practice* (Jacobs et al., 2016, 2020; Kallis et al., 2013; Schröter et al., 2017; Zafra-Calvo et al., 2020). The academic literature provides ample intellectual resources for comparing questions of theory and method, but there is little published wisdom to guide valuation professionals through the mess of local environmental politics. How does valuation intersect with local struggles for authority, autonomy and control? How does valuation encounter local priorities and rigidities in decision-making structures? Best practice guidelines, stylised step-wise valuation diagrams and methodological decision trees offer one type of guidance on what to do, but do not help researchers to engage local questions of equity and justice. If valuation is to be a force 'for good' in local contexts (Jacobs et al., 2020), practitioners need to understand how valuation intersects with local political struggles.

In this paper, we advance four propositions regarding how valuation intervenes in the place-based politics of environmental decision-making. Drawing on a suite of interviews with marine values-holders (those who reside in and care about the environment) and government officials in Aotearoa New Zealand, we explored how information about biophysical, social, economic and cultural values has been used in contentious marine decisions. We use the term valuation here to refer to all efforts to systematically assemble information about biophysical changes and/or the social, economic and cultural meanings and priorities of the people affected by environmental decisions. Our aim was to consider whether and how improved information about marine values (i.e. valuation) might improve marine decisions and their outcomes. Our investigation reveals that, however perfectly conceived and comprehensive valuation frameworks may be, in real life, practitioners are unavoidably faced with normative choices that have consequences for whose interests are served by valuation exercises. Bringing these choices to the surface can help values-holders to hold valuation practitioners and decision-makers to account for the consequences of valuation.

In the next section, we outline three bodies of literature that help to connect valuation theory with practice: the quest for unifying best practices, knowledge utilisation and power/justice approaches. In Section 3, we outline our research questions, case study setting and methods. Section 4 presents our analysis of interviews and workshops with marine values-holders and decision-makers in New Zealand, culminating in four propositions on the relationships between valuation and local environmental politics. Section 5 positions these propositions against the existing literature on power and environmental justice in valuation, arguing that valuation research can illuminate strategic uses of valuation without implying a single 'correct' answer to how valuation should be used. Our journey over the course of the research—from identifying 'best practices' towards identifying the strategic uses and outcomes of valuation—suggests new directions for valuation research and practice.

2 | MAKING CHOICES ABOUT VALUATION: FROM TECHNIQUE TO OUTCOMES

The burgeoning literature on environmental valuation provides some starting points for ethical and political reflection. While the literature is too vast to summarise here, we identify three coherent threads that point to different conceptions of responsible valuation.

2.1 | Good practice and methodological comparison

Scholars of applied valuation have derived lessons from experience to inform 'good practice' valuation. Stylised accounts of the valuation process are often presented as policy cycle diagrams or step-by-step procedures; these support practitioners to identify where

a specific valuation application sits within a decision-making cycle, and therefore how valuation should be designed and delivered (Chan et al., 2012; Daily et al., 2009; González-Jiménez et al., 2018; Jax et al., 2018; TEEB, 2010). Such guidance draws practitioners' attention to important questions such as: who is affected by the decision and how can they be involved in valuation, what is within and beyond scope of the decisions being considered, what are appropriate methods for the task at hand or how do different decision outcomes affect the distribution of environmental benefits and costs (Chan et al., 2012).

Once the scope is bounded, decisions must be made about which valuation methods are suited to analytical tasks at hand. Within a given setting, valuation methods can be distinguished according to their purpose, such as *identifying* a diversity of values, *understanding* selected values, *assessing* the extent of values across space, time and social location, and *balancing* across values (Sinner et al., 2014). Certain methods, such as biophysical modelling or quantitative social values mapping, are well suited to asking questions about the spatial extent and intensity of narrowly specified socio-natural phenomena, while exploratory qualitative methods such as focus groups and workshops are generally advised for initial canvassing of environmental meanings, relationships and aspirations (Arias-Arévalo et al., 2018; Grêt-Regamey et al., 2017; Harrison et al., 2018; Hattam et al., 2015; Jacobs et al., 2018; Raymond et al., 2014, 2019; Scholte et al., 2015; Tadaki et al., 2017). Other guidance distinguishes between awareness raising, decision-making (adjudicating between options) and technical uses (see Primmer et al., 2018; Waylen & Young, 2014). Looking across the many valuation methods used in the European Union, Harrison et al. (2018) provide a decision tree for selecting among biophysical, sociocultural and monetary valuation methods based on considerations such as the motivation for valuation, budgetary requirements, disciplinary expertise and data needs. As a whole, this 'good practice' literature helps practitioners identify pertinent aspects of the decision-making context that may inform choices about methods. However, it is increasingly apparent that not all choices about valuation design are available to researchers in a given setting. Practitioners need to understand what might constrain these choices.

2.2 | Knowledge utilisation in practice

In the real world, the ideal policy cycle is never realised, and the selection of conceptual framework is rarely linked to its perceived theoretical merit. In the last decade, an emerging 'knowledge utilisation' literature has examined precisely these processes of selective and constrained use of knowledge within power-laden decision-making settings and path-dependent institutional practices (e.g. Barton et al., 2018; Jax et al., 2018; McKenzie et al., 2014; Pérez-Soba et al., 2018; Phelps et al., 2017; Posner et al., 2016; Primmer et al., 2018; Ruckelshaus et al., 2015; Russel et al., 2016; Saarikoski et al., 2018; Scarlett & Boyd, 2015; Turnpenny et al., 2014; Waylen & Young, 2014). This research paints a nuanced picture of when, where

and how valuation knowledge has been—or might be—effective in influencing decisions. We highlight two points about the place-specific politics of valuation that are particularly relevant.

First is the recognition that, despite the highest hopes of valuation proponents, valuation knowledge produced outside of formal decision-making institutions (e.g. valuation by academic researchers) is rarely utilised in instrumental ways (Barton et al., 2018; Cowell & Lennon, 2014; McKenzie et al., 2014). Local decision-making structures are often tightly governed by existing norms of evidence-creation and adjudication, meaning that external values information is neither recognised nor utilised by these structures (Barton et al., 2018; Phelps et al., 2017; Primmer & Furman, 2012; Saarikoski et al., 2018; Scarlett & Boyd, 2015). For decision-makers who want evidence aligned with their existing concepts of accuracy and reliability, sophisticated or novel valuation methods present a venture into the unknown, constituting a risk to the decision-making enterprise (Barton et al., 2018; Cowell & Lennon, 2014). Thus, while some high-profile success stories have been reported (e.g. Daily et al., 2009; Posner et al., 2016; Ruckelshaus et al., 2015), the outlook for valuation to drive different decision-making outcomes is bleaker than is often portrayed. After reviewing 20 years of social values mapping for decision-making, for example, Brown et al. (2020, p. 6) conclude that 'mapped place values show little evidence of influencing land use decisions'.

Second, when the objective is to directly influence in decision-making, valuation appears to have '*particularly* little bearing in those planning and policy-making situations where it challenged established interests' (Saarikoski et al., 2018, p. 589, emphasis added). The clearest path to influence, it seems, is to align with existing hierarchies of power. This finding joins a wider chorus recognising that 'knowledge generation alone will not solve socio-environmental problems' (Weyland et al., 2019, p. 291), that valuation cannot resolve distributional debates (Primmer et al., 2018, p. 159), and that influential approaches are influential precisely because they 'reflect ... the dominant power structures within society' (Brown et al., 2020, p. 6). While scholars often argue that valuation should aspire to create knowledge that is considered credible and legitimate by all stakeholders (Hauck et al., 2013; Posner et al., 2016; Waylen & Young, 2014), such consensus is rarely achieved, and valuation ultimately reflects some perspectives and values more than others. This then raises the question: how can valuation confront power?

2.3 | Social power and environmental justice

Many scholars have suggested that power—as manifest through the uneven distribution of wealth and influence in society—can be brought formally into the analytical scope of valuation. By exposing the distribution of costs and benefits of environmental decisions, valuation can create a foundation for pursuing equity in decision-making (Berbes-Blazquez et al., 2016; Daw et al., 2011; Felipe-Lucia et al., 2015; Vallet et al., 2019; Wieland et al., 2016). Scholarship has examined, for example, how networks of powerful stakeholders

effectively govern 'keystone' ecological processes and thus constrain communities' ability to improve overall environmental conditions (Felipe-Lucia et al., 2015). The historical context of decisions also matters; environmental benefits and costs are mediated by historical allocations of property rights, which may be deeply inequitable (Berbes-Blazquez et al., 2016).

There is also another type of power that demands reflection: the power to legitimate ideas and stakeholders, the power to collect and present evidence and the power to use that evidence to influence decision-making. This is the type of power, in short, that valuation practitioners hope to exercise through the practice of valuation itself.

All valuation exercises are situated within places that have histories and conflicts. Incorporating power in valuation practice, in this wider sense, is about acknowledging that 'how to frame scoping questions, use methods, collect data, and interpret results, all involve a somewhat normative framework that, to some extent, can be difficult to subtract from purely technical aspects in valuation' (Pascual et al., 2017, p. 14). In our role as valuation experts we build selective relations to a place and create platforms to represent certain values, claims and ecological processes within a decision-making context. Valuation reinforces partisan actors' worldviews or provides evidence that strengthens or challenges certain groups' claims to authority (Laurans et al., 2020; Sarkki & Karjalainen, 2015). Valuation can also be wielded to achieve status, economic recompense and a stronger place at the decision-making table (McCreary et al., 2016; Van Hecken et al., 2015).

Thus, valuation produces all manner of social and political outcomes in a place (e.g. see Šunde et al., 2018). Given that valuation is an intervention into local relations, how should practitioners conduct valuation responsibly, beyond simply 'following good practice'? Environmental justice scholars have proposed normative criteria for local valuation (Aragão et al., 2016; Bennett et al., 2019; Schröter et al., 2017). Kallis et al. (2013) contend that rather than choosing valuation approaches based on theoretical or even ideological criteria, methods should be selected based on whether their use will: improve environmental quality, foster multiple languages of value, alleviate inequality and maintain or enhance access to public space. Dempsey (2016) argues that valuation practitioners should simply align with actors and groups who are seeking environmental and economic justice locally and globally. Similarly, in their manifesto for explicitly normative valuation, Jacobs et al. (2020) argue that valuation should aim to empower marginal worldviews, voices and knowledges; should contest and restore power imbalances resulting from previous valuation processes and should reveal how values are enmeshed in our institutions, rules and even within valuation itself.

Collectively, these literatures on good practice, knowledge utilisation and power offer guidance on how to design and conduct valuation. They help practitioners to make choices about theory and method, to understand how valuation is likely to be utilised within institutional settings and to appreciate that valuation can be a handmaiden to power. While these literatures can help researchers think through issues of theory and method, they do not yet fully equip

practitioners to navigate the messy historical and power-laden, turbulent contexts of local environmental politics.

Inspired by the normative agenda proposed by environmental justice scholars, in this paper we explore how valuation works in local places to generate political effects. The literature on good practice helps us think about practical realities, and the literatures on power and knowledge utilisation valuation help us think about how valuation acts as an intervention into local politics. We build upon these literatures to ask: what happens when valuation practitioners enter a highly conflicted situation, where good practice is not possible, where consensus is not possible and where simply aligning with the biases of decision-making institutions is ethically contestable? A next step, we contend, is to assist valuation practitioners to engage *intentionally* with local environmental politics.

3 | RESEARCH QUESTIONS, CASE STUDY AND METHODS

Our research originally intended to produce a 'best practice' valuation template for marine management in Aotearoa New Zealand. As part of a mission-driven science programme called Sustainable Seas, we proposed to provide guidance on how values information for marine decision-making should be generated and used for ecosystem-based management (Sustainable Seas, 2015, p. 34). To address this aim, our research asked the following questions:

- What do marine planners and regulators want from a valuation template?
- What do marine values-holders want from a valuation template?

To investigate the first question, we conducted semi-structured interviews in person and by phone with 17 officials from local and central government to identify what type of values information was considered influential, and what type of values information might help to improve decision-making outcomes. Our sample included participants from two central government agencies with marine responsibilities and five of New Zealand's 16 regional councils.

To investigate the second question, we conducted semi-structured face-to-face interviews with 13 marine values-holders from a local community that has been subject to multiple rounds of high-stakes decision-making processes about the marine environment. The Marlborough Sounds (see Figure 1) are a major ferry route (connecting the North and South Islands through Tory Channel), a major commercial and recreational fishery, a major tourist destination and home to many native species (including the endemic and endangered King Shag, *Leucocarbo carunculatus*). Several indigenous Māori tribes have deep genealogical and spiritual connections to the Marlborough Sounds, and have been attempting to secure more active roles in marine governance. In the last several decades, the Sounds have been under pressure from increasing human activity—sedimentation from adjacent land uses such as forestry and agriculture, aquaculture development, increased boating traffic and fishing (Marlborough District

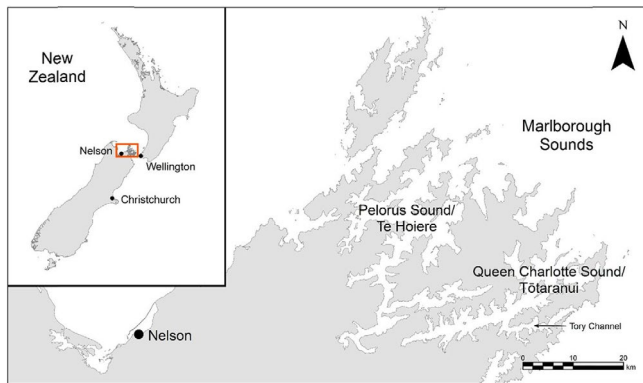


FIGURE 1 The Marlborough Sounds region

Council, 2015), likely compounded by climate change. The Sounds have been the centre of aquaculture intensification in NZ, and a 2013 Supreme Court decision permitting four of nine proposed new salmon farm sites proved particularly contentious (see Šunde et al., 2018: for a summary of recent conflicts).

The role of New Zealand's indigenous people in marine decision-making is underpinned by the Treaty of Waitangi, signed in 1840 between Māori chiefs and representatives of Queen Victoria. The Treaty guaranteed that Māori would enjoy 'full exclusive and undisturbed possession' of their lands, forests and fisheries so long as they wished to retain them, while transferring *kāwanatanga* (governorship) to the British Crown (<https://www.waitangitribunal.govt.nz/treaty-of-waitangi/english-version/>). Within a few decades, the Crown reneged on its obligations and initiated campaigns of land confiscation, cultural assimilation and state-sanctioned violence (e.g. King, 2003). Since the 1970s, however, there has been a resurgence of recognition of Treaty rights and principles, including settlement of historical grievances with many tribes (Sullivan, 2016). It is increasingly common practice for both central and local government agencies to understand environmental management as a partnership between the government and Māori tribes, in some cases involving joint decision-making authority between a government agency and Māori partners.

The Marlborough Sounds environment has genealogical significance for several Māori tribes including (in alphabetical order): Ngāti Apa ki te Rā To, Ngāti Koata, Ngāti Kuia, Ngāti Toa Rangatira, Rangitāne o Wairau and Te Ātiawa o Te Waka-a-Māui. All these tribes reached settlements with the government and have been recognised as *mana whenua* (people with authority) in that territory for marine and environmental decision-making.

We interviewed Sounds residents who have been involved with recent court cases and planning processes for the marine environment. Interviewees included Māori from three tribes with *whakapapa* (genealogy) to the Sounds, and participants from environmental organisations, forestry, aquaculture, commercial and recreational fishing, tourism operators, and residents. Our interviewees included the main proponents, submitters and appellants of recent prominent court cases involving resource management and allocation decisions, which, in turn, included members of three

mana whenua tribes of the Marlborough Sounds. All interviewees signed written consent forms after having been informed of the research objectives, processes and intended outputs. This research is governed by Cawthron's ethics policy for research involving human subjects (approval number CAW-ETH-161202).

Interviews ranged from 30 to 120 min and were conducted between 2016 and 2019. Interviews focussed on identifying the type of information used in marine decision-making and how well participants felt their values had been represented by that information (see interview questions in Supporting Information). We also invited participants to suggest components for a 'best practice' valuation framework for marine management that could better recognise their concerns and improve outcomes.

Interviews were transcribed by an independent contractor and iteratively coded by the research team. When we realised that values-holders did not have preferences for a 'best practice' valuation framework, we identified themes relating to how values information increased or decreased the perceived legitimacy of environmental decision-making.

4 | FROM GOOD TECHNIQUE TO STRATEGIC OUTCOMES: DIFFERENT RATIONALES FOR VALUATION

Interviews with marine decision-makers and values-holders revealed tension over the idea of 'best practice' valuation. Several local and central government officials expressed an explicit desire for something akin to a best practice template. However, interviews with values-holders and decision-makers indicated that there can be no objective 'best' prescription for what are deeply political choices that can affect ecological, cultural and social outcomes. In this section, we outline the promise of 'best practice' valuation as perceived by officials, before distilling four propositions that emerged for our study about how valuation interacts with local environmental politics.

4.1 | The promise of good valuation technique

Several government officials expressed a desire for a comprehensive, integrated template for values information that could act as a benchmark for best practice. In contexts of regional planning, officials articulated four key features that would help them in their work. First, officials wanted the ability to parse complexity into recognisable and systematic categories. One local government official said, for example,

A valuation tool that would provide us with a way... to break these things up into categories... Would we be able to break each part of this decision up into different values and ultimately – possibly – assign a value or a risk or a priority weighting so that we were able to look at the whole thing and go "yes it provides 50 [economic

units]. So it's a tick in that box, but it's an 'X' in that one, that one, and that one"... for ecological habitat, pollution, and all of that. (Official 1)

A second desired feature is comprehensiveness. One regional planner recognised that in mainstream environmental planning practice, 'sometimes we take a narrow look at values', and hence a framework that 'that helps us to take a wider look would be valuable' (Official 2). Hence, best valuation would prompt practitioners to consider a fuller spectrum of values.

Third, officials sought consistency and, by inference, objectivity, even though it may not be tailored to the nuances of place. A prescriptive valuation template 'may not be exact, but... it's consistent. Relative to other things, it's consistent' (Official 3). This consistency, they argue, reduces the possibility of operator bias and error: 'It's almost like you're looking for a ruleset so that no matter what your values are, you do it this way' (Official 4).

Fourth, officials said that best valuation could enhance transparency. For many government officials, their work involves organising information for elected politicians to make formal decisions. While advisors cannot compel decision-makers to comply with 'best' prescriptions, they can provide a rigorous chain of logic and a robust evidence base in their advice. As one regional planner relates,

Anything that makes a decision more... "how-did-we-get-to-it", more transparent, in my case is a good thing. I always have to document why I'm making a decision, and how I got there (Official 5).

A best valuation framework would provide a benchmark against which practitioners could defend their work. Additionally, given that elected politicians 'don't dive into the depth of knowledge', and that they 'make decisions based on quite different drivers' (Official 6), having a transparent valuation framework would enable political decisions to be more easily scrutinised for whether they followed officials' advice, and if not, why not.

In broad terms, we observed among government officials a demand for a comprehensive, consistent and transparent set of practices for collecting, ordering and using values-related information for marine management. But while the demand for good or 'best' valuation may exist among government officials, how likely is it that such a framework would change decision-making outcomes?

4.2 | Four propositions on the political work of valuation

In contrast to the optimism of government officials, values-holders we interviewed have little confidence that improving the technical practice of valuation will generate better outcomes. Having gone through adversarial court and planning processes for decades, values-holders have seen how decision-making processes utilise information. For them, the key to improving the use of values information lies not in

standardisation of best practice, but in strategic positioning of valuation in relation to jurisdictional scales, legislative categories and local expertise, all within an landscape of uneven resources and political power. Here we present four propositions about valuation politics that reveal how social relations of valuation matter.

4.2.1 | Valuation vests certain scales and actors with authority

Valuation exercises are, implicitly or explicitly, nested within a decision-making structure that vests authority with specific actors. As our interviewees highlighted, the question of which decision-maker, that is, for whom valuation is performed, is problematic and not easily (or usefully) standardised.

Valuation involves an implicit choice regarding which actors or organisations have legitimate authority. In the Marlborough Sounds, interviewees recounted stories about local decisions being taken away by central government. In one example, central government created a working group to generate recommendations to protect the local blue cod fishery. Local fishers in the group advocated for closing the fishery during summer because 'If you were going to close a fishery... you do it over the peak time' (Marlborough 1). Yet, the Minister decided to close the fishery during winter months instead, leaving fishers feeling that the decision 'had really been made by the Minister before we even finished up doing any recommendations' (ibid).

In another case, a company wanted to develop nine new salmon farm locations in the Sounds, requiring a change to the regional plan that had been produced by Marlborough District Council. The company applied to have its proposal decided by a central government-appointed Board of Inquiry, taking the decision out of the Council's jurisdiction. The Board of Inquiry approved four of the nine proposed locations, one of which was overturned by the Supreme Court. For local community groups and long-term residents, this Board of Inquiry and subsequent appeals caused considerable pain and alienation (see Šunde et al., 2018). There are many who feel the decision remains illegitimate:

To take the management away from the people – which is what local government is about – that's saying that "we don't give a rat's arse what you people think. You might live here and use the place, but we don't care what you think. We're going to do whatever we want to do because it's in the 'best interests' of the whole country." (Marlborough 2).

Most importantly, in settler-colonial nations such as Aotearoa New Zealand, the constitutional power of decision-making rests fundamentally upon treaties between the settler government and indigenous tribes. In Aotearoa, Māori scholars and practitioners have advocated for shifting from 'consultation' models of Māori involvement towards full Treaty partnerships grounded in shared decision-making powers, that is, co-governance (Harmsworth et al., 2016; Ruru, 2018). But what counts as co-governance can be challenging to discern. One interviewee

recounted a marine spatial planning process for the North Island's Hauraki Gulf (see Peart, 2018: for an overview), in which a local stakeholder group used a tool called Sea Sketch to map values information and determine locations for marine-based activities. While the process was led by a 16-person steering group that included eight mana whenua (Māori recognised as having standing for that area), the planning zones were criticised by some Māori as illegitimate because affected sub-tribal groups were not involved in determining the areas that are proximate to them. As a planner with experience of that process related,

You can have the most beautiful framework, but if you've got a group of people who are saying "Yeah but that's contrary to our historical rights here, you're infringing upon our mana" – it's really quite difficult to figure out how to deal with that. (Official 7)

While allocating half the seats on a steering committee to Māori has been interpreted by some as Treaty-based partnership (e.g. Peart, 2018), there are different schools of thought on this issue. Oftentimes, the state selectively consults with informal Māori entities instead of going through formal representational structures. In Marlborough, for example, a Māori leader described how the state would often speak to an informal collective of eight tribes to solicit Māori views on resource management. Yet, they argued:

Anything to do with iwi [tribes] and mana [prestige, authority] should be dealt with by each iwi at their board level and if there's eight iwi involved, then eight iwi need to be consulted [separately]. (Marlborough 3).

In resource management, there are often overlapping spatial, organisational and cultural jurisdictions surrounding an environmental issue (Scarlett & Boyd, 2015). Recognising this fact, valuation practitioners must decide which authority will be recognised and affirmed through the collection and analysis of values information. Valuation, for example, can affirm local government as a legitimate steward of environment, or can provide the basis for central government incursion into local planning processes. Or it can legitimise hierarchical, representative structures for the involvement of mana whenua instead of engaging separately and directly with affected Māori tribes. Recognising that there can be more than one legitimate decision-maker compels valuation practitioners to explicitly select and justify why they support a specific form of authority, including whether to recognise non-governmental forms of authority such as indigenous sovereignty, local sovereignty or non-governmental self-management.

4.2.2 | Valuation is constrained by regulatory categories

While it might be possible to generate comprehensive information about plural marine values, such information may not prove useful in legally constrained decision-making processes. When discussing

marine decision-making in Marlborough, many residents felt that legal criteria excluded them and their values from mattering in decision-making, *irrespective* of whether systematic information exists or could be generated to represent those values. Value categories such as natural character, amenity value or environmental thresholds have particular legal power in Aotearoa New Zealand; for example, section 6 of the Resource Management Act 1991 (henceforth RMA) lists 'the preservation of the natural character of the coastal environment (including the coastal marine area)' as a matter of national importance. These legal categories serve to narrow the field of values considered by decision-makers.

For marine decision-making in Marlborough, the RMA's focus on environmental effects excludes many people from articulating their values in planning processes because 'communities don't typically have the resources to deal with benthic impacts, water column impacts and those sorts of things' (Marlborough 4). For community residents, 'arguments tend to be around amenity because as soon as you get into the other fields of landscape, water column, benthic and things like that, they are recognised expert fields' (ibid). And yet making successful arguments based on amenity is difficult because 'amenity issues never carry the same weight as economics or science' (ibid).

Speaking from experience of several court cases, a Māori interviewee also observed that legal criteria limited their avenues for engaging in the decision-making process:

If we win anything in Court – and we don't win very often – it's because of the physical arguments or the resource management arguments that we put forward. It's never for the cultural reasons or the economic impact on [my tribe] or all of these things. (Marlborough 5).

In a Supreme Court case, a permit for a proposed salmon farm was disallowed because it would have infringed upon the 'outstanding' natural character of that place (see Brown et al., 2016). The Court cited the 2010 New Zealand Coastal Policy Statement (Policy 13.1(a)), which requires that effects on outstanding natural character be 'avoided'. Since the site was previously identified in the Marlborough District Council plan as having *outstanding* natural character, the Court decided that the farm could not be permitted notwithstanding other considerations. While the narrow criteria led to an outcome hailed by opponents of the salmon farm (Brown et al., 2016), the company was disappointed that the economic benefits of the site were excluded from consideration.

The law thus provides a pre-emptive valuation of knowledge, permitting certain types of evidence and excluding others. This institutional pre-valuation poses an existential limit to what good or best practice valuation might achieve. In any given legal setting, there will be precedents, legal categories and norms that affect what types of evidence are given credence. Even if comprehensive, plural, integrated values information is generated and presented, decisions will be turned by only some of that information. In this light, improving ecological or justice-related outcomes might not

involve integrated or comprehensive values information, but could instead involve narrow biophysical information hinged on locally specific arguments about 'outstanding natural character' or water column chemistry.

This is not necessarily a bad thing—by limiting the scope for contest, legislation provides some certainty and constrains the cost to all participants by identifying the most important issues. However, if the question is how to generate values information that will empower marginalised groups or improve environmental protection, comprehensive valuation may not be the answer. Resources spent assembling a full spectrum of values information can be wasted when the legal categories and institutions that use knowledge do not recognise or permit that information. Simply doing 'good practice' valuation could thus weaken the chances that a given valuation exercise will affect a decision.

4.2.3 | Valuation reallocates expertise about the environment

The process of valuation—of generating, assembling, comparing and analysing values information—is usually conducted by professionally trained experts. Rarely discussed in the literature, 'rule by experts' has been named and criticised by Marlborough Sounds values-holders. The construction of valuation as an expert domain transfers values expertise from values-holders to scientific and planning experts who, in a formal institutional decision-making setting, are seen as more credible and who can be entrusted to translate values into resource management terminology.

Values-holders with vast experiential knowledge of the marine environment and its changes in response to human development, such as coastal residents, tour operators and shellfish divers, recounted feeling powerless to speak and be heard about their experiences. Despite possessing decades of intimate experience through fishing and shellfish harvesting, local fishers are unable to make their knowledge matter in decision-making unless it is codified and presented by a recognised expert to a planning committee or the court. In contrast, in a major fish farm development, 'the community was up against the most dominant science institutions of the country' which included 37 scientists hired by fish farm developers (Marlborough 7). In such uneven situations, it can feel like 'you're taking a gatling gun type of approach to someone with a pea shooter' (Marlborough 8). And when 'it's expert versus layperson... we've seen laypeople seldom – I won't say ever, but seldom – have equal weight to put to their arguments' (Marlborough 9).

Several Marlborough residents also expressed a resistance to valuation methods and approaches brought in from elsewhere. Auckland's Hauraki Gulf marine spatial planning process, for example, received prominent coverage in news media and was being discussed in the Marlborough Sounds. However, the idea of importing and adapting the Hauraki Gulf model was strongly contested: 'people will say this is what's happening in Auckland so it has to happen across the country, and I reject that at all costs' (Marlborough 10). In

part, this is because 'every region is totally different' (Marlborough 11) but it is also because experts from elsewhere are unfamiliar and often considered with scepticism.

The translation of cultural and indigenous values raises unique challenges regarding the perceived legitimacy of values information. In this story about a cultural values assessment used in the salmon farm hearings, a Māori interviewee argued that values expertise should be endowed (or can be withheld) by the communities whose values are being represented:

So the senior planner for [major consultancy] ... gave evidence that there was no negative impact on the moana [ocean] or the mauri [life-force] of the moana, so I asked her a couple of questions.

I said 'Do you speak Māori?'

She said 'No'.

I said 'Are you knowledgeable about tikanga Māori [i.e. Māori protocols]?'

She said 'I know a little bit, I've done a few papers [at university]'.

I said 'Do you know anything about [my tribe]?'

She said 'No, I've never studied [your tribe]'.

I said 'So you don't speak Māori, you don't have any qualification in Māori, you don't know anything about [my tribe] and yet you've made a statement that this work doesn't affect the mauri [life-force]?'

And I said 'How do you know what effects the mauri unless you know something about [my people]?' (Marlborough 12)

Experts are often needed to support communities to express their values in decision-making processes. But this process requires translation by the expert, and that translation comes at a cost:

When we put that into words on paper, you lose a sense of experience in that because you're not there seeing or touching it. One thing that we've learnt... is that we can never describe things like that better than the people themselves. (Official 13)

So while translation may be necessary in some cases, it carries risks:

We deal with people who are totally anti-Māori, and we deal with people who learn a bit of Māori, know a bit of tikanga and then turn around and use that

knowledge against us after having come to us to ask what our knowledge is. (Marlborough 14).

Whether intended or not, valuation is implicated in the validation or reallocation the expertise of values-holders. In the Sounds, expert valuation used in court settings has been criticised for crowding out other forms of engagement and thereby taking power away from bone fide values-holders. Professionally conducted cultural values assessments, for example, have been cited by governments to claim that Māori values have been incorporated into decision-making, even while decision-making power is not actually shared between Māori and the government (e.g. Marlborough 14 above). Thus, expert valuation can actually reduce (rather than add to) the legitimacy of the process and bargaining power of marginalised actors.

Yet, other configurations are also possible. Valuation practitioners can help marginalised groups to combat experts on an opposing side, for example, by certifying as 'expert' the knowledge and meanings that values-holders wish to express. Alternatively, practitioners can create and support deliberative forums, enabling values-holders to advocate for their own concerns in ways they might not have access to in the policy process. These options, of course, present their own challenges—our point is that there *are* choices to be made, and they should be made consciously with a view to local political repercussions.

4.2.4 | Valuation reproduces or reworks the uneven playing field of decision-making

A deeply held assumption underpins the normative project of valuation: that values information, rigorously assembled, can change the course of decisions and actions. Yet, the knowledge utilisation literature has shown that the quality of values information matters less than its ability to be recognised and valued by decision-makers in institutions. And the literature on power shows that valuation succeeds in influencing the world most when it does not challenge established interests (Saarikoski et al., 2018).

Marlborough values-holders made this point often and with force in their interviews. Many residents identified 'behind the scenes' processes (Marlborough 15) as more important than values information quality or completeness in determining decision-making outcomes. For example, when central government commissioned a working group on the management of the blue cod fishery, local members were informally 'shoulder-tapped' to attend (Marlborough 16). Those who were excluded concluded that the process was captured by special interests and thereby illegitimate.

While one-off working groups and valuation exercises are often run by a 'seat of the pants approach' (Official 9), even formal processes allow and sometimes encourage informal discretion and bargaining to occur. In a salmon farming case, the Department of Conservation (DoC)—a relatively well-resourced opponent of the new farms—met

informally with the farm applicant to negotiate agreed conditions. Through discussions sometimes lasting until late at night, they agreed on 84 conditions for designated farms, and DoC agreed not to challenge those farms in court proceedings (Marlborough 17). While this is common practice in legal proceedings, such negotiations represent shared decision-making among two powerful actors based on their particular interests rather than a full analysis of values information. The ability (power) to strike such a bargain is not shared equally across society, let alone in a particular locality.

For the high-profile salmon farming case, a Māori resident recalled,

You had senior members of Cabinet meeting with the Mayor of Marlborough trying to influence him to allow the farms ... You had a delegation of Cabinet turn up at a local government hui [meeting] where the same Mayor and other Mayors from around the country were having a local government meeting, [saying] that development like this needs to happen for the sake of New Zealand. (Marlborough 20)

The ability to wield effective political force is often associated with financial resources. When asked why an industry organisation sought closed-door conversations with the regional council, their representative replied, 'being a large company, there are a number of resources in our business here that we can actually put some time into those processes' (Marlborough 21). In contrast, smaller businesses, community members, and often Māori lack the resources to engage in this kind of political activity.

Over the uneven terrain of access to resources, decision-makers and political capital, valuation is a relatively weak instrument. When we asked interviewees how to improve valuation for decision-making in Marlborough, none suggested that more comprehensive or rigorous values information would have helped. In the Marlborough Sounds at least, the collection and use of values information has been largely peripheral to the legal and political drivers of decision-making.

Valuation practitioners should thus not only be responsible for their theories and methods but also for valuation processes and their outcomes. When selecting their local allies and bounding their technical scope, for example, practitioners should account for their decisions in relation to the distribution of informal resources that affect environmental decision-making. How is valuation poised to align with, counteract, or otherwise intersect with the drivers of environmental decision-making?

5 | PLACING VALUATION INTO TURBULENT DECISION-MAKING SETTINGS

Marine values-holders in Marlborough emphasised that, if valuation is to be more effective and responsible, it needs to get strategic within real-life decision-making settings. Idealised policy cycles and

good practice guidance for valuation practice make sense for a world where resources are abundant, values-holders are clearly identifiable and representable, where information turns decisions and where power can be equalised by the valuation process. However, in the real world where these conditions generally do not hold, choices must be made about which scales and actors have legitimate authority, how to align with legal categories, how to wield expertise and how to deploy valuation within an uneven terrain of decision-making influence. Here, we consider how our four propositions suggest new directions for valuation research on engaging the turbulent politics of environmental decision-making.

A preliminary point is that what counts as 'good' valuation differs between decision-makers and values-holders. We began our research with the aim of producing a best practice template that could guide decision-makers, providing consistency, comprehensiveness, transparency and theoretical rigour to the technical aspects of valuation. And indeed, our interviews with officials identified a real demand for this type of knowledge across both local and national scales. For values-holders, however, the legitimacy of a valuation exercise does not derive from the internal qualities of the exercise but their own evaluation of its strategic deployment within a landscape of uneven access to political resources and decision-making power. This reinforces a point made by others that the intellectual credibility of valuation techniques matters less than the material outcomes that valuation produces in places (Kallis et al., 2013; Posner et al., 2016).

5.1 | P1: Valuation vests certain scales and actors with authority

Recognising that legitimacy is contested provides a place-specific and explicitly political entry point for valuation. Idealised policy cycles and guidance draw attention to how valuation might fit into a decision-making process with an identifiable (but subjective) start and end point. But valuation also intervenes into historical struggles for legitimacy and authority over natural resources. By employing certain favoured concepts, by recognising certain groups' rights (e.g. property), by rendering certain ecological processes visible and others less visible, valuation supports certain interests, actors and arguments in environmental politics (see e.g. Jadhav et al., 2017; Sarkki & Karjalainen, 2015). During the course of our research, we saw how expert-driven valuation helped to establish the authority of a new governance body, the Hauraki Gulf Forum, in a different part of the country, to address marine issues similar to those in our case study. In that case, the Forum produced values information for marine spatial planning. The subsequent contestation of those decisions by affected *local* Māori highlights that the establishment of new regimes of governance is fragile and contestable.

Ecosystems are governed under multiple jurisdictions, and rarely is there one decision-making actor or body with sole authority and legitimacy (a problem observed by Scarlett & Boyd, 2015). Furthermore, the existence of multiple jurisdictional claims means that realising impact for one scale, or for one set of actors, can

mean delegitimising the claims, rights and aspirations of other scales and actors (see e.g. Norman et al., 2015). We might like to think that valuation can sit outside the messy local struggles for legitimacy and authority, yet at the same time we must make decisions about whether to align our valuation practice with the organisational mandates of central government, local government, new institutional forums or local affected Māori tribes. How valuation practitioners choose to ally with certain claims to legitimacy thus represents a distinctively, and unavoidably, political entry point to real-life valuation of place.

5.2 | P2: Valuation is constrained by regulatory categories

How valuation engages the law constitutes another political choice for practitioners because the regulatory environment renders certain forms of knowledge more valid or influential than others. At the very least, we should not be recommending 'good practice' templates that values-holders do not want and that local decision-makers cannot use. Valuation practitioners should state how they are choosing to align with or contest regulatory knowledge frames, and what outcomes they seek in that process. Jax et al. (2018) suggest that the 'manoeuvring space' (i.e. what is possible in a given legal and societal situation) for any valuation exercise should be defined explicitly.

While previous scholarship has helpfully identified a panoply of legal and institutional norms that affect the utilisation of valuation knowledge (Barton et al., 2018; Cowell & Lennon, 2014; Phelps et al., 2017; Saarikoski et al., 2018; Waylen & Young, 2014), we need to understand valuation's consequences for social and ecological objectives. At one extreme, practitioners might fully accept prevailing legal categories and utilise valuation tools to seek better outcomes for named allies and objectives. This could mean that, rather than promoting comprehensive, interdisciplinary, pluralistic, integrative valuation (as per Jacobs et al., 2018) that is unlikely to be recognised in the existing legal framework, practitioners might instead choose to work with existing categories such as 'outstanding natural landscapes', amenity value, benthic impacts or water quality chemistry to more effectively turn decisions in favour of sustainable and just outcomes. On the other extreme, valuation practitioners could also seek to explicitly contest, reject or sit outside of legal and regulatory categories, attempting to raise awareness, promote integrative conceptions of social and ecological health and so on. Whichever choice is made, the objectives of valuation should be named so that the strategic effectiveness of valuation can be evaluated and compared.

5.3 | P3: Valuation reallocates expertise about the environment

The collection and analysis of values information as an expert activity also intervenes into local environmental politics by privileging

certain forms of expertise. As we saw in Marlborough, bringing in experts 'from elsewhere', from different social worlds and with different cultures and priorities than values-holders, can intensify rather than ameliorate conflict. For values-holders, the very fact of external experts coming in to diagnose the problem itself decreased the legitimacy of the decision-making process. The tendency in environmental management to promote 'rule by experts' can take power and agency away from local and indigenous values-holders who feel that their experiences and lifeworlds matter less than graphs and quantitative models. The production of technical knowledge about values can unintentionally exclude, silence and transform local environmental meanings in ways that do not make sense to these values-holders, creating a 'violence of translation' (see Ernstson & Sörlin, 2013; Tadaki et al., 2017; West, 2005).

For Māori and other locals who have decades and sometimes generations of dwelling in and caring for the Sounds, the interventions of institutionalised (Western) expertise have predominantly been exploitative and disempowering. Aotearoa New Zealand has evolved a specific type of 'technocratic legal formalism' in resource management (Jackson & Dixon, 2007), in which moneyed interests can hire lawyers and scientific consultants to challenge the technical basis of environmental regulations, whereas communities have no equivalent platform through which to make their values matter. This challenges valuation practitioners to confront the implied technocratic basis of environmental management and think about what relationships do—or should—exist between values-holders and certified values experts. How does valuation entrench rule by experts, how does it prioritise categories and knowledges 'from elsewhere' and how does expert-driven valuation reproduce its own privileged status in decision-making? These are all choices that valuation practitioners should confront, reason about within a place context, and act upon responsibly.

5.4 | P4: Valuation reproduces or reworks the uneven playing field of decision-making

It is well understood in practice and in the literature that decision-making operates on 'different drivers' (Official 6) to the reasoning of valuation, but this has rarely been confronted by valuation practitioners. Novel elicitation methods, rigorous theoretical constructs or integrative valuation frameworks rarely provide the political force needed to change the nature and outcomes of real-life decision-making (Brown et al., 2020; Cowell & Lennon, 2014; McKenzie et al., 2014; Saarikoski et al., 2018). Yet, valuation researchers continue to assert the need for comprehensive, pluralistic and integrative valuation as if doing valuation better will change the world (see Díaz et al., 2018; Jacobs et al., 2016, 2018). In Marlborough, values-holders revealed that what mattered to them was not whether they could have contributed to some integrative valuation exercise, but whether they had equal access to the levers of decision-making. Phone calls to council staff, industry-supported videos circulated to Members of Parliament, the ability to marshal local and national

politicians to generate support for a development, or the ability to negotiate the terms of court proceedings—these are all political capacities that are unevenly distributed. In one court case, a salmon-farming company challenged the jurisdictional claims of Ngāti Koata (a local tribe with well-established history in the area). This forced Ngāti Koata to invest their scarce resources into re-establishing their history for the court, rather than contesting the specific environmental claims made by the developer. The power to compel responses and channel scarce resources through *realpolitik* is not something that valuation can resolve by itself, but this fact does not relieve practitioners of their responsibility to confront and account for valuation's role in this process. Furthermore, telling stories about the meaning of the marine environment to valuation researchers can occur at the expense of other forms of engagement that may be more effective. Local Māori, for example, might be better off investing in court processes and negotiating with the government directly, rather than speaking to those assembling values information.

6 | CONCLUSION, OR: HOW WE LEARNED TO STOP WORRYING AND ENGAGE THE POLITICS OF VALUATION

We began our research with the ambitious aim of producing a best practice template to guide practitioners through valuation for marine decision-making in Aotearoa New. Through our research, however, values-holders forced us to confront the fact that for them, what was needed was not more comprehensive or rigorous information about values, but some way to re-level the uneven landscape of local environmental politics. We had to re-visit our commitment to producing yet another framework for collecting and interpreting values information. Our experience affirms that there is much more to conducting valuation responsibly than making choices about theory, method and cost. In short, legitimacy matters.

Our four propositions are not intended as a critique of environmental valuation as an enterprise. Rather, these propositions help us to think harder about what we aim to achieve by doing valuation in places. As government officials attest, there remains a real and important role for recognised valuation frameworks as a mechanism to expose the different drivers that elected politicians respond to. Exposing such drivers for public scrutiny is an important function that valuation can play in democracy.

That valuation intervenes in the trajectory of local environmental politics is sometimes acknowledged but rarely brought front and centre in guidance about doing valuation. The four propositions distilled here prompt practitioners to reflect and account for how they are making choices about valuation in real-life contexts. As the field of environmental valuation moves forward, taking stock of the different political choices and strategies utilised in valuation settings will be essential for deriving collective wisdom to help practitioners navigate turbulent decision-making with an aim of doing good in the world (Jacobs et al., 2020).

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CONFLICT OF INTEREST

We have no conflicts of interest to declare.

AUTHORS' CONTRIBUTIONS

M.T., J.S. and C.Š. conceived the ideas; all co-authors designed the methodology; C.Š., J.S., A.G. and M.T. conducted the interviews; C.Š., M.T. and J.S. analysed the interview transcripts; M.T. and J.S. led the writing of the manuscript. All authors contributed substantively and critically to the drafts and gave final approval for publication.

DATA AVAILABILITY STATEMENT

This research draws on qualitative interview data that are protected by confidentiality. Storage in a publicly accessible repository is not allowed by the ethics approval governing this research.

ORCID

Marc Tadaki  <https://orcid.org/0000-0002-1533-8173>

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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