

# COLLABORATIVE REGULATION OF THE MARINE ENVIRONMENT: FACTORS AFFECTING THE SUCCESS OF COLLECTIVE ACTION AS EMPLOYED BY THE FIORDLAND GUARDIANS

*Alastair Cameron\**

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*The Fiordland Guardians used a collaborative process to design a package of measures for the integrated management of Fiordland's marine resources. This process has been viewed by some as a model for regulating other parts of the New Zealand marine environment. However, before the same approach is used elsewhere (as it may well be, given the recent policy shift towards integrated management of the marine environment), it is important to understand why it was successful for the Guardians. This article uses a public choice framework to analyse the economic and social conditions that existed at the time of the Guardians' formation in 1995 and throughout their deliberations. It argues that the conditions that drove the Guardians' formation and their willingness to reach a collective solution also influenced the government's decision to implement the Guardians' measures through legislation. Without these underlying economic and social conditions, the Guardians' approach might have failed. The article's ultimate conclusion is that anyone considering the use of a Guardians-type approach in other parts of the New Zealand marine environment must first analyse the economic and social conditions to assess whether the necessary incentives exist to help ensure successful collective action by resource users.*

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## **I INTRODUCTION**

The Fiordland (Te Moana o Atawhenua) Marine Management Bill passed through the New Zealand Parliament in April 2005. The resulting law, the Fiordland (Te Moana o Atawhenua)

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\* Solicitor (Public Law team), Buddle Findlay, Wellington; formerly Fulbright New Zealand scholar and Arthur T Vanderbilt scholar at New York University. The opinions expressed in this article are the author's own and do not necessarily reflect those of Buddle Findlay.

Marine Management Act 2005 (the Fiordland Act 2005), was the culmination of a decade's work by a dedicated group of Fiordland locals who called themselves the Guardians of Fiordland's Fisheries and Marine Environment: Tautiaki Ika O Atawhenua.

The Guardians, comprising local commercial fishers, recreational fishers, Māori, tourist operators, community groups and environmentalists, laboured for 10 years to complete a package of measures for the integrated management of Fiordland's fisheries and marine environment. They then persuaded the government to implement their package of measures, wholesale. While the Fiordland Act 2005 was the key implementing measure, the government also amended fisheries regulations, and committed several of its core departments to work-streams involving the completion of various non-legislative measures to fully implement the package.

Conventional property theory regarding common pool resources such as fisheries suggests that collective action such as that undertaken by the Guardians is unlikely. The aim of this article, therefore, is to provide an insight into why the Fiordland Act 2005 and its accompanying measures were put into place. In doing so, the article addresses the questions of why the Guardians chose collective action to produce this result, why it worked, and also why the government considered the Guardians' strategy worth implementing.

Addressing these questions is important because the Guardians' approach has implications for how marine resources are to be regulated in the future. Although it can probably be seen as a special case given the particular circumstances involved, it is nonetheless considered by many a model of how to regulate in other areas of New Zealand's marine environment. The Guardians themselves see their process as providing a way forward, insisting it can be replicated in other parts of New Zealand, and Mark Solomon, chairman of the Ngai Tahu iwi, has suggested he will advocate for use of the Guardians' model in the Kaikoura and Marlborough regions.<sup>1</sup> The Fiordland Act 2005 received unanimous support in Parliament, with politicians from all sides of the House lauding the Guardians' approach.<sup>2</sup> Thus, any future change in government is unlikely to result in hostility toward similar approaches used elsewhere.

Importantly, the Guardians' approach is seen by government as a way of implementing its evolving marine management policy. Upon accepting the Guardians' draft strategy in October 2002, the then Minister of Fisheries, Hon Pete Hodgson MP, noted particular interest in the Guardians' approach because it coincided with "a shift in government thinking about the management of the marine environment...[toward] a growing effort to increase the level of integration and co-operation

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1 Peta Carey "Guardian Angels" (July 2004) *North & South Auckland* 70, 78.

2 See (14 December 2004) 662 NZPD 18059–18147 (first reading of the Fiordland Marine Management Bill 2004); (12 April 2005) 625 NZPD 19819–19986 (second and third reading of the Fiordland (Te Moana o Atawhenua) Marine Management Bill 2004).

in our management of the marine environment".<sup>3</sup> In 2004, when the Guardians had completed their strategy, the Minister acknowledged that the Guardians had achieved something central government had failed to do, and thus felt obliged to see their work translated into law.<sup>4</sup>

The shift towards integrated management of marine resources is clearly evident in two current policy developments: a review of oceans policy and the Marine Protected Areas Policy. A wide-ranging review of oceans policy has been underway since 1999, with its purpose being to establish an all-of-government framework for co-ordinating the management of New Zealand's marine environment, from its shores to the edge of its exclusive economic zone. The oceans policy seeks to address growing demand for access to, use, and protection of the marine environment and its resources.<sup>5</sup>

The Marine Protected Areas Policy brings together disparate processes for achieving marine protected areas into one inclusive planning process. It provides a scientific basis for achieving a representative range of marine protected areas, using a range of tools, including marine reserves and closures under the Fisheries Act 1996.<sup>6</sup>

Integrated management of marine resources is undoubtedly required if New Zealand is to secure the long-term sustainability of its oceans, but it entails reconciling the often conflicting activities of different interest groups. The Guardians' process, as observed by two commentators, provides a positive model of how stakeholders can be empowered to identify the management needs of an area, and work towards resolving conflicts in a collaborative way.<sup>7</sup>

With the current shift towards integrated management of New Zealand's marine environment, and the Guardians' approach widely seen as a way of implementing that kind of management, it is important to consider why the Guardians' approach worked, and why at the end of the day the government was willing to legitimise it through law.

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3 Hon Pete Hodgson, Minister of Fisheries "Forward Thinking for Fiordland's Marine Environment" (Speech, 12 October 2002) <<http://www.beehive.govt.nz>> (last accessed 7 October 2006).

4 Carey, above n 1, 78.

5 Department of Conservation *A Briefing to the New Minister of Conservation* (Department of Conservation, Wellington, 2005) 14.

6 See New Zealand Biodiversity "Marine Protected Areas" <<http://www.biodiversity.govt.nz/seas/biodiversity/>> (last accessed 28 October 2006).

7 Jacky Challis and Ann McCrone "Fiordland: A Model of Future Integrated Marine Management?" in *Seachange 05: Managing our Coastal Waters and Oceans* (Environmental Defence Society, Wellington, 2005) 9.

Some analysis of the Guardians' approach has already been done,<sup>8</sup> highlighting the roles of certain key individuals, the particular local factors at play, and strengths within the process itself to explain why the Guardians were successful.<sup>9</sup> But these are very much ex-post factors; things that enabled the process to work once underway. There is a preliminary question to consider, which is why the Guardians got underway in the first place. Similarly, merely citing the "moral weight" of a ground-up policy-making process and the Guardians' lobbying of politicians as reasons for government implementation of their strategy<sup>10</sup> does not properly explain the government's interest in modifying the regulatory regime over a key part of the New Zealand marine environment.

This article argues that the underlying social and economic conditions existing in Fiordland in 1995 and throughout the Guardians' deliberations are important determinants of why the Guardians formed, and why they successfully produced a package of measures satisfactory to all, including the government. It does not deny the importance of the ex-post factors cited above, or that similar factors are probably required to make a Guardians-type approach work elsewhere. Nevertheless, the article's ultimate conclusion is that any deliberations about whether to use a Guardians-type approach in other parts of New Zealand's marine environment must include not only an analysis of the ex-post factors, but also the underlying social and economic conditions that exist in that context. Without similar conditions to those in Fiordland at the relevant time, a Guardians-type approach, with all its expense, time and effort, may simply not come to pass.

The framework employed here to analyse the relevant social and economic factors is a public choice framework, which examines the incentives operating on individuals. In order to apply the framework, some understanding of Fiordland's fisheries and marine environment is required, including its human population and wider demographics. It is also important to consider the regulatory context when the Guardians formed, and the regulatory changes made as a result of their work. Part II sketches this detail, as well as providing a brief overview of the Guardians themselves and the strategy they designed to improve the management of Fiordland's fisheries and marine environment.

Part III then applies a public choice analysis, beginning with an examination of the resources themselves, and, in particular, the common pool losses occurring within specific fisheries and the wider marine environment as a result of market changes. It highlights the common pool losses that

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8 See Carey, above n 1, 78, which focuses on the particular personalities involved and the personal approach individual Guardians brought to the process; Challis and McCrone, above n 7.

9 For an extensive list of reasons behind the Guardians' success, see Challis and McCrone, above n 7, 4–5.

10 See Carey, above n 1, 78.

led to the Guardians' formation in the first place, and the more specific factors motivating the Guardians to organise for new regulatory arrangements. In addition to changes in market factors, it examines key changes in political preferences that brought the Guardians together, provided the incentives to reach a compromise between the divergent interests, and ultimately secured government support. Finally, it examines the characteristics of the Guardians themselves, as users of Fiordland's resources, to explain their success.

The article concludes by suggesting, on the basis of the Guardians' experience, what underlying factors need to exist in order for a Guardians-type process to work in other parts of the New Zealand marine environment.

## **II FIORDLAND, THE GUARDIANS AND THE REGULATORY CONTEXT**

### **A *Fiordland's Natural Environment and Human Population***

Fiordland is located on the south west coast of the South Island of New Zealand. As its name suggests, it consists of 14 fiords, which stretch inland for many kilometres from their entrances on the outer coast. Fiordland is rugged, isolated, and subject to extreme and changeable weather.

Due to its geological formation and climactic conditions, Fiordland is an area of outstanding natural beauty and abundant biological resources. The very heavy rainfall of the region creates a permanent freshwater layer above the sea water in the fiords. The freshwater is stained by tannins washed out of the vegetation which reduces the amount of light and restricts almost all of the marine life to the top 40 metres of water depth.<sup>11</sup> This 40 metre band is calm, very clear and relatively warm, and is home to sponges, corals and fish of sub-tropical, cool water and deep water varieties. The fiords support the world's biggest population of black coral trees of about seven million colonies, some of them up to 200 years old.<sup>12</sup> They are home also to brachiopods, primitive clam-like animals which have been bypassed by evolution, remaining unchanged in over 300 million years.<sup>13</sup> Fiordland's uniqueness resulted in it being declared a UNESCO World Heritage Area in 1990.<sup>14</sup>

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11 Department of Conservation *Fiordland National Park: General Information* (Department of Conservation, Invercargill, 2005) <<http://www.doc.govt.nz/Explore/001~National-Parks/>> (last accessed 7 October 2006) [Department of Conservation *Fiordland National Park*].

12 Department of Conservation *Fiordland National Park*, above n 11.

13 Department of Conservation *Fiordland National Park*, above n 11.

14 See UNESCO World Heritage Centre "Te Wahipounamu – South West New Zealand" <<http://whc.unesco.org/en/list/551>> (last accessed 9 October 2006).

The Fiordland National Park, at 1.2 million hectares, is the largest national park in New Zealand and is one of the largest in the world.<sup>15</sup> Local Māori have a long association with Fiordland, and view it as having very high cultural importance.<sup>16</sup> The area is also of wider historical significance as the site of important events in the early period of New Zealand's colonisation.<sup>17</sup> In addition, it is an important economic area, sustaining valuable commercial and recreational fisheries, and a booming tourist industry.

The most important commercial fisheries are rock lobster, pāua and blue cod, although species such as shark, groper, tuna, bluenose, scallops, kina and sea cucumber are also fished commercially.<sup>18</sup> Recreational fishers ply for the same species, although blue cod and rock lobster are the recreational fishers' main catch of choice.<sup>19</sup> In addition, Māori exercise customary fishing rights in the area.<sup>20</sup>

In spite of its isolation, Fiordland sustains a small but resilient human population. In 2001, the wider Southland region of which Fiordland is a part had a resident population of 28,716.<sup>21</sup> Fiordland's main town, Te Anau, is a permanent home to approximately 2,000 people.<sup>22</sup> In 2001, the median income of people in Southland was \$20,400 compared with \$18,500 for the rest of New

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15 Department of Conservation *Fiordland National Park*, above n 11.

16 Māori had settled in Fiordland as early as the 15<sup>th</sup> century. The area contained an important source of food, but also pounamu (greenstone or jade), which local Māori traded initially with other Māori and later with European settlers. In addition, New Zealand's highest mountain, Aoraki (Mt Cook), is situated within Fiordland National Park. Aoraki was originally a Māori god, through whose actions the South Island came to be created, and thus Fiordland features centrally within Māori creation stories. See Guardians of Fiordland's Fisheries *Beneath the Reflections: A Characterisation of Fiordland's Fisheries* (Ministry of Fisheries, Dunedin, 1999) 11–15 [Guardians *Beneath the Reflections*].

17 In the early 1800s, European sealers and whalers established stations in and around Fiordland, founding one of the New Zealand's earliest industries. From there, they traded and otherwise interacted with local Māori, and many went on to settle in New Zealand permanently. See generally Michael King *The Penguin History of New Zealand* (Penguin, Auckland, 2003) 122–123.

18 Guardians *Beneath the Reflections*, above n 16, 23–31.

19 Guardians *Beneath the Reflections*, above n 16, 23–31.

20 Laurel Tierney *Fiordland Marine Conservation Strategy: Te Kaupapa Atawhai O Te Moana o Atawhenua* (Guardians of Fiordland's Fisheries & Marine Environment Inc, 2003) 75 <<http://www.mfe.govt.nz/publications/biodiversity/fiordland-marine-strategy/>> (last accessed 9 October 2006) [Tierney *Fiordland Marine Conservation Strategy*].

21 Statistics New Zealand "Community Profiles" <[http://xtabs.stats.govt.nz/eng/statsbyarea/area\\_main.asp](http://xtabs.stats.govt.nz/eng/statsbyarea/area_main.asp)> (last accessed 9 October 2006) [Statistics New Zealand "Community Profiles"].

22 Statistics New Zealand "Community Profiles", above n 21.

Zealand.<sup>23</sup> Agricultural and fishery workers constitute 40 per cent of the occupational groups in Southland,<sup>24</sup> as against nine per cent of New Zealand's total workforce.<sup>25</sup> Tourism is another major industry in the area, with services catering for the annual influx of tourists, such as the 300,000 people each year who visit Milford Sound alone.<sup>26</sup>

The lack of road access to most of the fiords means that the bulk of human activity occurs in and around Milford Sound, Lake Te Anau and Lake Manapouri, all of which attract fishers, boaters, divers, trampers and general holiday-makers. Te Anau's population swells in the summer months, with both holiday-makers and seasonal workers who arrive to help cater for summer visitors.

In the mid 1990s, an identifiable increase in human activity within Fiordland was evident, with a corresponding decrease in fish stocks and increase in threats to the marine environment. It is in this context that the Guardians formed to develop a strategy for the integrated management of Fiordland's fisheries and marine environment.

### ***B The Guardians and their Strategy***

Initially established as a local fisheries liaison committee under the auspices of the Ministry of Fisheries, the Guardians formed in December 1995. Initial members consisted of representatives from the major commercial fisheries (pāua, wetfish (blue cod) and rock lobster), the Southland Recreational Fisheries Association on behalf of recreational fishers and divers, charter boat representatives, and Ngāi Tahu from the Murihiku and Kati Waewae runanga.<sup>27</sup> Helicopter operators later joined and local community interests came to be represented (existing members also had wider community interests and were members of other local community organisations). Environmental interests were not explicitly represented within the Guardians until 2000, when a

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23 Statistics New Zealand "Community Profiles", above n 21.

24 Statistics New Zealand "Community Profiles", above n 21.

25 Statistics New Zealand "Labour Force" <<http://www.stats.govt.nz/quick-facts/people/labour-force.htm>> (citing statistics from *The New Zealand Official Yearbook 2000*) (last accessed 9 October 2006).

26 Ministry for the Environment "Implementing the Fiordland Marine Conservation Strategy" <<http://www.mfe.govt.nz/issues/biodiversity/fiordland/>> (last accessed 7 October 2006) [Ministry for the Environment "Implementing the Fiordland Marine Conservation Strategy"].

27 "Runanga" are the bodies established by Māori along tribal or sub-tribal lines, which are often given authority to exercise particular statutory or other rights. In the case of Fiordland, responsibility for kaitiakitanga (guardianship) within Fiordland's marine coastal area lies primarily with the tangata whenua (local people) represented by Oraka/Aparima, with support from four other Murihiku (Southland) runanga (Awarua, Waihopai and Hokonui). These four runanga appoint 32 tangata tiaki-kaitiaki, each with the right and responsibility to manage customary fishing across Murihiku: Tierney *Fiordland Marine Conservation Strategy*, above n 20, 76

representative from the Department of Conservation joined, and in 2002 the Royal Forest and Bird Protection Society (Forest and Bird) approved a member.<sup>28</sup>

Collectively, the Guardians held a great deal of knowledge and experience about Fiordland's fisheries and marine environment, which they had gained by working in the area. The Guardians worked on a voluntary basis, meeting in their own time and at their own cost,<sup>29</sup> although the group did receive financial support in 2000 by way of a grant from the Ministry for the Environment.<sup>30</sup>

According to the Guardians themselves, concern about a number of issues affecting Fiordland's fisheries and marine environment and confidence that these could be best resolved at the local level were the primary motivating factors in their formation. Reversing the local and serial depletion of Fiordland's fish stocks was initially the group's primary focus, but after working for several years they came to see that this problem was inextricably linked to problems facing the wider environment. As a result, the Guardians identified the need for a holistic approach to management and broadened their mandate in 2000 to explicitly include the marine environment.<sup>31</sup>

After seven years of information gathering, deciding on management objectives and designing management mechanisms, the Guardians released a draft strategy in October 2002 and a finalised version in September 2003: the *Fiordland Marine Conservation Strategy: Te Kaupapa Atawhai o Te Moana Atawhenua*. The strategy laid out the management measures that the Guardians considered necessary for the integrated management of Fiordland's marine resources. It contained recommendations with respect to fisheries, values of special significance within the marine environment, risks to the marine environment, the expression of kaitiakitanga (stewardship) by Māori, implementation, monitoring, compliance, and the role for the Guardians in future governance arrangements.<sup>32</sup> At the ceremony in Te Anau on 6 September 2003 in which the Guardians presented their final strategy to the Ministers of Fisheries and for the Environment, the Ministers committed the government to implementing the strategy by September 2005.<sup>33</sup>

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28 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 19–20.

29 Carey, above n 1, 78: Two members estimate they spent hundreds of days at meetings and over \$70,000 in toll calls, fuel used to travel to and from meetings and lost revenue.

30 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 22.

31 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 20, 31.

32 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 1–4.

33 Ministry for the Environment *Implementing the Fiordland Marine Conservation Strategy: Report of the Fiordland Marine Conservation Strategy Investigative Group* (Ministry for the Environment, Wellington, 2004) 2 [Ministry for the Environment *Report of the Investigative Group*].



### C *The Regulatory Environment: Before and After the Guardians*

Later in 2003, the government established an Investigative Group to report on the most effective means of implementing the Guardians' strategy.<sup>34</sup> Its 2004 report recommended enacting special legislation to implement the Guardians' strategy, along with amendments to existing commercial and recreational fishing regulations, and a range of non-legislative measures relating to issues such as education and monitoring.<sup>35</sup>

Following Cabinet's acceptance of the Investigative Group's report in September 2004, the drafting of new legislation and regulations began.<sup>36</sup> The Minister for the Environment introduced the Fiordland Marine Management Bill 2004<sup>37</sup> into Parliament on 17 December 2005 and referred it to the Fisheries and Other Sea-related Legislation Select Committee (FOSL Committee), giving them a very short reporting deadline of 4 April 2004. Although such attempts by the executive to fast-track the legislative process can sometimes encounter resistance in Parliament, in this instance the Bill was supported by all parties in Parliament, and consequently passed its first reading without incident.<sup>38</sup>

The FOSL Committee met its reporting deadline, recommending technical changes only.<sup>39</sup> On 13 April 2005, the Bill was included in an urgency motion and thus had its second reading, Committee of the Whole House consideration and third reading all in the same parliamentary session. No substantive changes were made to the Bill, which passed with unanimous support.<sup>40</sup>

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34 The Investigative Group was led by the Ministry for the Environment, and included the Department of Conservation, the Ministry of Fisheries, the Maritime Safety Authority, Environment Southland, the Guardians, Te Runanga o Ngai Tahu and other agencies and organisations as necessary to support the group's work: Cabinet Paper "Implementation of the Fiordland Marine Conservation Strategy" (12 November 2003) POL (03) 29/6; CAB (03) 38/4.

35 See generally Ministry for the Environment *Report of the Investigative Group*, above n 33.

36 Cabinet Paper "Implementation of the Fiordland Marine Conservation Strategy" (12 November 2004) POL (04) 22/7; CAB (04) 31/4.

37 Fiordland Marine Management Bill 2004, no 239-1.

38 (14 December 2004) 662 NZPD 18059–18147 (first reading of the Fiordland Marine Management Bill 2004, no 239-1).

39 Fiordland (Te Atawhenua o Moana) Marine Management Bill 2004, no 239-2.

40 (12 April 2005) 625 NZPD 19819–19986 (second and third reading of the Fiordland (Te Moana o Atawhenua) Marine Management Bill 2004).

At the same time as passing the Bill, which came into force on 20 April 2005,<sup>41</sup> the government amended the commercial and recreational fisheries regulations that applied in Fiordland, with the changes coming into force on 30 June 2005.<sup>42</sup> It also finalised the non-legislative measures that core departments would undertake to fully implement the Guardians' strategy.

Taken together, the Fiordland Act 2005, the amended fisheries regulations, and the non-legislative measures changed (or will change) the regime governing Fiordland's fisheries and marine environment to give effect to the measures contained in the Guardians' strategy. First and foremost, the Fiordland Act 2005 established and defined the Fiordland (Te Moana o Atawhenua) Marine Area (the Fiordland Marine Area) in which the new management measures would apply.<sup>43</sup> The key changes, described briefly below, related to fisheries, the marine environment and governance.

### *1 Commercial fishing*

As it does in all parts of New Zealand, the Fisheries Act 1996 regulates the most important aspects of Fiordland's commercial fisheries. The Act establishes a broad framework for managing commercial fishing, and purports to do so in accordance with its overall purpose, which is to provide for the utilisation of fisheries resources while ensuring sustainability.<sup>44</sup> Sustainability refers to both sustaining the harvest as well as managing the adverse effects of fishing on the environment.<sup>45</sup>

Commercial fishing is primarily managed by the quota management system established under Part 4 of the Fisheries Act 1996.<sup>46</sup> Quota management areas are defined and regulations determine which fish species are subject to the quota management system within each quota management area, and what the total allowable catch is for each species. The Minister of Fisheries sets a total allowable commercial catch, which is a subset of the total allowable catch, for each species in each quota management area.<sup>47</sup> The Chief Executive of the Ministry of Fisheries is then responsible for

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41 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, s 2.

42 Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Amendment Regulations 2005; Fisheries (Southland and Sub-Antarctic Areas Amateur Fishing) Amendment Regulations 2005.

43 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, s 6, schs 1–2.

44 Fisheries Act 1996, s 8.

45 Fisheries Act 1996, s 8(2).

46 A quota management system had been in place prior to the passage of the Fisheries Act 1996, but was carried over into that Act with some amendment.

47 Fisheries Act 1996, s 20.

allocating an individual transferable quota to individual fishers.<sup>48</sup> The individual transferable quota generates an annual catch entitlement designated in tonnes of fish at the start of each fishing year, which is then allocated to the owner of the individual transferable quota.<sup>49</sup> The holders of an annual catch entitlement can either use it to cover their catch of the relevant fish stock, or sell it to other fishers.<sup>50</sup> Fiordland falls within the Southern Region quota management area, although it constitutes its own quota management area for pāua.

In accordance with the Guardians' strategy, the commercial fishing regulations governing the area were amended to impose a total prohibition on commercial fishing within the internal fiords.<sup>51</sup> The regulations do permit certain activities in relation to the holding of live rock lobster and the storage of empty rock lobster cages and pots within the inner fiords, but these activities are subject to the prohibitions, restrictions and conditions applying to the marine reserves established in the Fiordland Marine Area (see Part II 4 below).<sup>52</sup>

## 2 Recreational fishing

Like commercial fishing, recreational fishing is regulated through the Fisheries Act 1996. Recreational fishing interests are explicitly recognised in the Act, and when setting or varying a total allowable commercial catch, the Minister of Fisheries must have regard to the total allowable catch and allow for recreational interests.<sup>53</sup> In addition, the Minister must consult with recreational fishing interests before he or she sets or varies the total allowable catch or total allowable commercial

48 Fisheries Act 1996, s 47. Sections 42–50 govern who is eligible to receive a quota (section 45), how quotas are allocated (section 47) and what happens to unallocated quotas (section 49). Twenty per cent of the total quota is automatically allocated to Te Ohu Kai Moana Trustee Limited in accordance with the terms of the 1992 Treaty of Waitangi Fisheries Claims Settlement between the Crown and Māori (s 44). The remaining 80 per cent of the quota was originally allocated on the basis of provisional catch history over the 1990/91 and 1991/92 fishing years. While some quotas continue to be based on fishers' catch history, the Crown now distributes most new quotas through tendering for sale at market value: see Ministry of Fisheries *Briefing for the Minister of Fisheries* (20 September 2005) 71 <<http://www.fish.govt.nz/en-nz/Publications/>> (last accessed 28 October 2006).

49 Fisheries Act 1996, ss 66–67.

50 Fisheries Act 1996, ss 133–134. In addition, section 132 enables quota owners to transfer their individual transferable quotas to other fishers. Sections 136–146 governs quota holders' ability to mortgage their individual transferable quotas or ACEs and ss 148–152 govern the placing of caveats on individual transferable quotas and ACEs. Leasing of either individual transferable quotas or ACEs is not allowed (s 135).

51 Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Amendment Regulations 2005, regs 4(1), 4(2).

52 Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Amendment Regulations 2005, reg 4(3).

53 Fisheries Act 1996, ss 20–21.

catch.<sup>54</sup> Day-to-day recreational fishing is managed by regulations made pursuant to the Fisheries Act 1996, which sets a range of restrictions, primarily daily bag limits, catch method restrictions, size limits and seasonal closures.<sup>55</sup>

The Fishing (Amateur Fishing) Regulations 1986 are the principal regulations governing recreational fishing in New Zealand. Recreational fishers in Fiordland, both individuals and large charter operators, are subject to the amateur fishing regulations. The amended regulations implement the Guardians' recommended bag limits and other restrictions on recreational fishers in Fiordland. For example, they prohibit the taking of blue cod from certain areas of Milford and Doubtful Sounds for a two-year period beginning 30 June 2005,<sup>56</sup> and otherwise impose stricter limits on the numbers of certain species of fish that may be taken by recreational fishers in the Fiordland Marine Area.<sup>57</sup> They also specify restrictions and prohibitions on the possession, use or setting of certain fishing equipment in the Fiordland Marine Area,<sup>58</sup> and update the offences and penalties associated with the regulations.<sup>59</sup>

### 3 Customary fishing

Non-commercial customary fishing rights are recognised by the Crown in accordance with the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992. The Fisheries Act 1996 provides the customary fisheries management tools and processes available to Māori to exercise their customary fishing rights. Customary fishing regulations provide a framework for ensuring customary fishing takes place under the kaitiakitanga of guardians appointed by and accountable to local Māori.

Local Māori in Fiordland exercise their customary fishing rights in accordance with regulations made under the Fisheries Act 1996, specifically the Fisheries (South Island Customary Fishing) Regulations 1998, which allow Māori to gather seafood for customary food-gathering purposes and

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54 Fisheries Act 1996, ss 12, 21.

55 Fisheries Act 1996, s 11(1). The Minister of Fisheries can set and vary sustainability measures. Without limiting the generality of section 11(1), section 11(3) defines sustainability measures as including measures relating to catch limit, the size, sex or biological state of stock, the areas from which any stock may be taken, fishing methods and fishing seasons. Section 11(4) enables the Minister to implement and vary sustainability measures by placing a notice in the *Gazette* or by regulation under section 298. Section 297 also contains a general regulation-making power under which the Minister can place management restrictions on recreational fishing.

56 Fisheries (Southland and Sub-Antarctic Areas Amateur Fishing) Amendment Regulations 2005, reg 4.

57 Fisheries (Southland and Sub-Antarctic Areas Amateur Fishing) Amendment Regulations 2005, reg 6.

58 Fisheries (Southland and Sub-Antarctic Areas Amateur Fishing) Amendment Regulations 2005, reg 6.

59 Fisheries (Southland and Sub-Antarctic Areas Amateur Fishing) Amendment Regulations 2005, reg 7.

to gazette maitaitai reserves.<sup>60</sup> Moreover, in 1998, the South Island iwi Ngai Tahu reached its own settlement with the Crown. Due to the importance of Fiordland to local Ngai Tahu, Te Mimi o Tu Te Rakiwhanoa (the Fiordland Coastal Marine Area) was named a statutory acknowledgement area as part of the settlement.<sup>61</sup> As such, local Māori have a stake in the area's management, although the requirements are largely procedural.<sup>62</sup> In addition to establishing maitaitai reserves, other tools available to tangata whenua include section 168B temporary closures<sup>63</sup> and taiāpure.<sup>64</sup>

In 1996, the levels of customary fishing in Fiordland were not considered significant, although, given Ngai Tahu's statutory rights, it was recognised that customary fishing levels could increase over time.<sup>65</sup> To protect Fiordland's fisheries and marine environment, the Guardians' main concern was for Māori to practise kaitiakitanga when exercising their customary rights. The strategy identified the existing statutory mechanisms as an appropriate way for kaitiakitanga to be expressed and recommended no significant changes to the customary rights framework within Fiordland. Nonetheless, it did recommend the use of specific customary fishing measures to help protect certain fisheries and parts of the marine environment.<sup>66</sup>

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60 Fisheries (South Island Customary Fishing) Regulations 1999, reg 11. Maitaitai reserves are areas where the tangata whenua (local Māori) manage all non-commercial fishing by making bylaws, which must apply equally to all individuals. Maitaitai reserves may only be applied for over traditional fishing grounds and must be areas of special significance to the tangata whenua. Generally, there is no commercial fishing within maitaitai reserves. See Fisheries (South Island Customary Fishing) Regulations 1999, regs 17–29.

61 Ngai Tahu Claims Settlement Act 1998, s 313, sch 102.

62 Ngai Tahu Claims Settlement Act 1998, sch 1. The purposes of the Te Mimi o Tu Te Rakiwhanoa statutory acknowledgement are: (a) to require that consent authorities forward summaries of resource consent applications to Te Runanga o Ngai Tahu as required by regulations made pursuant to section 207 (clause 12.2.3 of the deed of settlement); (b) to require that consent authorities, the Historic Places Trust, or the Environment Court, as the case may be, have regard to this statutory acknowledgement in relation to Te Mimi o Tu Te Rakiwhanoa, as provided in sections 208–210 (clause 12.2.4 of the deed of settlement); and (c) to enable Te Runanga o Ngai Tahu and any member of Ngai Tahu Whanui to cite this statutory acknowledgement as evidence of the association of Ngai Tahu to Te Mimi o Tu Te Rakiwhanoa as provided in section 208 (clause 12.2.5 of the deed of settlement).

63 Section 168B of the Ngai Tahu Claims Settlement Act 1998 allows temporary closures of areas and restrictions of fishing methods much the same as traditional rahui (ban). The difference is that rahui remain in place for the length of time required to achieve the objective of the closure, whereas section 168B closures are limited to a period of two years with a possible two-year extension.

64 Taiāpure are coastal waters of special significance to iwi or hapu as a source of food or for spiritual or cultural reasons. A management committee nominated by the local Māori authority has the role of recommending fishing controls for the area. In this sense, taiāpure is an area management tool. See Tierney *Fiordland Marine Conservation Strategy*, above n 20, 75.

65 Guardians *Beneath the Reflections*, above n 16, 45.

66 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 77.

#### 4 *The marine environment*

While management of the issues facing Fiordland's fisheries was the Guardians' initial focus, they came to see Fiordland's marine environment as also requiring a more integrated management approach. The Guardians recognised that increased harvesting pressure threatened more than just the levels of fish stocks: it also posed risks to what they considered Fiordland's unique biodiversity and marine environment.<sup>67</sup> Fishing threatened communities of non-fish species endemic to Fiordland, such as brachiopods and high density corals growing near the surface, as did practices associated with fishing, such as anchoring, with the potential to physically damage species' habitats. Also, the possible side effects of an increasing number of people within the fiords posed very significant threats to the marine environment, such as bio-invasion by unwanted pests and pollution.<sup>68</sup>

To protect what they considered to be values of special significance within Fiordland, the Guardians identified 23 "china shops" (small discrete areas outstanding for the abundance or diversity of animal or mixed animal and plant communities, or for the abundance of particular animal species) and seven "representative areas" (areas or fiords that contain a range of habitats, and communities, and diversity representative of Fiordland's marine environment). To protect these areas, they recommended turning some of them into marine reserves while simply prohibiting certain activities in others. Implementing these changes involved amendments to the governance regime imposed by the Resource Management Act 1991 (RMA) and the Marine Reserves Act 1971.

The RMA is the primary piece of legislation governing the use of natural resources in New Zealand. As such, it is central to the management of Fiordland's marine environment. Its primary purpose is to promote the sustainable management of natural and physical resources, which, like the Fisheries Act 1996, clearly defines it as a multiple use statute.<sup>69</sup>

The RMA prohibits any person from undertaking activities in the coastal marine area unless expressly allowed by a rule in a regional coastal plan or a resource consent.<sup>70</sup> Regional councils are required to control activities in the coastal marine area within their jurisdiction,<sup>71</sup> and to prepare a regional coastal plan containing rules, objectives, policies and methods for achieving sustainable

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67 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 49–51, 64.

68 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 64–74.

69 Resource Management Act 1991, s 5.

70 Resource Management Act 1991, s 12.

71 Resource Management Act 1991, s 30. Regional councils are established under Part 3 of the Local Government Act 2002. While they obtain their status and principal functions and powers from that Act, the Resource Management Act 1991 makes them primarily responsible for day-to-day environmental management in New Zealand. Regional councils in their current form have existed since the late 1980s and their predecessor organisations had similar functions and powers.

management of the coastal marine area.<sup>72</sup> They are also responsible for receiving and processing applications for resource consent to undertake activities in the coastal marine area. They must evaluate them in accordance with the rules in the regional coastal plan. They are responsible for monitoring approved activities and enforcing any conditions placed on the grant of a resource consent.<sup>73</sup>

Environment Southland is the regional council in whose jurisdiction responsibility for the Fiordland coastal marine environment falls. The Fiordland Act 2005 deemed the Southland Regional Coastal Plan amended in the manner set out in the Act.<sup>74</sup> Schedule 12 inserted references into the Southland Regional Coastal Plan recognising the Guardians, the process they undertook and the content of their strategy. It also inserted changes, by way of specific objectives and policies, that enabled Environment Southland to implement coastal planning and management measures relating to consents, vessel anchoring, diving activities, biosecurity and china shop rules, all in accordance with the Guardians' strategy.

The amendments made by the Fiordland Act 2005 to the Southland Regional Coastal Plan implemented the Guardians' strategy as written, but placed no limits on the scope or timing of future plan amendments. Indeed, section 11(3) of the Act explicitly saves the RMA provisions relating to regional plan amendment and variation as they apply to the Southland Regional Coastal Plan. Nonetheless, the Fiordland Act 2005 builds additional requirements into the amendment procedures to ensure the ongoing involvement of local resource users.<sup>75</sup> This satisfies the Guardians' desire to have their strategy implemented as an integrated whole, while allowing for flexible management by government agencies and locals to account for changing conditions, an objective identified as important by both government officials and the Guardians themselves.<sup>76</sup>

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72 Resource Management Act 1991, s 64.

73 Resource Management Act 1991, s 35(2)(d).

74 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, s 11, sch 12. Section 11 also clarifies the Act's effects vis-à-vis the Resource Management Act 1991, stating when the Southland Regional Coastal Plan amendments will become operative, and how they can be amended and varied. It also determines that the Plan amendments do not require Minister of Conservation approval under sections 18 and 19 of the Resource Management Act 1991, although subsequent amendments or variations do.

75 See Part II C 5 Governance and non-legislative measures, below, with regard to the functions of the Fiordland Marine Guardians established under section 12 of the Fiordland Act 2005.

76 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 82–83: this expresses the Guardians' desire for special legislation to guarantee the balance of trade-offs in their strategy while providing flexibility for future management needs; Ministry for the Environment *Report of the Investigative Group*, above n 33, 18: this expresses the Investigative Group's view that special legislation, a component of which amends the Southland Regional Coastal Plan in accordance with the Guardians' strategy, will meet community expectations while providing better mechanisms to improve future management of Fiordland.

The Marine Reserves Act 1971, unlike the Fisheries Act 1996 and the RMA, is not a multiple use statute. Instead, it provides for the establishment of marine reserves, in which fishing and other activities that threaten either marine life or its habitat are prohibited. Administration, management and control of marine reserves are in accordance with measures available under the Marine Reserves Act 1971,<sup>77</sup> which override any measures in place under the RMA or Fisheries Act 1996.

Marine reserves are created under the Act via an administrative process involving the Department of Conservation.<sup>78</sup> Once created, the Department of Conservation is then tasked with managing marine reserves so that as far as possible they are preserved in their natural state, that marine life in the reserves is protected and preserved, and that the value of the reserves as the natural habitat of marine life is maintained. Commercial, recreational and customary fishing is prohibited unless specifically provided for in the regulations establishing a particular marine reserve, or specifically permitted by the Director-General of Conservation.<sup>79</sup> There is a range of penalties for actions that threaten the marine habitat within marine reserves.<sup>80</sup>

Two marine reserves existed in Fiordland in 1995, both established in October 1993: the Piopiotahi (Milford Sounds) Marine Reserve, covering 690 hectares and protecting the northern side of Milford Sound,<sup>81</sup> and the Te Awaatu Channel (The Gut) Marine Reserve, protecting 93 hectares of Doubtful Sound (an area with the highest diversity of species known in the fiords).<sup>82</sup> The Fiordland Act 2005 established eight new marine reserves within the inner fiords to protect the

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77 Marine Reserves Act 1971, s 9.

78 Marine Reserves Act 1971, s 5. Once the Director-General of Conservation receives an application to create a marine reserve (which he or she can initiate), he or she is required to publish public notices of the application and invite submissions of opposition. Notice in writing must be given by the applicant to any owner of land adjoining the proposed reserve, any harbour board in whose jurisdiction any part of the proposed reserve falls, any local authority in which control is vested of any area in which any part of the proposed reserve falls, and the chief executives of the Ministries of Transport and Fisheries. Within specific time-frames, the applicant must answer any objections and the Director-General must forward those objections and answers to the Minister of Conservation. The Minister is given fairly wide discretion whether or not to uphold any objection, but must do so under certain circumstances, in which case the marine reserve is not created. If the Minister chooses not to uphold any objections, he or she must move to promulgate a regulation creating the marine reserve, with or without conditions.

79 Marine Reserves Act 1971, ss 3(3), 5(9), 11(b).

80 Marine Reserves Act 1971, s 19.

81 See Department of Conservation "Piopiotahi (Milford Sound) Marine Reserve" <<http://www.doc.govt.nz/Conservation/Marine-and-Coastal/Marine-Reserves/>> (last accessed 7 October 2006).

82 See Department of Conservation "Te Awaatu Channel (The Gut) Marine Reserve" <<http://www.doc.govt.nz/Conservation/Marine-and-Coastal/Marine-Reserves/>> (last accessed 7 October 2006).



representative areas and china shops defined in the Guardians' strategy,<sup>83</sup> taking the total coverage of marine reserves from just under 800 hectares to over 10,000 hectares.

The marine reserves created by the Fiordland Act 2005 are deemed to be marine reserves for the purposes of the Marine Reserves Act 1971, adopting that Act's regulatory procedure for use in the Fiordland Marine Area. It is not an absolute adoption, however, as the Marine Reserves Act 1971 applies subject to any modifications set out in the Fiordland Act 2005.<sup>84</sup> In compliance with the Guardians' strategy, the Fiordland Act 2005 names and describes each marine reserve, outlines the permitted and prohibited activities (if any), and defines precisely the areas within each marine reserve where those activities are permitted or prohibited.<sup>85</sup>

Importantly, the Fiordland Act 2005 also places a moratorium on the creation of any further marine reserves with the Fiordland Marine Area within seven years of the Fiordland Act 2005 coming into force, or until the completion of a ministerial review conducted in accordance with the Fiordland Act 2005.<sup>86</sup>

##### 5 Governance and non-legislative measures

The final key change made by the Fiordland Act 2005 is the establishment of the Fiordland Marine Guardians as a statutory body to advise officials about management of Fiordland's marine resources.<sup>87</sup> Establishing the Fiordland Marine Guardians gives effect to the Guardians' objective of securing a greater role in the management of Fiordland's fisheries and marine environment for local users of the resource. This newly created statutory body is different from the original Guardians, although its composition is similar: seven of its eight initial members were previously members of the Guardians.<sup>88</sup>

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83 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, s 7, schs 4–11.

84 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, ss 8(1), 8(2).

85 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, schs 4–11. Schedule 3 states the general conditions that apply to all eight marine reserves, namely the authority for members of Ngai Tahu Whanui to take pounamu and marine mammals, and the authority for aircraft to take off and land. Schedule 3(4) also makes clear that those conditions, as well as those contained in schedules 4–11, are subject to any consent requirements in the Southland Regional Coastal Plan.

86 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, s 10. Section 25(1) requires the Minister for the Environment to initiate a review to determine the effectiveness of the management of the Fiordland (Te Moana o Atawhenua) Marine Area five years after commencement of the Act. The section also contains consultation, appointment and reporting requirements relating to the review.

87 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, s 12.

88 A complete list of the appointees to the Fiordland Marine Guardians can be found in Hon Marian Hobbs, Minister for the Environment "New Fiordland Guardians Appointed" (8 July 2005) Press Release.

The Fiordland Act 2005 defines the functions of the Fiordland Marine Guardians as including the provision of advice and recommendations to management agencies and Ministers,<sup>89</sup> facilitating and promoting integrated management of the Fiordland Marine Area, obtaining, sharing and monitoring information on the state of the Area, and assisting management agencies to monitor the state of its marine environment and biological diversity.<sup>90</sup>

While these functions appear largely advisory and process oriented, the Fiordland Marine Guardians' deliberations do have some statutory backing, as management agencies are required to take the group's advice and recommendations into account when exercising their powers and functions in the Fiordland Marine Area. This does not require management agencies to implement the Fiordland Marine Guardians' advice and recommendations wholesale, but nor can management agencies simply ignore them. Furthermore, the Fiordland Marine Guardians have recourse to the Minister for the Environment if they consider management officials are not acting in a way that facilitates and promotes cooperation to assist in achieving integrated management of the Fiordland Marine Area.<sup>91</sup>

Finally, the non-legislative measures to be implemented by the management agencies, in conjunction with the Fiordland Marine Guardians, will fully implement the Guardians' strategy. The implementation of these measures will begin in the 2006/07 financial year,<sup>92</sup> with the major work-programmes encompassing education about the new rules, monitoring, compliance and enforcement, and reducing biosecurity risks.<sup>93</sup>

#### **D Summary**

This part provides an overview of the context in which the Guardians began their work, who they were, the outcome of their work, and the changes made by government to the regulation of Fiordland's fisheries and marine environment as a result. Before moving to considering why the

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89 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, s 13(1)(a), sch 13: management agencies and ministers are those central and local government officials and Ministers of the Crown who exercise functions under the enactments listed in schedule 13, namely the Fisheries Act 1996, Resource Management Act 1991, Marine Reserves Act 1971, Biosecurity Act 1993 and Environment Act 1986, in relation to the Fiordland (Te Moana o Atawhenua) Marine Area. In practice this means the Fiordland Marine Guardians will be primarily advising officials from the Ministry of Fisheries, Ministry for the Environment, Department of Conservation, Marine Biosecurity Agency and Environment Southland.

90 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, ss 13(1)(b), (c), (d)(ii).

91 Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, s 27(3).

92 See Ministry for the Environment "Implementing the Fiordland Marine Conservation Strategy", above n 26, "Process and Timetable for Implementation".

93 See Ministry for the Environment "Implementing the Fiordland Marine Conservation Strategy", above n 26, "Administrative Measures".

Guardians formed in that context, and why their approach was successful, it is worth emphasising several factors that serve as the meta-frame for the analysis in Part III.

First and foremost is the importance of fisheries and the marine environment to the livelihoods of those who live in and around Fiordland. Agricultural and fishery workers comprise a significantly higher occupational group in the area than in other parts of New Zealand. Furthermore, tourism is a very important industry and is almost entirely based on the existence and accessibility of the natural environment for fishing and other recreational activity.

The importance of Fiordland's fisheries and marine environment to the livelihoods of Fiordland residents highlights the importance of the changes made to the regulatory regime. Commercial fishers agreed to exclusion from the inner fiords,<sup>94</sup> in return for which recreational fishers agreed to cut their daily bag limit and to a rule of "no accumulation".<sup>95</sup> Accumulation refers to the ability of recreational fishers on fishing trips of more than one day to fish their daily bag limits each day. This allows fishers to aggregate their catches across more than one day, hiding the fact that they may take more than their daily catch on one given day. It also allows them to accumulate catch for non-fishers on the trip. A rule of no accumulation restricts fishers to the daily limit for the length of the trip, thereby reducing the overall possible catch.<sup>96</sup>

Regarding the marine environment, the recommended protection for china shops and representative areas, including the use of marine reserves, is noteworthy for the increase in protected areas and the breadth of protection. At the same time, however, the Fiordland Act 2005 did impose a moratorium on the establishment of new marine reserves for seven years, which ties agencies' hands should new evidence come to light about the adverse impact of human activities on Fiordland's fisheries and marine environment.

In terms of governance, while the Fiordland Act 2005 does not give the Fiordland Marine Guardians a formal veto role in the management of the Fiordland Marine Area, it does ensure their ongoing involvement at the core of policy formation and decision-making. It remains to be seen whether the "moral" force behind the Fiordland Marine Guardians' role effectively turns them into veto players, with management officials unwilling to act without their consent.

With this background in mind, the next part of this article turns to examining the social and economic factors that motivated the Guardians to form in the first place, to organise collectively for

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94 Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Amendment Regulations 2005, regs 4(1), 4(2).

95 Fisheries (Southland and Sub-Antarctic Areas Amateur Fishing) Amendment Regulations 2005, regs 4, 6, 7.

96 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 45.

new regulation of Fiordland's fisheries and marine environment, and which ultimately helped ensure the success of their process, including securing the government's support to implement their strategy.

### **III WHY COLLECTIVE ACTION IN THIS INSTANCE?**

The Guardians initially identified as their primary concern the ongoing depletion of fish stocks, and later came to see the associated threats to Fiordland's marine environment as a problem requiring additional management.<sup>97</sup> These two things – depletion of fish stocks and threats to the marine environment – can be classed as common pool losses, that is, resource depletion in an open access or common pool setting. Conventional property theory suggests that collective action by resource users can prevent or minimise common pool losses, but the lack of incentives to organise collectively means that this often fails to occur.<sup>98</sup>

Nonetheless, examples abound where collective action has successfully overcome or mitigated common pool losses, and a substantial literature exists examining when and in what circumstances this occurs.<sup>99</sup> One strand of this literature employs a public choice analysis and examines the incentives that lead resource users, politicians and bureaucrats to define new property rights arrangements over a given resource. As such, it is useful for identifying many of the underlying economic and social conditions that help to explain why collective action may work to overcome common pool losses in a given situation.

One example of a public choice analysis is that undertaken by Gary Libecap in his book *Contracting for Property Rights*.<sup>100</sup> Libecap's analytical framework poses the questions to consider when seeking to understand why resource users succeed or fail when they try to mitigate common pool losses by using collective action to secure new property rights over a particular resource. He then applies this analytical framework to four situations where common pool losses were occurring

97 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 33.

98 For the seminal article setting out and explaining the tragedy of the commons, see Garrett Hardin "The Tragedy of the Commons" (1968) 162 *Science* 1243; for a more recent exposition of the problems facing collective action as a means of overcoming common pool losses, see Carol M Rose "Rethinking Environmental Controls: Management Strategies for Common Resources" (1991) 1 *Duke LJ* 1, 2–5.

99 See for example Mancur Olson *The Logic of Collective Action: Public Goods and the Theory of Groups* (Harvard University Press, Cambridge (Mass), 1965); Elinor Ostrom *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press, Cambridge (New York), 1990); Carol M Rose "Property as Storytelling: Perspectives from Game Theory, Narrative Theory and Feminist Theory" (1990) 2 *Yale J L & Human* 37; Carol M Rose, above n 98; Robert C Ellickson *Order Without Law: How Neighbors Settle Disputes* (Harvard University Press, Cambridge (Mass), 1991); Julia Wondolleck and Steven L Yaffee *Making Collaboration Work: Lessons from Innovation in Natural Resources Management* (Island Press, Washington, 2000); Jac C Heckelman and Dennis Coates *Collective Choice: Essays in Honour of Mancur Olson* (Springer-Verlag, Heidelberg, 2003).

100 Gary D Libecap *Contracting for Property Rights* (Cambridge University Press, Cambridge, 1993).

in a resource, and where resource users had differing levels of success in attempting to "contract"<sup>101</sup> for new property rights.<sup>102</sup>

This part analyses the situation in Fiordland using Libecap's framework to highlight the social and economic forces that led the Guardians to form and successfully organise to mitigate the common pool losses that were occurring in Fiordland's fisheries and marine environment. To this end, it further outlines Libecap's analytical framework and then examines the nature of the resources in 1995 and throughout the Guardians' deliberations, the patterns of resource use, the relationships between the Guardians themselves, and the Guardians' interaction with other important actors, particularly politicians.

In considering when collective action may succeed in overcoming common pool losses, Libecap considers two broad factors: the nature of the resource and the characteristics of the resource users. Common pool losses resulting from the nature of a particular resource, he says, will motivate individuals to contract for new property arrangements in an attempt to maximise a share of the rents saved by mitigating those losses. Once motivated to contract, their efforts are more likely to be successful when certain conditions exist between the resource users.<sup>103</sup>

To assist in analysing these factors, Libecap poses three questions that will help identify when individuals will contract for new or modified property arrangements, and when their contracting is likely to be successful:

- What are the losses of the common pool that motivate individuals to contract for property rights?<sup>104</sup>
- What factors lead to pressures to change existing property rights?<sup>105</sup>
- What can go wrong in contracting?<sup>106</sup>

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101 Libecap, above n 100, 4: Libecap uses the term "contracting" to describe efforts by individuals to assign or modify property rights, including bargaining among private individuals to change the rules regarding the allocation of property rights, as well as political negotiations among private actors, bureaucrats, politicians and judges.

102 Libecap, above n 100, 4: Libecap sets out his analytical framework in chapter two, and in chapters three to six applies it to past contracting in relation to mineral rights, changes in federal land policies, fisheries and the utilisation of oil fields.

103 Libecap, above n 100, ch 2.

104 Libecap, above n 100, 12.

105 Libecap, above n 100, 16.

106 Libecap, above n 100, 19.

The following sections pose and answer these questions with respect to Fiordland's fisheries and marine environment, the Guardians' process, and government involvement to implement their strategy.

#### ***A Fiordland's Common Pool Losses Motivating the Guardians to Contract***

Libecap states that the primary motivations for contracting for property rights are common pool losses.<sup>107</sup> Capturing a share of the expected gains from mitigating common pool conditions encourages individuals to establish or modify property rights to limit access and to control resource use. The classic example is an open access fishery offering high profits for resource users, where a complete lack of property rights leads more and more users to access the fishery, taking as many of the fish as possible and eventually leading to a decline in both the fish stock and the profits for individual users. These losses encourage a property rights regime that limits access to the fishery, thereby helping to protect it and enabling those with access to profit from the resource.

Fiordland's fisheries and marine environment were not a completely open access resource in 1995. Access and usage, and thus a kind of property regime, were regulated by the Fisheries Act 1996, the RMA, the Marine Reserves Act 1971 and other legislation. Nonetheless, trends in Fiordland's fisheries and marine environment indicate the existence of losses that motivated the Guardians to contract for new property arrangements – access and usage – via changes to the existing regulatory regime.

By far the most important fishery in Fiordland is the rock lobster fishery. In 1996, the national total allowable catch for rock lobster was 2572 tonnes, one quarter of which were harvested by quota holders in and around Fiordland.<sup>108</sup> The total asset value of Fiordland's rock lobster catch was approximately \$90m.<sup>109</sup>

A "rock lobster bonanza" began in the late 1940s, with total landings reaching a peak of 4,000 tonnes in 1956.<sup>110</sup> At that time, the number of vessels able to fish for rock lobster was limited to 105. The restriction was lifted in 1963 and by 1969, 233 vessels were fishing for rock lobster. This increase in the number of vessels coincided with changes in technology making it possible to catch more rock lobster with less effort. As catches inevitably fell, tighter regulation followed, with rock lobster finally introduced into the quota management system in 1990, after which individual transferable quotas were issued to individual fishers. By 1996, 70 vessels were operating in

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107 Libecap, above n 100, 12.

108 Guardians *Beneath the Reflections*, above n 16, 45.

109 Statistics New Zealand "Fish Monetary Stock Account 1996–2003" (Statistics New Zealand, Wellington, 2004) 16 <<http://www.stats.govt.nz/environment/environmental-statistics/environmental-accounts/fish.htm>> (last accessed 26 October 2006) ["Fish Monetary Stock Account"].

110 Guardians *Beneath the Reflections*, above n 16, 25.

Fiordland landing an annual total of 770 tonnes of rock lobster.<sup>111</sup> Recreational fishing for rock lobster in Fiordland is less prominent, although divers still target them. The recreational take in 1995/96 was 16 tonnes (two per cent of the commercial take), down from 40 tonnes in 1991/92 (four per cent of the commercial take).<sup>112</sup>

Another important fishery in Fiordland is pāua. In 1995, commercial fishers in Fiordland caught 140 tonnes of pāua constituting approximately 12 per cent of the New Zealand's total commercial pāua catch.<sup>113</sup> Although the Guardians did not initially identify harvesting pressure as a major problem in the pāua fishery, they did identify Fiordland as an area of increasing importance for commercial pāua fishers.<sup>114</sup> Throughout the time the Guardians were working on their strategy, the value of Fiordland's pāua catch increased significantly from approximately \$17m in 1996 to \$50m 2003. A corresponding increase in the amount of pāua caught in Fiordland occurred over that time.<sup>115</sup> By 2004, information received by the Guardians caused them to note the serial depletion of pāua stocks in some areas, which indicated they were not rejuvenating in the wake of commercial harvesting.<sup>116</sup>

The most popular recreational fish caught in Fiordland is blue cod. In 1991/92, an estimated 5670 recreational fishers took 190 tonnes of blue cod.<sup>117</sup> By 1996, this figure had fallen to 139 tonnes, a drop representing over one quarter of the fishery.<sup>118</sup> The commercial fishery for blue cod is smaller than the rock lobster and pāua fisheries, but is nonetheless significant. Fiordland's commercial blue cod catch amounted to 269 tonnes in 1995,<sup>119</sup> around 10 per cent of the national catch. While this amounts to a value of only about \$3.3m from Fiordland itself, over two-thirds of the blue cod catch takes place in the wider Southern Region quota management area, with a value of

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111 Guardians *Beneath the Reflections*, above n 16, 47–51.

112 Guardians *Beneath the Reflections*, above n 16, 69.

113 Guardians *Beneath the Reflections*, above n 16, 54; Statistics New Zealand "Physical Stock Account for Fish Resources in New Zealand 1996–2000" (Statistics New Zealand, Wellington, 2002) 57 <<http://www.stats.govt.nz/environment/environmental-statistics/environmental-accounts/fish.htm>> (last accessed 26 October 2006) [Statistics New Zealand "Physical Stock Account for Fish"].

114 Guardians *Beneath the Reflections*, above n 16, 54.

115 Statistics New Zealand "New Zealand's Pāua Resource" 5 <<http://www.stats.govt.nz/environment/environmental-statistics/environmental-accounts/fish.htm>> (last accessed 26 October 2006).

116 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 37.

117 Guardians *Beneath the Reflections*, above n 16, 70.

118 Statistics New Zealand "Physical Stock Account for Fish", above n 113, 34.

119 Guardians *Beneath the Reflections*, above n 16, 63.

\$23m.<sup>120</sup> Due to low market demand in 1995, commercial fishing for blue cod was not as intensive as it had been in earlier decades.<sup>121</sup>

More generally, an increase in the number of charter boats operating in and around Fiordland in 1995 had put greater strain on not only the blue cod fishery, but other recreational fisheries. Losses were evident not only in Fiordland's fisheries, but also its marine environment.

Thus, when the Guardians formed in 1995, there was a trend of increasing harvesting pressure in all Fiordland's major fisheries. Commercial fishers had seen the rock lobster fishery become a shadow of its former self, and although the quota management system had stabilised the industry in recent years, change within the fishery was ongoing. As the price of pāua rose, so did the amount being caught, leading to stresses on the pāua population, and fishers facing lower catches in the future.

Recreational fishers were also feeling the squeeze in 1995. In particular, the popular (and lucrative) recreational blue cod fishery had come under severe pressure in certain areas. Guardians' research revealed that blue cod were vulnerable to depletion<sup>122</sup> and in the wake of increased harvesting pressure from recreational fishers, information showed reductions in the numbers of blue cod.<sup>123</sup>

In addition, increased resource use was putting pressure on the wider environment and threatening all those whose livelihoods depended on the general health of the marine environment.

According to Libecap, these kinds of losses motivate existing resource users to contract for new property arrangements to mitigate the losses and capture a share of the rents available. It is clear from the Guardians' strategy that their primary motivation stemmed from the need to address the increasing depletion of Fiordland's fisheries, and later to mitigate the associated threats to the environment.

Thus, a key determinant in whether a Guardians-type process will work may be the existence of common pool losses that motivate users to contract for new regulatory arrangements. Another is the ability of those users to maximise their share of the rents subsequently available. Analysing the measures taken in Fiordland shows that the Guardians were able to do this.

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120 Statistics New Zealand "New Zealand's Blue Cod Resource" 1  
<<http://www.stats.govt.nz/environment/environmental-statistics/environmental-accounts/fish.htm>> (last accessed 26 October 2006).

121 Guardians *Beneath the Reflections*, above n 16, 62.

122 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 35.

123 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 36.



There were three main mechanisms in the Guardians' strategy to mitigate the common pool losses identified above. First, commercial fishers agreed not to fish within the inner fiords, leaving that territory to recreational fishers. Secondly, recreational fishers agreed to cut their daily catch, in some cases accepting limits of zero, such as the prohibition on taking blue cod in certain parts of Milford and Doubtful sounds. Thirdly, all users agreed to protection of the representative areas and china shops from the bulk of extractive activities, thereby protecting special habitats and providing a sanctuary in which fish stocks could recover.

Each of these mechanisms can be seen as imposing a "loss" on fishers, whose access to resources became more limited. The point, however, is that in the face of widespread recognition that a more conservative management regime was required, the commercial and recreational fishers sought to secure maximum gains within the new set of regulatory arrangements.

It is questionable how much commercial fishers gave away in the process. Although the Guardians' chairperson, John Steffans, sees the changes as major concessions, estimating the inner fiords to contain 15 per cent of the commercial rock lobster fishery, Alan Mark of Forest and Bird believes the commercial fishers' concessions were not overly significant, since fishing in the inner fiords was not crucial to the commercial fishers' livelihoods.<sup>124</sup> Both interpretations may well be correct, but the main point is that commercial fishers' participation in the process ensured changes that preserved their privileged access to the resource while imposing only marginal costs.

Similarly, the stricter daily bag limits for recreational fishers were motivated by a desire to ensure the ongoing viability of the fish stocks, thereby increasing over time, or at least maintaining, the rents of existing fishers. The recommended protections for china shops and representative areas, including the use of marine reserves, are similarly in the interests of fishers, as they provide safe-haven areas in which fish stocks can recover and then migrate into areas where fishing is allowed.

The environmental benefits of the protected areas cannot be denied, but the Guardians' initial motivations indicate that these benefits were not at the forefront of their thinking. When the Guardians embarked on their project in 1995, they were very suspicious of marine reserves and the notion of "locking-up" the fiords.<sup>125</sup> Although by 2003 they came to see marine reserves as a valuable tool for protecting certain special areas of Fiordland, the environmental benefits of the marine reserves created should not be overstated. The strategy was criticised for not protecting one entire fiord system, from the inner fiord to beyond the outer coastline, as such protection would have provided valuable baseline information critical to the well-being of the fishery as a whole.<sup>126</sup>

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124 Carey, above n 1, 77.

125 See Carey, above n 1, 75.

126 Carey, above n 1, 77. The opposing view of commercial fishers is that commercial lobster fishing poses little threat to the environment given the natural weather conditions that persist at the fiords' entrances, and so protection in those areas is unnecessary.

In other words, existing resource users agreed to the creation of additional marine reserves and other activity-restricting measures, but did so as a means of preserving the fishery into the future, and without imposing overly onerous restrictions on fishing and other activities. They succeeded in maximising their share of the gains from changes to existing regulatory arrangements.

At the same time, groups (primarily Forest and Bird) seeking greater protection of the marine environment engaged in the Guardians' process to ensure as much environmental protection as possible. Although the final product fell short of Forest and Bird's expectations, they signed up to it because it was a significant improvement on the existing regime, and with a view to achieving greater protection over time.<sup>127</sup>

The key point to take from the foregoing analysis is that common pool losses were occurring within Fiordland's fisheries and marine environment in 1995, and that these served to motivate the Guardians to seek new regulatory arrangements. At the same time, they were able to design these new arrangements in such a manner as to maximise their shares of the available gains.

***B Factors Motivating the Guardians to Change Existing Property Rights over Fiordland's Fisheries and Marine Environment***

Common pool losses can motivate resource users to contract for new property rights, but doing so is costly and so losses themselves may not be sufficient to lead to new contracting. According to Libecap, additional pressures to change existing property rights can emerge from the following factors:<sup>128</sup>

- Shifts in relative prices;
- Changes in production and enforcement technology;
- Shifts in preferences and other political parameters.

These factors serve as shocks to prevailing equilibrium conditions regarding property institutions, where the benefits and costs of existing arrangements to politically influential parties have been in balance. The first two are market forces that can increase the returns of new contracting to change property rights, whereas the third factor relates to shifts in political preferences that can lead individuals to contract for new property rights.<sup>129</sup> Each of these factors can be seen as playing a role in Fiordland.

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127 See the comments of Alan Mark saying that while the Guardians could have done better to protect an adequate representation of Fiordland, it is important to remain in the process and to achieve gains over time: Carey, above n 1, 77.

128 Libecap, above n 100, 16.

129 Libecap, above n 100, 16–17.

Shifts in relative prices and changes in production and enforcement technology have played a part in the changing rock lobster fishery over the years. While these changes already prompted the response of bringing the fishery into the quota management system, as noted above it was still under increasing pressure in 1995. Furthermore, shifts in relative prices were clearly evident in the pāua fishery over the time the Guardians produced their strategy. A marked increase in the price of pāua led to increased catches and subsequently greater pressure on the resource and declining stocks. A continuation of this trend would eventually reduce the rents of existing commercial fishers and therefore provided the incentive to limit access in order to safeguard those rents.

In 1995, changes in production methods were clearly evident in the recreational fishery, where different fishing patterns and new forms of transport had contributed to a greater number of people taking a greater number of fish.<sup>130</sup> In the past, individual fishers were the main recreational fishers in the area. While their numbers had been increasing up until 1995, at that time charter boats had been identified as playing an increasingly important role in the recreational fishery. Between 1991 and 1995, the number of charter trips in Fiordland increased from five to 67, and the number of days spent fishing increased from 32 to 177.<sup>131</sup> This included an increase in fast 4–6 metre boats capable of reaching fiords further away from traditional launching areas. Also, charter operators had extended their operating season, and adopted new procedures whereby they stayed out longer, often overnight, to visit fiords they had not previously fished. Some operators were also starting to fly parties in and out of the fiords.<sup>132</sup>

These shifts in relative prices and production changes upset the existing balance of costs and benefits distributed between different groups of recreational fishers, as well as between recreational and commercial fishers. They also changed the balance between fishers and other users of the marine environment and, over time, promised to reduce rents further and possibly result in significant damage to the natural environment. At the same time, higher prices and production changes requiring less effort to access the resources held out the possibility of greater rents for those with access to the resources if others could be excluded. These shocks provided an incentive to contract for new property rights because the costs of not doing so, and the potential benefits of success, outweighed the costs of collective action.

The measures in the strategy indicate a willingness to address the common pool problems while capturing a share of the benefits offered by shifts in relative prices and production changes. The tighter daily bag limits for recreational fishers, for instance, mitigate the losses associated with these changes in production. In addition, the creation of more marine reserves and the china shop areas are an attempt to limit the impact of losses caused by production changes. The new objectives and

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130 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 39.

131 Guardians *Beneath the Reflections*, above n 16, 78.

132 Guardians *Beneath the Reflections*, above n 16, 78.

policies inserted into the Southland Regional Coastal Plan enabled Environment Southland to implement coastal planning and management measures aimed at mitigating these losses by restricting access to the resource. Over time, these measures may limit the number of charter boats able to operate in and around the area, not only helping to lessen the impact on fisheries and the natural environment, but also safeguarding the rents of existing users. In the case of charter boat operators, the measures could shield them from competition as new businesses are unable to enter the market.

Libecap further notes that changes in the conditions surrounding enforcement play a role in inducing resource users to contract for new property rights. Technology that lowers the costs of delimiting individual claims, detecting rule violations, arbitrating disputes and punishing violators, provide for further gains from applying a more specific assessment of property rights to reduce common pool losses.<sup>133</sup>

Fiordland provides a particular enforcement challenge since, due to its isolation and the size of its coastline, it is difficult to detect rule violations. An important part of any willingness to contract for new rules controlling Fiordland's fisheries and marine environment, therefore, was the ability to have them enforced. The Guardians did not identify new technologies to ensure enforcement, but did identify a new way of working that they believed would result in adequate enforcement of the measures contained in their strategy. This approach, which they called a "carrot and stick" approach, relied on three principal compliance activities, all of which revolved around involving the community, including the Guardians themselves, in enforcement activity and in working more closely with the three traditional enforcement agencies (the Department of Conservation, the Ministry of Fisheries and Environment Southland).<sup>134</sup>

By working in this way, the Guardians considered that the measures in their strategy would be enforced, thereby ensuring the benefits of the new regulatory arrangements. Their confidence about enforcement provided additional motivation to contract for new regulatory arrangements as the benefits would be realised and shared amongst the Guardians as resource users.

Thus, two of Libecap's cited factors, shifts in relative prices and changes in production and enforcement methods, provided additional motivation for the Guardians to form and contract for new regulatory arrangements covering Fiordland's fisheries and marine environment. Shifts in political preferences and other political parameters (Libecap's third factor) can also be seen as having played a crucial role.

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<sup>133</sup> Libecap, above n 100, 17.

<sup>134</sup> Tierney *Fiordland Marine Conservation Strategy*, above n 20, 84–87. The three approaches were (a) informing and educating fishers and other users about the rules in the management package; (b) being the eyes and ears on the water (surveillance) to provide enforcement agencies with accurate and timely information about illegal behaviour; (c) supporting enforcement action (prosecution) by giving evidence.

As Libecap points out, property rights are politically determined, enshrined in law through the political process. As a consequence, part of the contracting process includes lobbying government for new property rights. Lobbying activates other interest groups in the political process who seek to have their own interests retained, protected or maximised.<sup>135</sup>

As is evident above, one reason the Guardians formed was to deal with the depleting fish stocks. Another key reason was to block Forest and Bird and other environmental groups in their attempts to lobby government to create a Fiordland Marine Park, which would have severely cut the amount of resource use in the area. For, while two marine reserves already existed in Fiordland in 1995, the uniqueness of Fiordland's marine environment and its vulnerability to the impacts of increased resource use, led to calls by the New Zealand Marine Sciences Association and Forest and Bird for increased protection, including much greater use of "no-take" marine reserves (that is, areas in which fishing and habitat threatening activity is prohibited).<sup>136</sup>

Initial Guardians members held a deep distrust of environmental interests, especially those of Forest and Bird, who they saw as holding an intransigent position in favour of protectionism and against sustainable use of Fiordland's marine resources. Concerns about Forest and Bird's political lobbying prompted the formation of the Guardians in 1995 with the primary goal of formulating a strategy to provide for increased protection of Fiordland's fisheries (and later its marine environment), but also to see off the more draconian protection proposals coming from environmental groups.<sup>137</sup>

In other words, the lobbying of Forest and Bird and others for new property rights over Fiordland's resources served to activate the Guardians. Conversely, as the Guardians got underway and began earning the respect and admiration of decision-makers, Forest and Bird stepped up its efforts to increase marine protection in Fiordland. Its southern members actively attempted to derail the Guardians' process by lobbying the Minister of Fisheries, Hon Pete Hodgson MP, to reject the

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135 Libecap, above n 100, 16.

136 Challis and McCrone, above n 7, 2. For example, one option Forest and Bird proposed was to create a Fiordland Marine Park in which seven entire fiords and large portions of three other fiords would be made into no-take marine reserves: see Forest and Bird *An Opportunity to Create a Fiordland Marine Park* (2002) <<http://www.forestandbird.org.nz/Marine/fiordlandpark/proposal.pdf>> (last accessed 7 October 2006).

137 Carey, above n 1, 74–75; Challis and McCrone, above n 7, 2. The Guardians identified their top fisheries priority as addressing the depletion of fish stocks in the Fiordland (Te Moana o Atawhenua) Marine Area: Tierney *Fiordland Marine Conservation Strategy*, above n 20, 33.

draft strategy. Already impressed with the Guardians' process, however, the Minister instead insisted that Forest and Bird join the Guardians and advocated for their inclusion.<sup>138</sup>

In spite of initially serious reservations about the Guardians' process, Forest and Bird approved a member in 2002.<sup>139</sup> The Guardians' success at garnering support for their work sufficiently motivated Forest and Bird to join the group to secure the maximum marine protection possible. With politicians clearly signalling their interest in implementing the outcome of the Guardians' process, Forest and Bird risked having their interests sidelined by staying outside the group. Using Libecap's language, the Guardians' rise as a politically influential player suddenly made it in Forest and Bird's interests to join the contracting; the potential benefits came to outweigh the costs. Similarly, the Guardians had an incentive to include Forest and Bird (apart from their newly acquired interest in protecting the marine environment) as they needed the support of the Minister if they were to have their strategy implemented.

The influence of these shifts in political preferences cannot be understated. Without the "threat" of environmentalists securing new property arrangements that were not in the Guardians' interests, the Guardians may not have been motivated to incur the costs of contracting for new property arrangements in spite of the common pool losses evident. The benefits of doing so may not have outweighed the costs. Similarly, without the Guardians' likelihood of success, Forest and Bird may have had no reason to engage, simply replying on their existing political clout and connections to secure the gains they sought.

It is useful at this point to consider the role of politicians in the Guardians process. Faced with competing demands from different interest groups, Libecap sees politicians serving as brokers attempting to balance these competing demands.<sup>140</sup> This is particularly the case where affected groups already have political power, in which case politicians attempt to preserve the distributional status quo, although in a form that balances competing demands, including those from new claimants.<sup>141</sup> Which groups get what depends on a range of factors, including the norms and precedents that define existing distributional expectations. Politicians and bureaucrats are often guided by these existing norms and precedents when adjusting property rights, but may adjust the parameters to more appropriately balance competing demands.<sup>142</sup>

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138 According to Hodgson, when Forest and Bird members (including Professor Alan Mark, who later joined the Guardians) lobbied him against the Guardians' process, he responded: "Bullshit, you're going to join them", Carey, above n 1, 75.

139 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 20.

140 Libecap, above n 100, 17.

141 Libecap, above n 100, 17.

142 Libecap, above n 100, 18–19.

The eventual solution to which ministers signed-up, and which Parliament endorsed so resoundingly, was one where the groups themselves had hammered out a compromise between their competing interests. Fishers, for example, accepted limits on where and how much they could fish, but they secured a guarantee of no new no-take marine reserves for at least five years. Given their original goal of fending off Forest and Bird, this was a significant gain. On the other side of the ledger, Forest and Bird did not get all it wanted, but did get eight new marine reserves, increasing the marine reserve coverage by over 1000 per cent. Another important contractor, Māori, retained their existing customary fishing rights and their ability to exercise kaitiakitanga.

In fact, the Guardians' desire was to produce a strategy that all those represented in the group could accept. The Chairperson, John Steffans, describes the Guardians as having to "hit the middle ground; we wanted a strategy that would satisfy the maximum number of people".<sup>143</sup> In this sense, the strategy represents a compromise between those with competing interests in the resource.

As a result, when faced with competing demands and an already agreed distribution of the available gains, the government felt able, and was indeed willing, to legitimise the agreement of the parties in law. Without the incentives of the different groups to arrive at a collective decision, politicians may not have been willing to depart from existing property arrangements and upset the existing balance of costs and benefits. Indeed, the Minister attempted, by urging the inclusion of Forest and Bird, to create the conditions under which it would be easier for him to accept the Guardians' strategy.

Another important change in the political parameters affecting the Guardians was the wider move towards integrated management of New Zealand's marine resources. Politicians already had a distributional precedent to work from in implementing the strategy. At the same time, ministers, on the advice of bureaucrats, remained within existing regulatory mechanisms to redesign the property rights over Fiordland's resources, only changing certain parameters to reflect the distributions arrived at in the Guardians' strategy (that is, use of the Fisheries Act 1996 and associated regulations, the RMA and the Marine Reserves Act 1971). While special legislation was used to adjust the parameters, the actual measures hardly departed from those already in place.

In summary, both market factors and shifts in political preferences can be seen as motivating the Guardians to form and contract for property rights. They also help explain the particular outcome reached and the role of politicians in implementing it.

### ***C The Guardians' Characteristics Contributing to the Success of their Collective Action***

As well as looking broadly at the nature of the resource and factors affecting resource use, Libecap examines the characteristics of the resource users to help explain when collective action for new property arrangements is likely to succeed. Of the factors that he considers affect the likelihood

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143 Libecap, above n 100, 18–19.

of agreement about institutional change, those of most relevance to this analysis are the number of bargaining parties, the heterogeneity of bargaining parties and informational problems.<sup>144</sup> Analysing how these factors bore upon the Guardians' success requires a deeper understanding of who the Guardians were and what processes they undertook.

Originally established as a local fisheries liaison committee under the auspices of the Ministry of Fisheries, the Guardians formed in December 1995. Upon formation, the group's members expanded to include local community members involved in Fiordland's fisheries, all of whom had a common desire to address the issues affecting Fiordland's marine resources. The initial members were self-selected on the following bases:<sup>145</sup>

- Knowledge and experience of Fiordland's fisheries and the marine environment;
- Commitment to looking after the resource;
- Willingness to work with other interests;
- Time to invest in the group's operations.

Initial members consisted of representatives from the major commercial fisheries (pāua, blue cod and rock lobster), the Southland Recreational Fisheries Association on behalf of recreational fishers and divers, charter boat representatives and customary representatives from Ngai Tahu (specifically the local Murihiku and Kati Waewae runanga).<sup>146</sup> A local lobster fisherman, John Steffans, was appointed chairperson and remained a central figure throughout the Guardians' existence.<sup>147</sup>

Helicopter operators later joined and local community interests came to be represented (existing members also had wider community interests and were members of other local community organisations).<sup>148</sup> As explained above, environmental interests came to be represented first in 2000 (Department of Conservation) and again in 2002 (Forest and Bird).

The Guardians' driving force from the outset was Laurel Tierney. Initially as a manager within the Ministry of Fisheries (Southern branch), and later as a private consultant, Tierney acted as the facilitator of the group and kept a record of its proceedings.<sup>149</sup> In addition to Tierney's involvement, the Guardians received advice and support from officials in various central and local government

144 Libecap, above n 100, 21.

145 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 19.

146 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 19; see also above n 28.

147 See Carey, above n 1, 70.

148 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 20.

149 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 20; Challis and McCrone, above n 7, 3.



agencies, including the Ministry of Fisheries, Department of Conservation, Ministry for the Environment and Environment Southland.<sup>150</sup> The Guardians also enlisted political support for their project. Hon Pete Hodgson MP, Minister of Fisheries and Hon Marian Hobbs MP, Minister for the Environment, attended the launch of the Guardians' draft strategy in 2002.<sup>151</sup> Local government politicians also attended the launch and continued to show support throughout, as did local and other interested members of Parliament.<sup>152</sup>

The first four years of the Guardians' work was spent gathering information about the specific management issues they had identified.<sup>153</sup> Information already existed about fisheries at the entire Fiordland level, and about species and communities at specific sites within the fiords, but major information gaps remained about habitats, communities and fisheries on the individual fiord level. The Guardians filled these gaps through sharing their own knowledge, interviewing other knowledgeable groups, conducting surveys and advocating for other research. Much of the information they generated is summarised in publications that the Guardians produced in conjunction with the Department of Conservation and the Ministry of Fisheries.<sup>154</sup>

Once they had the necessary information, the Guardians began deciding on management objectives and designing the most appropriate management mechanisms, adjusting them on the basis of feedback from wider members of the groups represented by the Guardians' members. The Guardians released a draft strategy for consultation in October 2002, and held eight consultation meetings around Fiordland.<sup>155</sup> They then analysed the submissions they received, finalising a

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150 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 21–22.

151 Hodgson welcomed the Guardians' forethought and determination in developing the draft strategy for the integrated management of Fiordland's fisheries and marine environment: Hon Pete Hodgson, above n 3; Hobbs also welcomed the Guardians' vision, citing the strategy as a good example of communities and stakeholder groups working using trade-offs to reach consensus over management issues: Hon Marian Hobbs, Minister for the Environment "Minister Welcomes Joint Approach to Fiordland Marine Environment" (12 October 2002) Press Release.

152 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 22. Ted Loose, Chairman of Environment Southland, wrote in the foreword of the strategy that the result of the Guardians' work was "amazing both in the output (the various publications including this strategy) and in the strong relationships that will endure into the implementation phase and beyond." He also notes that his Council has provided significant support and encouragement for the Guardians.

153 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 75.

154 For example Guardians *Beneath the Reflections*, above n 16 and Lisa Maria, Department of Conservation and Guardians of Fiordland's Fisheries and the Marine Environment *Beneath the Reflections – Fiordland's Fisheries and the Marine Environment: A Bibliography* (Department of Conservation, Wellington, 2001). See also Tierney *Fiordland Marine Conservation Strategy*, above n 20, 27.

155 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 25.

strategy in June 2003 and presenting it to government in September of that year. From beginning to end, the Guardians took eight years to produce their strategy.

When it comes to the number of the bargaining parties involved, Libecap asserts that groups with fewer bargaining parties are more likely to succeed with collective action than larger groups.<sup>156</sup> Larger groups face greater transaction costs, and find it harder to identify and communicate with all the relevant stakeholders whose consent is required for agreement to be reached. Moreover, they inevitably involve a greater number of interests. This makes it more difficult for politicians to devise the political exchanges required for consensus to develop about the nature of the change in property arrangements to address common pool problems.<sup>157</sup>

Fiordland is a small community, but has a diverse set of resource users and a much wider constituency (certainly nationwide, possibly even worldwide). Visitors from all over New Zealand travel to Fiordland to engage in a variety of pursuits, leading them to seek different things from the property arrangements in place – rights for recreational fishers, environmental protection, diving access, and so on. All these interests were represented in the Guardians. Therefore, while it looks like a small group organising collectively, the Guardians should more appropriately be perceived as a large group organising on behalf of broad constituencies. Libecap's analysis suggests that the large group nature of the Guardians would have made a solution difficult.

Part of Libecap's analysis relies on the notion of consensus as a prerequisite for agreement, but Katrina Wyman points out that in a political process, it is possible for politicians to institute change without consensus, as changes require only a political majority, not unanimity.<sup>158</sup> This was the case in Fiordland; the government acted to implement the Guardians' strategy in spite of some members of Forest and Bird and some recreational fishers being unhappy with the final package.<sup>159</sup> Unanimity was not required.

Moreover, while smaller groups might find it easier to organise, large groups can still succeed in a political process if the right conditions prevail. For example, the unequal distribution of expected rents of collective activity might lead certain members to act as political entrepreneurs on behalf of the wider group in order to secure a more equal distribution. Even if rents are distributed equally, a

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156 Libecap, above n 100, 21.

157 Libecap, above n 100, 21.

158 See Katrina M Wyman "From Fur to Fish: Reconsidering the Evolution of Private Property" (2005) 80 NYU L Rev 117, 149–150. Wyman points out that implementing private property through a political process does not require the unanimous agreement of affected parties to proceed, and instead, success typically depends on convincing a certain number of individuals in regulatory and legislative institutions that the move to private property is desirable.

159 Carey, above n 1, 76.

large group may act to secure a greater share if its members have sufficiently large individual stakes. The costs of large group activity may be manageable if the members of the group are easily identifiable, or if there are low cost avenues for spreading information.<sup>160</sup> In this sense, whether groups will prevail in securing a change in property arrangements through collective action depends less on their size, and more on a range of factors including the distribution of the expected rents from collective action, the complexity of the issue or the characteristics of the user groups.<sup>161</sup>

Two points are particularly important when considering why the Guardians, as a large group, successfully used collective action to change existing property arrangements. The first is the political entrepreneur point and the second is the readily identifiable nature of the group members.

Laurel Tierney played a pivotal role in the Guardians' success, bringing them together and driving the process.<sup>162</sup> She acted as a kind of political entrepreneur, although not in the sense described above, as her role was as facilitator rather than an individual representing a group with a direct stake in the outcome. In addition to Tierney, other key individuals within the Guardians were willing to act as political entrepreneurs on behalf of their wider constituencies; they considered the stakes large enough to warrant a collective effort. Moreover, these individuals were willing to "sell" the agreement to their constituencies.

For example, Alan Key, a recreational fishing representative, was given the role of convincing recreational fishers, a traditionally diverse and obstinate group when it comes to their access rights, to accept dramatic cuts in their daily bag limits. Key himself attributes his success in doing so to spending "mega hours on a one-to-one basis".<sup>163</sup> It was his willingness to organise on behalf of this large and disparate group, and his links back into the community enabling him to reach them directly, that led to recreational fishers signing up to the deal. Of course it must be remembered that the views of the more extreme recreational fishers were disregarded throughout the process in an effort to find the "middle-ground"; like those advocating for a Fiordland Marine Park, the views of the recreational fishers seeking virtually unlimited access were not viewed as having any place at the Guardians' table.<sup>164</sup>

John Steffans played a similar role with Fiordland's commercial fishers, who were a more discreet and identifiable group than the recreational fishers due to the nature of the quota

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160 Wyman, above n 158, 150.

161 Wyman, above n 158, 150.

162 See Carey, above n 1, 78, who quotes others who saw Laurel Tierney's capability as a facilitator as being crucial to the Guardians' success; see also Challis and McCrone, above n 7, 5.

163 Carey, above n 1, 76.

164 Carey, above n 1, 77.

management system.<sup>165</sup> Forest and Bird, as a national interest group, was able to claim some degree of mandate to be contracting on behalf of its members, with whom it could communicate through mail-outs and the mass media. Māori were represented via established runanga with discreet and easily contactable members.

Thus, the necessary conditions existed that enabled the Guardians to overcome the potential problems associated with large groups attempting to organise collectively. Of primary importance was the existence of political entrepreneurs who considered that the potential benefits of collective action to them and their constituencies outweighed its costs. Moreover, they could reach the members of their constituencies to ensure support. Crucially, this enabled politicians to trust that the Guardians' agreed changes to existing property arrangements distributed rents adequately among the competing interests, and to pledge their support for implementation.

Related to the size of the bargaining parties is their heterogeneity. Libecap's analysis sees institutional change being more limited if the bargaining parties are very heterogeneous.<sup>166</sup> Important differences in interests, information, wealth, size, political experience and other attributes will make the formation of winning political coalitions and a consensus on the proposed adjustment of property rights more difficult.<sup>167</sup>

The Guardians can be classed as a heterogeneous group. While they were able to unite under the common cause of better managing Fiordland's marine resources, their underlying interests were quite different. In addition, groups like Forest and Bird had far more experience in the political process than the local Fiordland lobbyists, which, in accordance with Libecap's framework, initially saw them attempting to derail the process rather than participating in it.<sup>168</sup> Nevertheless, in spite of their differences, the Guardians were able to agree on a strategy. Wyman, in once again taking issue with Libecap's analysis, provides an insight as to why.<sup>169</sup> She explains that in a political process, heterogeneity between the parties might actually leave room for trade. Sameness in interests can prevent trade-offs as the parties compete for identical gains.<sup>170</sup> Furthermore, heterogeneity can be helpful when rearrangement is through a political process if there are political entrepreneurs willing

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165 Steffans tells a story whereby he and fellow Guardians Mark Pechers and Stewart Bull presented the Guardians' draft strategy to a group of commercial fisherman. One fisherman began the meeting very hostile, but was told by others to listen and reserve judgment for the end. By the end of the meeting, the fisherman was convinced by the logic of the Guardians' strategy: Carey, above n 1, 76.

166 Libecap, above n 100, 22–23.

167 Libecap, above n 100, 22.

168 Carey, above n 1, 75.

169 Wyman, above n 158, 147–148.

170 Wyman, above n 158, 147.

to organise on behalf of the wider group. Such political entrepreneurs may come to the fore when they see the benefits from rearranging existing property arrangements outweighing the costs of initiating the rearrangement.<sup>171</sup>

As to the Guardians, it certainly appears that the group's heterogeneity was an important key to its success. Laurel Tierney lays the success of the Guardians largely at the feet of what she calls the "gifts and gains" process.<sup>172</sup> Describing it as her "secret weapon", it was this approach that enabled her to steer the group towards a negotiated solution.<sup>173</sup> Each group was able to give a gift in return for a gain. For instance, the commercial fishers' gift was an agreement not to fish in the inner fiords and their gain was continued access to the entire outer coast. The recreational fishers gifted their bag limits and accumulation rule and gained the removal of commercial fishers from the inner fiords. Forest and Bird was able to gift their hopes of establishing a Fiordland Marine Park but gained eight new marine reserves and stricter management rules.

The importance of the members being able to trade in this way is underlined in the Guardians' strategy. A fundamental requirement of the Guardians, as stated in the strategy itself, is that the strategy would be implemented in its entirety.<sup>174</sup> This is for the very reason that it represents a compromise of the different interests at play.

Thus, heterogeneity was important because the gifts and gains process so crucial to the Guardians success was only possible because the groups represented were able to trade off against their different interests. A group with more aligned interests may not have been able to compromise in the same manner as they sought to maximise their share of the same gains.

In addition to the number and heterogeneity of the bargaining parties, Libecap cites information problems as potentially preventing the successful contracting for new property arrangements. Information asymmetries between the parties, he contends, prevents the categorisation of existing entitlements and entitlements under the proposed changes, leading to disagreements and delay in institutional change. Part of securing change is the ability to persuade both the bargaining parties and politicians about the value of the proposed changes in entitlement.<sup>175</sup>

In Fiordland, having sufficient information upon which to make judgments about the necessary changes in property arrangements was key. According to Tierney, the gifts and gains process was only able to work because each party was working from the same data set when it come to arguing

171 Wyman, above n 158, 147–148.

172 Carey, above n 1, 76.

173 Carey, above n 1, 76.

174 Tierney *Fiordland Marine Conservation Strategy*, above n 20, 79.

175 Libecap, above n 100, 24.

about who got what.<sup>176</sup> In other words, it gave them a picture of how each could accommodate their and others' interests. This in turn allowed politicians to see the result as one that distributed the gains in a sufficiently balanced way between the competing interests.

In summary, Libecap's framework highlights the necessary questions to ask when considering why the Guardians' efforts to organise collectively were successful, although his interpretations of how the factors at play influence the process require some refinement. Ultimately, the large numbers of bargaining parties involved and their high level of heterogeneity, the right conditions enabled the Guardians to overcome the problems that Libecap identifies as capable of derailing attempts to contract for new property rights.

#### ***IV CONCLUSION***

In spite of conventional wisdom about the obstacles preventing the use of collective action to resolve problems with common pool resources, the Guardians managed to employ collective action to reach a beneficial outcome. More than that, they convinced the government to enshrine in law their entire package of measures for the integrated management of Fiordland's marine resources. Given the broad legitimacy their package obtained, even in the eyes of those who did not get all they wanted from it, it is not surprising the Guardians' process is seen by many as the archetypal way to regulate New Zealand's marine resources in other areas, especially where there is conflict between competing users.

This article does not attempt to argue against those who see the Guardians' approach as the way to achieve better oceans management in New Zealand. What it has sought to do, however, is highlight certain social and economic conditions that underpinned the Guardians' success. As these conditions relate to the nature of the resources in Fiordland and the particular characteristics of the Guardians as resource users, this article's ultimate conclusion is that, before turning to a Guardians-type process in other parts of the New Zealand marine environment, some analysis of these conditions should be done: without the existence of particular conditions, the process may not work.

First and foremost is the presence of common pool losses, and the ability for resource users to maximise their share of the gains from changing existing regulatory arrangements. Common pool losses in Fiordland's fisheries were what motivated the establishment of the Guardians in the first place. What kept them at the negotiating table was the desire to secure a deal that safeguarded their interests to the maximum extent possible.

While it is arguably trite to assert that common pool losses must exist for resource users to contract in the first place (there would be no need for new regulatory arrangements without common pool losses), the notion of being able to maximise gains is very important. Without any promise of

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<sup>176</sup> Carey, above n 1, 75. Tierney suggests the four years spent gathering data at the beginning of the process was one of the most important steps in the eight-year process.

an acceptable share of the gains, certain groups have little incentive to participate in the process. Their lack of participation, and subsequently their lack of support or indifference for the outcome, may reduce the likelihood of widespread acceptance of the outcome by decision-makers.

Even if common pool losses exist, it is costly to change existing property arrangements, so the potential benefits of collective organisation must be seen to outweigh the costs before resource users will engage. There must be additional factors motivating resource users to contract for new property arrangements. In Fiordland, shifts in the relative prices of exploited resources, as well as changes in production and enforcement methods, raised the possibility of the Guardians securing rents either equal or similar to their existing rents, and, perhaps more importantly, securing those rents into the future. Without this potential, the Guardians may not have been motivated to change arrangements away from the status quo.

Furthermore, shifts in preferences and political parameters played a crucial role in the formation, ongoing work and ultimate success of the Guardians. The original group formed partly to counter the lobbying activities of environmental groups determined to increase no-take protection in Fiordland. Those groups only joined the Guardians to secure as much marine protection as possible, and only once key decision-makers had signalled that the Guardians had acquired some political power. Without these political imperatives, the Guardians may not have formed in the first place or been as representative of the different interests involved. Being less representative would have made it more difficult for politicians to implement the eventual outcome, for it would not have balanced the competing interests as adequately as it finally did.

In addition, the Guardians respected existing political parameters by working within regulatory precedents, thereby departing minimally from established norms and expectations. This helped them to secure both the participation of different interests and the acceptance of politicians and bureaucrats seeking to work within familiar political parameters.

In addition to these factors relating to the nature of the resource and resource use, the characteristics of the resource users are important. The Guardians consisted of a large group of players with diverse interests contracting for new regulatory arrangements, yet the right combination of factors existed to overcome the problems associated with large group contracting. Primarily, key individuals within the Guardians played the role of political entrepreneurs willing to contract for their constituencies, for whom they saw the benefits of collective action outweighing the costs. These individuals were able to readily identify the members of their constituencies, communicate with them, and convince them of the strategy's merit. Without their efforts, the Guardians may never have secured the necessary compromise to finalise a deal that politicians felt able to implement.

An important aspect of this agreement was the diversity of interests within the group and their ability to trade between themselves. A different array of resource users with interests that were too similar may not have been able to distribute the gains sufficiently to secure agreement. Finally, the

Guardians worked from clear and comprehensive information, which further enabled them to see that the trade-offs they were making were objective and fair.

It is certainly arguable that the Guardians would not have formed, or would not have succeeded, but for the existence of these underlying economic and social conditions. In arguing this, the article has employed a public choice analysis, which focuses squarely on the individual incentives involved. This is not to deny the importance of other factors in the Guardians' success, including the deeply held values of its members, their ability to engender trust amongst each other, and the specific strengths of their processes and leadership. In fact, this article assumes that these things were fundamental to the Guardians' success. As such, they are also important factors to consider when contemplating the use of a Guardians-type approach elsewhere.

The key point, however, is that these factors may be insufficient to ensure that the approach works unless the necessary social and economic conditions to induce collective action also exist. Therefore, the ultimate conclusion of this article is that before embarking upon a Guardians-type approach, an analysis of all the relevant factors must be done. This will help ensure the desired outcome from the vast amount of time, expense and effort inevitably required by such an approach.