

Deliberation in the Wilderness

The Far North Queensland Citizens' Jury

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This report covers the Far North Queensland Citizens' Jury (FNQCJ), the second of two citizens' juries conducted as part of the research project *Citizens' Juries for Environmental Management*, from the Australian National University and primarily funded by Land and Water Australia (LWA). LWA also funded the doctoral research of Simon Niemeyer at the Australian National University, from which this report primarily draws. The arguments herein are those of the authors alone.

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1. ABSTRACT

This report outlines and analyses the Far North Queensland Citizens' Jury (FNQCJ), which attempted to replicate the ideals of deliberative democracy in considering future management options for the Bloomfield Track, a controversial road between Cape Tribulation and the Bloomfield River in the far northeast of Australia. The FNQCJ consisted of twelve randomly selected citizens from the Far North Queensland (FNQ) region. Over four days they visited the Bloomfield Track site, heard from and questioned witnesses from technical fields as well as community representatives and produced a report of their findings. A major research objective was to analyse the impact of deliberation on policy preferences of deliberators and identify the key drivers of change. Preferences did indeed change as a result of deliberation, converging considerably toward a consensus position, as the symbolic arguments dominating political discourse were discounted. However, in view of inevitable contingencies and variation in design of deliberative processes it is argued here the most legitimate and defensible output comprises not raw opinions, but the considered judgements of participants (deliberators) that drove this transformation process.

2. INTRODUCTION

The 'deliberative turn' in political theory and practice has important implications for environmental governance. It is important in theory because it can inform us about individual and collective environmental decisions under different settings (institutional, informational); and in practice because of the array of designs added to the overall deliberative toolkit that have been applied to environmental issues with results that radically depart from political decision making as usual.

The turn in political theory began over two decades ago, with the term 'deliberative democracy' (first coined by Bessette 1980) becoming the idiom of choice for its exponents.¹ This theoretical development has been matched by the development of deliberative practices, usually under the auspices of public participation. Many were conceived independently of the theoretical turn,² in some cases even preceding it by a decade or more. They cover a wide variety of formats, including 'deliberative polls', 'citizens' juries' and 'consensus conferences' — some of which are trademarked. In a small number of constituencies deliberative forums have become increasingly embraced as legitimate inputs into decision-making — Denmark being perhaps the best example (e.g. Joss 1998).

Arguably, the independent development of these two deliberative streams has led to shortcomings in both theory and practice. The theory of deliberative democracy is well developed, but poorly backed up by analysis of empirical data, making it more vulnerable to dismissal, misinterpretation and criticism (e.g. Van Mill 1996). Conversely, practice is often developed without full consideration of relationships within the political domain that are understood by theory. This has often led to overblown claims attached to deliberative practice; the development and inappropriate use of deliberative methods (O'Hara 1996; Niemeyer and Spash 2001); and again, criticism and dismissal (Kuran 1998).

Addressing this theory-practice gap requires, in part, proper analysis of the operation of deliberative processes within political contexts with a close eye to theory: to find out just what takes place during deliberation, to identify limitations and to guide the proper use of formal deliberative processes in decision-making. It is this type of analysis that is reported herein with respect to the Far North Queensland Citizens' Jury, which considered the future of the 'Bloomfield Track', located in northeastern Australia.

To this end, Section 3 of this report outlines the case study by way of setting the scene for a description of the deliberative process in Section 4. The outcomes of the FNQCJ are then

¹ The ideal of deliberative democracy resonates with Barber's (1984) 'strong democracy', which stresses broad scale participation in political decision making and the activation of 'citizenship' in determining outcomes (see Dryzek 1990) and, more recently, Goodin's (2002) appeal to a more 'reflective' version of democracy, where reasons triumph over potentially ill-considered conclusions. It is not a new phenomenon. The idea of deliberative democracy has its roots as far back as Rousseau, even Aristotle, with its modern precursors lying in the works of Dewey and Arendt. For discussion, see Bohman (1998) and Dryzek (1990).

² With perhaps the exception of Fishkin (1995), with thanks owed to John Dryzek for pointing this out.

analysed in Section 5 to gauge its impact on participants (herein called ‘deliberators’), with explanations considered in Section 6. The implications of these findings for deliberative practice are then considered, informed by deliberative theory.

This was the second citizen jury conducted as part of the ‘Citizens’ Juries for Environmental Management’ project, funded by Land and Water Australia. The first citizen’s jury concerning National Park Management in NSW was reported by James and Blamey (2000). The FNQCJ differs to the first in several key respects. Unlike the first citizens’ jury, which had more of a hypothetical flavour, the FNQCJ provided an opportunity to investigate the use of deliberative processes in relation to a ‘live issue’. Moreover, the issue forming the basis of deliberations was one where conflicting interests contributed to political controversy and intractability, against which the potential benefits of deliberation could be assayed. Because the results cannot be separated from the environmental and social context of the Bloomfield Track policy issue, such issues are considered in some detail before moving on to consider the findings and their implications.

3. THE BLOOMFIELD TRACK ISSUE

The Bloomfield Track is a predominately-unsurfaced road, traversable only by four-wheel-drive (4WD), stretching 30 kilometres north along the Queensland coast from Cape Tribulation to the Bloomfield River within a rugged wilderness region known widely as ‘the Daintree’ (see Figures 1 & 2). The Daintree’s iconic status as a significant wilderness set the scene for public controversy during construction of the Bloomfield Track in the early-mid 1980s, amid pitched battles between police and protesters. Today its crude nature reflects the original mode of construction: a single bulldozer negotiating difficult terrain and protesters buried up to their necks.

The future of the Bloomfield Track remains vexed and hotly contested, providing an excellent case study for comparing the operation of formal deliberative processes, such as citizens’ juries, to political processes under the status quo. To properly understand this status quo and the deliberative process of the FNQCJ it is necessary to first place the Bloomfield Track issue in its broader regional, ecological and political context.

3.1. The Region

The Daintree region is internationally renowned for its conservation value. It is almost entirely covered by tropical rainforests and contains the last significant example of continuous mountain to coastal rainforest in Australia — much of the latter being cleared elsewhere for farming (Webb 1984). The combination of both high and lowland rainforest varieties and the juxtaposition of inshore coral reefs along the coast are widely considered to be unique (Borschmann 1984; Russell 1985).³

Part of the region was listed as National Park prior to construction (see Figure 2), with much of the remainder since protected by listing on World Heritage convention. Yet it is widely feared that the biological values of the Daintree region are under threat, with its future recognised as an important policy issue (e.g. Rainforest CRC 2000). Human impacts on the Daintree region are already of major concern and, without proper care, are poised to escalate.

³ The biological significance of the region is also underscored by the frequency with which new species are discovered. These are not limited to fauna or smaller invertebrates, but also include large marsupial mammals (Russell 1985; Rolls 1994). The potential of the region to yield new species with potential commercial and pharmaceutical uses is well recognised (for example Brook 2000).

Figure 1
Location of the
Bloomfield Track

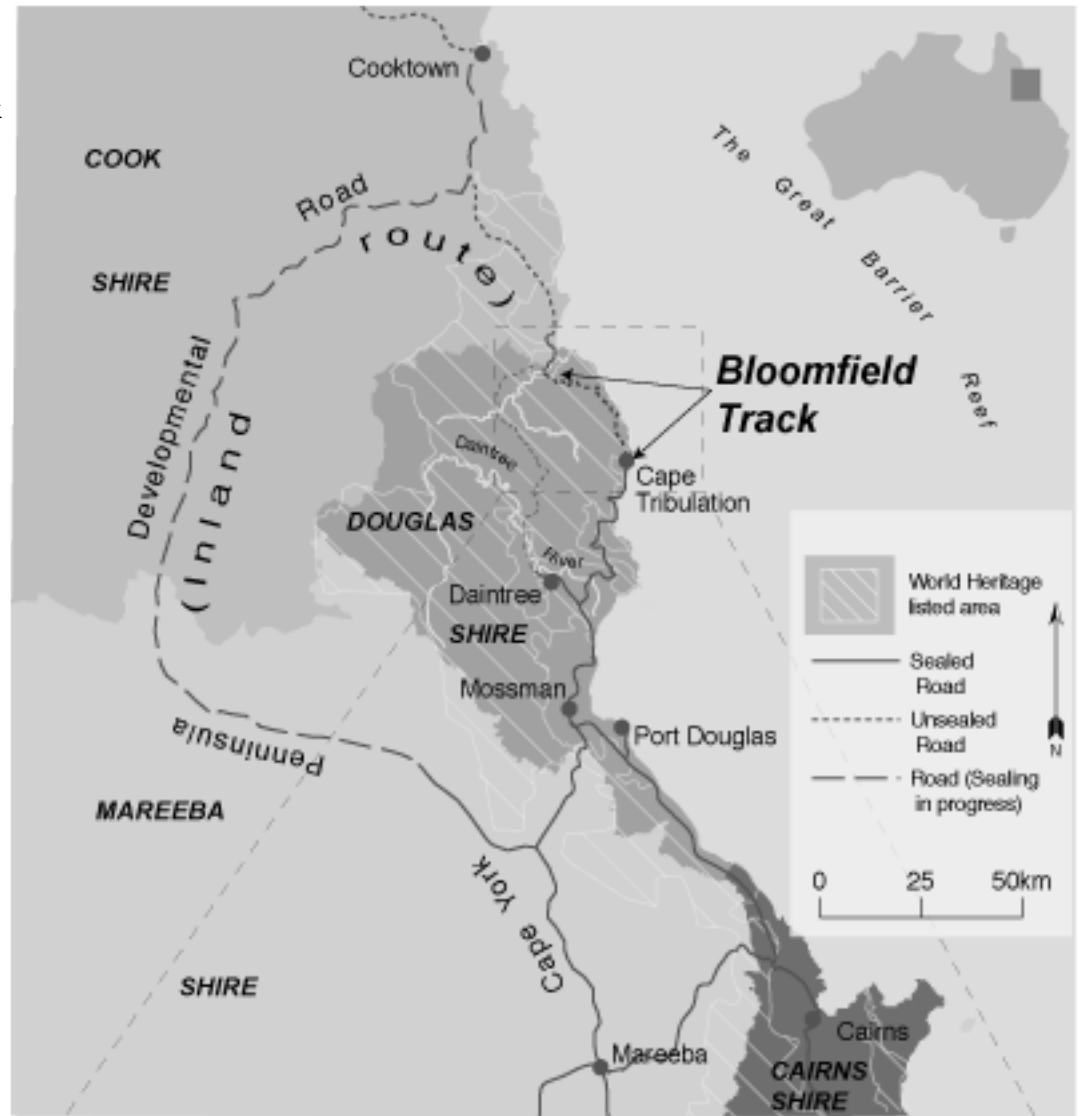
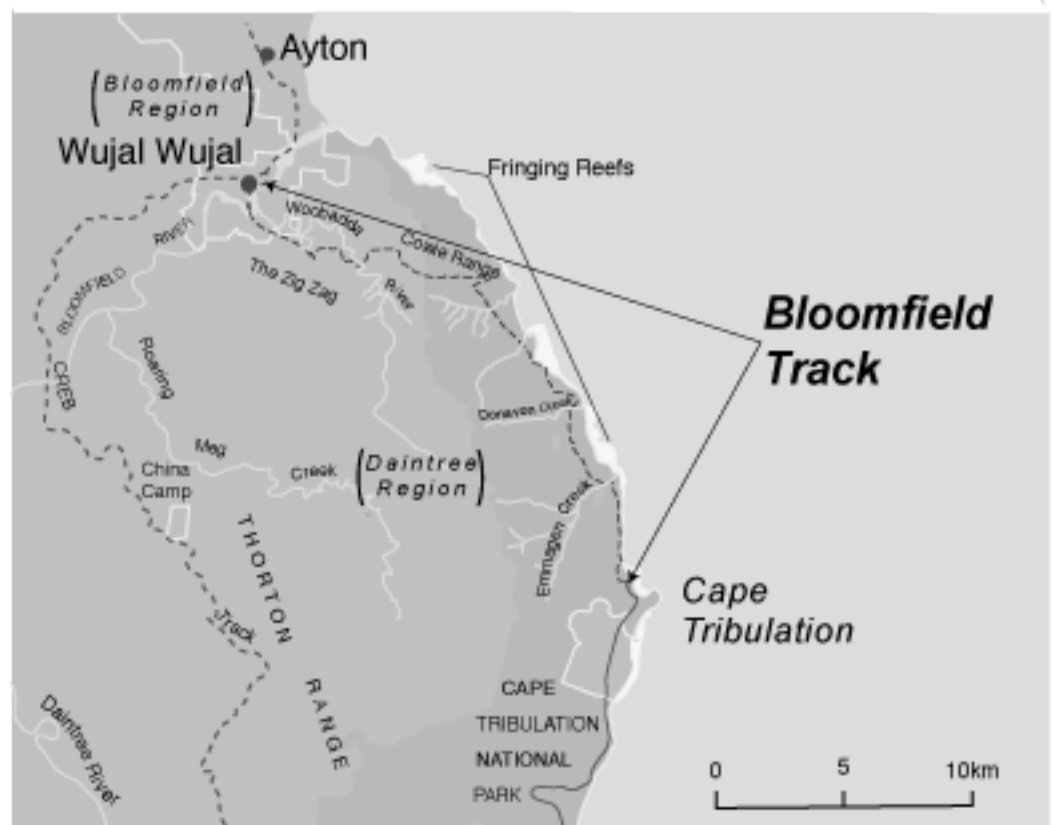


Figure 2
The Bloomfield
Track



Schematic maps compiled using information obtained from the Wet Tropics Management Authority and the Australian Bureau of Statistics.

Increased population is one concern, particularly in areas south of where the Bloomfield Track terminates at Cape Tribulation. Although the Daintree region is currently sparsely populated, widespread subdivision occurred in the 1980s between the Daintree River and Cape Tribulation. Paradoxically, the environmental impacts are thus far limited because poor planning — resulting in lack of reliable vehicular access, potable water and electricity — has kept the level of inhabitation low. However the prospect of increased settlement and associated environmental impact looms large over the region. There are increasing calls from landowners for improved infrastructure to redress what they see as an unfair neglect of their basic rights. The result is a classic tension between the needs of humans and environmental considerations in political decision making.

Similar tensions exist in relation to the Bloomfield Track, which services communities to the north in the Bloomfield region. The two main communities of Ayton and Wujal Wujal together comprise an estimated 700–900 residents (Cottrell, Cunliffe et al. 2001, p.8) (see Figure 2). Each has contrasting histories. Ayton, originally settled around the turn of the last century by ‘tin scratchers’ (alluvial miners), subsequently experienced a wave of settlement in the 1960s by ‘alternate lifestylers’ (Anderson 1989). Wujal Wujal comprises an indigenous community abutting the bank of the Bloomfield River.⁴

Both communities share marked isolation. The Bloomfield Track comprises one of three overland routes to the region, all of which are rudimentary. Crudest of these is the ‘CREB Track’⁵, which connects Wujal Wujal to the Daintree Township via China Camp (see Figure 2) and an area known as ‘The Roaring Meg’ after its large waterfalls, is not considered a viable transport route (Cottrell, Cunliffe et al. 2001). The road north from the Bloomfield River to the junction with the Cape York Peninsula Developmental Road, near Cooktown, is little better than the Bloomfield Track. Moreover, its direction points away from the major population centres to the south. Consequently, the Bloomfield Track is perceived as an important link to the outside world.

Opinions vary as to the success of the Bloomfield Track in providing access to the Bloomfield community, but it has proved a boon for tourists coming from the other direction. Tourism dominates the economy of the Daintree region (WTMA 1992). Although most visitors go no farther than Cape Tribulation — the principal node for tourism in the Daintree region with facilities including backpackers (hostels) and hotels — the Bloomfield Track has become popular for a number of tour operators and 4WD enthusiasts.

That most visitors come to the Daintree Region for the ‘wilderness’ experience poses a quandary for the tourist industry, with increasing numbers detracting from the region’s greatest attraction. Currently the absence of a bridge over the Daintree River acts as an effective regulator of visitor numbers, with all vehicles required to use the existing river ferry unless they enter the region from the north via a circuitous ‘inland’ route (see Figure 1). However, as already alluded above, this is a fragile status quo. The pressure to construct a bridge remains part of public discourse. Though strongly opposed by local politicians, official positions can easily change due to constant pressure or through changing circumstances such as electoral turnover. Indeed, such pressures have already given rise to upgrading of road infrastructure immediately north of the Daintree River to Cape Tribulation. This section, once little better than the Bloomfield Track — although passable by conventional vehicle, tides at river crossings permitting — was bituminised in 1995 due to the volume of tourist traffic and associated problems of dust and road maintenance.

3.2. The Bloomfield Track Controversy

The forgoing discussion highlights a number of substantive issues both in the Daintree and specific to the Bloomfield Track in terms of a suite of interconnected factors. The public face of the Bloomfield Track controversy has often tended to reflect a simpler set of arguments that

⁴ Now administered by the Wujal Wujal Community Council, it was initially formed by the migration of displaced clans around the Cooktown area in the 1950s, which the Queensland Lutheran Mission Board established as a ‘mission’ in 1956 (Anderson 1983). The members of community, which are mostly from the Kuku-Nyungkul society, are part of a broader indigenous dialect known as Kuku-Yalanji.

⁵ After the Cairns Region Electricity Board, which constructed the track for maintenance purposes.

have been used to strategically to win public support resulting in a political sphere best described by symbolic politics.⁶

Historically, the Bloomfield Track has been dominated by two opposing sides, each parading particular symbols. These comprise an anti-road environmental lobby and a pro-road group. At the time of construction the most vocal supporters of the road were the incumbent local and state governments, albeit for strategic political reasons,⁷ who often used particularly colourful rhetoric. Issues of law and order enforcement (by flushing out drug traders, orchard thieves and illegal migrants) and assisting the defence of Australia from attack by sea were among those cited. These arguments have waned over time.

Most enduring, however, is the argument for right of access for the Bloomfield community, members of which have become strong supporters of the Track. This argument continues to retain a strong air of legitimacy amidst the remnants of a 'frontier' Queensland culture with a strong individual rights ethos (Fitzgerald 1984, esp. p.250). With such strong normative foundations in the region it is difficult to deny the claim of right of access to property. Such is the nature of symbolic politics that, even where environmental concerns create significant tension, for many, the community argument has prevailed. Others may reduce dissonance between environment and community by constructing scenarios whereby both can benefit from the road.⁸

The manipulation of symbols for political gain has not been restricted to the pro-Bloomfield Track lobby. At the time of construction, environmental groups similarly focussed on highly emotive and symbolic issues in order to garner community support, such as the intrusion of road works into a significant wilderness (Wilderness Action Group 1983) — and if such manipulation were not always intentional, it is at least the case that these arguments were most represented by the media (Doyle 1992). As a result, pictures of pristine rainforest 'ruined' by bulldozers dominated the campaign. The most symbolically potent weapon of environmentalists was the potential damage to the onshore reefs by sediment run-off from the Bloomfield Track. This also struck a chord with large sections of the community, though most strongly outside Queensland, where public opinion held most sway on the issue and the powerful symbol of community access was not so strong a counter-symbol. So powerful are these symbols, of danger to where the 'rainforest meets the reef' on one side and rights of community access on the other, even 15 years following the construction of the Bloomfield Track, both still resonate within the FNQ community.

3.3. The Bloomfield Track Policy Problem

The Bloomfield Track remains a thorny issue: one that has yet to be adequately resolved. It is plagued by a combination of an unstable surface in a region where annual rainfall is measured in metres, causing problems traversing steep slopes and river crossings. Limited upgrading has

⁶ Symbolic politics, originally described by Edelman (1964) describes the use of powerful symbols by organised interest groups as a rallying flag for public support. This is possible so far as ordinary citizens 'have only unstable and inconsistent political preferences, not firm ideological commitments that would resist the blandishments of elites'. Irrespective of the extent of participatory democracy, these elites need at least the tacit approval of the population for political legitimacy. Being anxious about a 'threatening and complex world', but acquiescent to the parading of political symbols that reduce cognitive dissonance — or tensions among conflicting political ends — citizens may be readily manipulated. The actual content of symbols will be context specific, but can include identification of political enemies, with a particular group, or attachment to a leader (Sears 1993). In recent history environmental issues have been associated with the parading of symbols associated with nature and economic progress (environment versus economy). Debate in some politics has moved on since the 1990s, with the emergence of discourses around ecological modernisation and sustainable development (Hajer 1995).

⁷ Comprising the lower tiers of a three tier federal structure. The state government traditionally wields most power with respect to land use in Australia, an artefact of them being separate entities prior to the creation of the federal system of government in 1901. A major driving force behind the decision by the Queensland government to support the Douglas Shire's quest to construct the Bloomfield Track was a desire to invite a showdown with the federal government over what was seen as excessive interference over environmental issues (Niemeyer 2002, esp. ch.4).

⁸ One of the most creative of the arguments along this vein was that the Bloomfield Track would abate greenhouse gases due to reduced distances travelling to and from the Bloomfield Region to major centres in the south, as argued by the Queensland Minister for the Environment in Parliament (QLA 1983, p.748).

been undertaken to reduce maintenance costs, but such measures risk incremental attrition, potentially leading to further upgrades and setting off a chain reaction of the complex suite of pressures at play in the region.

The issue lacks a coherent long-term strategy. A combination of factors, not least being the simmering tension between two intractably opposing sides, has kept the Bloomfield Track in effective policy paralysis. There remains support for it within the Bloomfield community groups, who fiercely guard against the prospect of closure — though resenting increasing level of tourist traffic through the area. They commonly express resentment at what they view as ‘outside’ interference in their own affairs by those who call for its closure. The combined forces of geographic isolation and a sense of disenfranchisement have enhanced suspicion of outside interference in local affairs. On the other side of the debate, environmental groups have consistently maintained their calls for closure of the Bloomfield Track — preferably reverted to a walking trail, for which it was used before construction.

This intractable polarisation is due in part to the absence of mechanisms for consultation and mediation, resulting in a history of rivalry and mistrust (Niemeyer 2002, ch.4). The continued policy stagnation of the Bloomfield Track issue is a constant reminder of its bitter political history, which is more characterised by political contestation than public deliberation.

4. THE DELIBERATIVE PROCESS

The FNQCJ comprised twelve individuals (deliberators) who came together to consider the future of the Bloomfield Track, selected on a random stratified basis (see Appendix 1). Deliberators were given the following task (or remit) to consider under the guidance of a facilitator over four days:

What recommendations does the jury make regarding the future management of the Cape Tribulation to Bloomfield Track?

In considering the question, the deliberators were asked to take into account:

- *Community access and consultation*
- *Impact on local Aboriginal people and their cultural values*
- *The integrity of the World*
- *Heritage/environmental values of the area*
- *Economic impacts*
- *Feasible alternatives*
- *Long-term impacts*

The program of the FNQCJ process is outlined in Table 1. In short, the four days over which it was conducted comprised one day of preparation and site inspection; two days of information gathering, during which witness presentations were given; and a final day of deliberation and report writing.

During the initial briefing deliberators were encouraged by the facilitator to treat any information provided to them with scepticism — to check its veracity and to ask for clarification where any questions arose. The briefing was followed by a site inspection, accompanied by an engineer from the Douglas Shire Council and a well-known Cape Tribulation resident and tour operator who both provided commentary.

Table 1. Timetable for the FNQCJ

Day	Time	Process	Description
Day 1 WEDNESDAY	9.00–9.30	<i>Survey</i>	Pre-deliberative survey
	9.30–10.00	Introduction	Morning tea and introductions. Brief presentation outlining the Citizens' Jury process and the timetable for the day
	10.00–11.00	Transit	Transport to Cape Tribulation
	12.00–13.00	Process Briefing	Initial briefing outlining the process and what will be happening over the next four days with lunch at Fern Tree Resort, Cape Tribulation
	13.00–17.00	Site Inspection	Guided site inspection on Bloomfield Track
	17:00–21.00	Dinner	Transport to Port Douglas for dinner
	21.00–	Transit	Transport back to the James Cook University
Day 2 THURSDAY	9.30–10.30	Jury Session 1	Identifying and exploring the issues
	10.45–11.45	Witness Session 1	Engineering/Cost impact
	12.00–13.00	Witness Session 2	Planning/Regional impact
	13.00–13.45	Lunch	
	13.45–14.45	Witness Session 3	Environmental impact (terrestrial)
	15.00–16.00	Witness Session 4	Environmental impact (reef)
	16.15–17.15	Witness Session 5	Tourism
17.30–18.00	Jury Session 2	Review of the day and identification of any further information required	
Day 3 FRIDAY	9.30–10.30	Jury Session 3	Review of previous day/ Discussion/Further information
	10.45–12.30	Witness Session 6	Local Shire Mayors
	12.30–13.15	Lunch	
	13.15–14.15	Witness Session 7	Local Community Impact
	14.30–15.30	Witness Session 8	Indigenous Community impact witness
	16.00–17:30	Jury Session 4	Points to consider/overview
	17:30–1800	<i>Survey</i>	Mid-deliberative survey
Day 4 SATURDAY	9.30–12.30	Morning Sessions	Review of previous day Jury Session Report writing
	12.30–13.15	Lunch	
	13.15–18.00	Afternoon Sessions	Jury Session Report writing Review of process
	18.00	<i>Survey/</i> Close of Jury	Post-deliberative survey

Days two and three of the deliberative process comprised witness presentations from technical and community witnesses, the primary mechanism for delivering information.⁹ The first category covered the issues of engineering and maintenance and construction costs; planning and regional impact; environmental impacts; and economic impacts of tourism (Table 2). Community representatives 'gave voice' to the social and community dimensions of the Bloomfield Track issue (Table 3).¹⁰ After presentations, witnesses were questioned by deliberators, following a period of sequestration for up to 20 minutes to permit discussion of issues and formulation of questions and points of clarification.

⁹ Provision was also made for information to be gathered from outside sources upon request. To this end, two of the organisers acted as 'researchers' for the deliberative group, seeking to answer specific queries posed using an array of pre-arranged contacts and literature sources.

¹⁰ Representation here is in the same sense described by Dryzek (2001) where it is 'discourses', or arguments, that are given voice rather than the interests of particular groups or individuals.

Table 2. Technical Witnesses

Witness Category	Representative from <i>Organisation</i>
<i>Engineering</i>	Shire Engineer, <i>Douglas Shire Council</i>
<i>Regional Impact & Planning</i>	<i>Old Cassowary Consulting</i>
<i>Environmental Impact (Terrestrial)</i>	<i>Cooperative Research Centre for Rainforest Ecology & Management, James Cook University</i>
<i>Environmental Impact (Marine)</i>	<i>Water Quality Research and Monitoring, Great Barrier Reef Marine Park Authority</i>
<i>Tourism</i>	<i>FNQ Tour Operators Association</i>

Table 3. Community Witnesses

Witness Category	Representative from <i>Organisation</i>
<i>Community Representative</i>	Mayor, <i>Cook Shire Council</i>
<i>Community Representative</i>	Mayor, <i>Douglas Shire Council</i>
<i>Community Representative</i>	Bloomfield Area Local Councillor, <i>Cook Shire Council</i>
<i>Indigenous Perspective</i>	Lecturer, Aboriginal Studies, <i>James Cook University</i>
<i>Review of the day, Points to consider</i>	<i>Queensland Department of Families, Youth and Community Care</i>

The final day of the FNQCJ is described as the ‘deliberative phase’, during which deliberators discussed the evidence with a view to formulating recommendations to address their remit and prepare the report outlining the findings.

5. DELIBERATIVE OUTCOMES

5.1. Final Positions

At the conclusion of proceedings, the deliberators of the FNQCJ were divided between two options concerning the future management of the Bloomfield Track. These positions can be summarised as follows:

- *Closure position:* Staged Closure of the Bloomfield Track over a 10-15 year period (7 of 12 deliberators in favour).
- *Status quo position:* Keeping the Bloomfield Track open with no further upgrade and regulation of vehicular access (5 of 12 deliberators in favour).

The main findings concerning each of these positions are briefly described below.

Position 1: Staged Bloomfield Track Closure

Those deliberators who preferred to see the Bloomfield Track closed made their recommendation because of their beliefs regarding:

- *the importance of the area in ecological and cultural terms;*
- *the ability of an orderly and staged closure accompanied by appropriate measures to benefit both community and environment;*
- *the multitude of pressures and impacts in the region to which the Bloomfield Track contributes;*
- *the strong likelihood that the status quo will lead to incremental upgrading of the Bloomfield Track;*
- *the relatively poor return of benefits to the local community compared to maintenance costs; and*
- *the existence of alternatives for tourism and community access that do not require that the Bloomfield Track remain open.*

It was recommended that closure be conducted in an orderly and predetermined manner to be announced publicly well in advance of implementation.

Position 2: Keep Bloomfield Track Open with Strict Management

Deliberators favouring a carefully regulated status quo did so on the grounds that:

- *access to the area should be available to all those who wished to visit; and*
- *the absence of a strong case, based on the available evidence, for the finding that the Bloomfield Track has a detrimental effect on the ecology of the area.*

This position also comes with a caveat. Those in favour of the status quo also agreed that if evidence is forthcoming that proves a negative impact on either the rainforest or the fringing reefs, then closure would be the best option to preserve the integrity of the area into the future.

Unanimous Findings

The deliberators as a whole agreed on a number of important issues. In particular, they agreed that no facilities should be constructed along the length of the Bloomfield Track and nor should any works be done to upgrade the Bloomfield Track surface or stream crossings. The Deliberators considered the establishment of Ranger Stations at each end of the Bloomfield Track, and developed a provisional guide for future consultation. It was stipulated that future management of the Bloomfield Track should be conducted with sensitivity to local indigenous issues and the land claim in the area being made at the time by the Kuku Yalanji people. Notably, there was concern among all deliberators — sometimes expressed as alarm — at the lack of scientific evidence specifically relevant to the Bloomfield Track. The degree of consensus reached in the FNQCJ is discussed in section 5.1.

5.2. Changes to Policy Preferences

Analysis of the changes to jurors' preferences during the deliberative process drew on the results of a questionnaire completed by deliberators before and after deliberation. In each case, each deliberator was asked to indicate *inter alia* his or her preferences among five key policy options. Deliberator's individually filled out the self-completion questionnaire without discussing the questions with others. They were asked to rank five policy options from one to five, with one indicating the most preferred option and five indicating the least preferred option.¹¹ The five policy options surveyed are outlined in Table 4.

¹¹ Although participants were encouraged to engage in deliberations from the perspective of what was best for the broader FNQ community — as 'citizens' to use Sagoff's (1988) terminology — rather than for themselves personally (consumers), there was no such instruction specifically for the preference ranking exercise. However, there is good reason to suggest that participants without a direct stake in the issue would vote 'expressively' from the citizen perspective (Goodin and Roberts 1975; Brennan and Lomasky 1993), unless specifically manoeuvred into doing so, say by framing the exercise in narrower (eg self-interest or monetary) terms (Blamey, Common et al. 1995; Niemeyer and Spash 2001). Moreover, detailed analysis of the data suggests that the perspectives from which individuals chose to vote were not neatly divided between citizen and –consumer perspectives, but between competing conceptions of the common good (Niemeyer 2002, ch.9).

Table 4. Five Policy Options used in the Preference Survey¹²

Short Name	Description
Bituminise	Upgrade the road to bitumen.
Upgrade	Upgrade the road, to a dirt road suitable for conventional vehicles.
Stabilise	Stabilise specific trouble spots, such as steep slopes, on the road but leave it as a 4WD track.
Status Quo	Maintain the road in its current condition as a 4WD track.
Close	Close the road and rehabilitate it.

The pre and post-deliberative policy preference rankings provided by deliberators are shown in Table 5. The top three rows show the pre and post-deliberative policy aggregate rank using three aggregation-methods — Borda, Condorcet (or consensus), and Hare — each giving an indication of the overall preference of the jury when calculated as an aggregation of the preferences of individual jurors.¹³ The lower rows of the table report individual policy preference ranks for each of the deliberators.

Table 5 shows that aggregate ranking has changed considerably during deliberation, each stage producing a different Condorcet winner (shown as the highlighted option).¹⁴ Stabilisation is the pre-deliberative winner; the post-deliberative winner Closure, having risen from least-preferred according to two of the three aggregate methods. Notably, Bituminise has decreased in rank from third to fifth. The shifts of remaining options (Upgrade and Status Quo) vary depending on which aggregation method is used.

¹² The order of options is not the same as that provided to deliberators, which was randomly determined.

¹³ A number of possible methods can be used to calculate aggregate preference (for example Stern 1993). No single method provides the definitive outcome, a conclusion most famously demonstrated by the work of Arrow (1963), who concluded that, depending on the array of preference inputs, results of aggregations are contingent upon the method used.

¹⁴ A Condorcet winner is an option that wins all pairwise ballots against all other alternatives. In the absence of a clear winner, the first rank option is that which wins the most ballots.

Table 5. Pre and Post-Deliberative Preference Ranks

	Pre-deliberation					Post-deliberation				
	Bitu- menise	Upgrade	Stabilise	Maintain Status Quo	Close	Bitu- menise	Upgrade	Stabilise	Maintain Status Quo	Close
Aggregation method	Aggregate Rank									
Borda Rank	3	4	1	2	5	5	4	3	2	1
Condorcet	3	2	1	4	5	5	4	3	2	1
Hare	3	5	1	2	4	5	4	3	2	1
Juror*	Individual rank									
ADV	5	4	3	2	1	5	4	3	1	2
ASW	4	3	1	2	5	5	4	3	1	2
BOA	5	3	1	2	4	5	4	2	3	1
JAN	1	4	3	2	5	5	4	3	2	1
JUL	2	1	3	4	5	5	3	1	2	4
KEI	4	3	2	1	5	5	3	1	2	4
KOD	2	5	1	4	3	4	5	2	3	1
MAT	5	4	2	1	3	5	4	3	2	1
PEA	4	3	2	1	5	5	4	3	2	1
RAS	4	3	1	2	5	5	4	3	2	1
SNO	1	2	3	4	5	5	4	3	1	2
TAM	2	5	3	4	1	5	4	3	2	1

*Abbreviations and names referred to herein are pseudonyms chosen by jurors to protect their identity.

That consensus among deliberators has increased during the deliberative process can also be gauged from Table 5, which is confirmed by formal statistical analysis in Appendix 2.

Individual preference rankings in Table 5 for each of the deliberators show considerable variation in the magnitude of change. What is important for present purposes is that there was a strong trend among all deliberators toward a consensual position, although formal analysis in Appendix 2 shows that there remains a significant level of dissensus among the deliberators following deliberation, which is also reflected in the deliberators' report.¹⁵

6. WHAT DROVE THE CHANGES?

The processes driving the changes observed during deliberation can be summarised in terms of three inter-related processes. First, the FNQCJ provided the impetus for deliberators to turn their minds to the issue. Beforehand their preferences tended to be premised on fairly casual, yet (intersubjectively) consistent analyses of symbolic cues from highly politicised sources.¹⁶ Second, the information provided during the process challenged some of these symbolic claims. Finally, the process of deliberation assisted the deliberators in grappling with issues of significant complexity, about which their assessments and conclusions became comparably sophisticated. Each of these processes is discussed in turn below.

¹⁵ Indeed, statistical tests of changes in data that pertain to subjective preferences are a poor indicator of subjective significance, hence the need to use quantitative and qualitative methods together to triangulate results. For details of this analysis and findings see Niemeyer (2002, ch.7).

¹⁶ Intersubjective consistency here refers to the extent to which deliberator's concurrence with particular discourses (symbolic or otherwise) translated into consistent preference positions (see Niemeyer, 2002, ch.8).

6.1. Deliberation as the Turning of Minds to the Task

Deliberation begins ‘when we turn our minds to something’; so argue Goodin and Niemeyer (2003). This is not to say that that deliberation begins when something enters the field of conscious, but rather that it concerns primarily the level of effort applied to the task. Prior to deliberation, all of the deliberators had given Bloomfield Track issue some thought and developed coherent opinions about it.¹⁷ However, few had ‘deliberated’ it in any detail.

This difference is well encapsulated by the distinction between ‘central’ and ‘peripheral’ routes to attitude formation, as described by Petty and Cacioppo (1986). Positions may be arrived at via peripheral routes such as taking cognitive shortcuts or arriving at ‘top of the head’ conclusions or even simply following the lead of others believed to hold similar attitudes or values.¹⁸ These shorthand approaches involve the use of available cues such as ‘expertness’ or ‘attractiveness’ — not deliberation in the internal-reflective sense (Goodin 2000). Where peripheral shortcuts are employed, there may be inconsistencies in logic and the formation of positions, based on partial information or incomplete information processing. Central routes to the development of attitudes, by contrast, involve the application of more deliberate effort to the matter at hand, in a way that is more akin to the internal-reflective deliberative ideal.

There is nothing intrinsic to the ‘central’ route that requires group deliberation. What is important is that there is ‘sufficient impetus’ for engaging in deliberation, for example when an individual is directly affected by an issue (Petty and Cacioppo 1986). Indeed, it was on the first day, before formal deliberation began that deliberation ‘proper’ began, and deliberators turned their mind to the task at hand. The event that provided the impetus occurred in part by accident. Due to slippage of the schedule, the bus was forced to turn around at Cowie Range — the steepest section of the Bloomfield Track — 10km short of the objective to reach Bloomfield River and visit the local communities to its north. Deliberators disembarked the bus on to the road, which had recently been surfaced with concrete.

It appears that this event is significant because deliberators were able to situate themselves more properly in the ecological context of the Bloomfield Track issue. This impacted on the way in which deliberators viewed the Bloomfield Track issue. As one deliberator (Koda) put it:

I didn’t really learn much new but the site visit was good in terms of seeing the current state of the road, *thinking about the big picture issues* — international significance etc — and that local access issues and the 4wd road aren’t really good reasons to compromise the area’s intrinsic values. [emphasis added]

Thus, the site inspection had a priming effect for at least some deliberators, enhancing awareness of the juxtaposition of forest and road and priming them to consider the issue over the days ahead. Being ‘in’ nature appears to have served to ‘enfranchise nature’, in the sense of Goodin (1996) by bringing nature’s ‘interests’ into the deliberative domain, giving rise to a heightened appreciation of the environmental imperative. The experience served to turn minds to the task.

Not all deliberators were affected by the site inspection in the same way. One in particular (Keith) who had travelled the Bloomfield Track a number of times some years previously, was struck by the extent of revegetation that had occurred during the intervening period. As will be seen in the following chapters, this appears to have contributed to a perception by him, along with a small number of other deliberators, that there was good level of resilience in the ecosystems abutting the Bloomfield Track. As will be seen, when combined with the absence of direct scientific evidence of major impacts attributable to the Bloomfield Track, this led to a perception that perhaps it did not significantly contribute to environmental damage. The impact of the site inspection is discussed further in section 6.4.

6.2. Dispelling Symbolic Myths

A significant impact of the FNQCJ was to dispel the arguments associated with symbolic politics, which could not withstand deliberative scrutiny (Niemeyer Forthcoming). This occurred because deliberation provided impetus to consider aspects of the issue in ways they had not

¹⁷ As indicated by deliberators on surveys filled out before the commencement of proceedings.

¹⁸ For example (Lupia 1994).

beforehand as well as providing an ‘information rich’ environment for group (and individual) deliberations. This contrasts strongly with the pre-deliberative situation described above, dominated by symbolically loaded messages from various interests associated with the Bloomfield Track issue. These tended to be either directly countered (to the satisfaction of deliberators) by witness presentations during the deliberative process, or relegated by other considerations during deliberation. The claim of reef damage in particular was directly challenged by research.¹⁹

The reef issue was not the only symbolic claim challenged by the deliberative process. Though not directly contravened by any particular body of research (because there was none to date), the appeal for Bloomfield community access via the Bloomfield Track was also discounted by a combination of witnesses’ presentations and deliberators’ own analyses. Two factors contributed to this. First was the knowledge that the ‘inland’ route was currently being subjected to a major upgrade to bitumen. Second was the nature of the community witness presentations. Rather than convey an urgent need for the Bloomfield Track to remain open for local community access, presentations by community witnesses highlighted divisions among Bloomfield residents as well as invoking concern about the long-term consequences of its continued use.

One witness in particular argued that the community often used the Bloomfield Track during the ‘dry’ season (approximately March to October) for transit down to Mossman and Cairns for shopping, where the cost of provisions are considerably cheaper. He was then pressed on this issue during questioning by the suggestion that it might indeed be cheaper to travel to Cooktown for provisions, rather than Mossman or Cairns once *all* the costs were taken into account.²⁰ These considerations tended to dissuade deliberators as to the importance of the Bloomfield Track, encapsulated by the following quote from a deliberator (Aswad):

...locals use coast road because it’s ‘relaxing’ — not a great reason in my mind to keep the [Bloomfield Track] open, given the alternatives.²¹

Another salient factor influencing deliberators was their perception that certain witnesses used arguments that resonated with those made during its construction, which did not reflect the contemporary situation to which deliberators had become inured. This was accompanied by a heightened concern for longer-term environmental impacts through greater appreciation of complexity and incremental impacts (see below). This gave rise to strong levels of scepticism with respect to the ‘pro-Bloomfield Track’ position.

6.3. Appreciating Issue Complexity

Appreciation of complexity is the third driver of change during deliberation. This was precipitated in part by turning minds to the task. It was also facilitated by witnesses’ presentations during the deliberative processes, which provided a framework for understanding complexity and a way through it. On this score, the two most influential presentations emphasised the long-term, integrated and incremental impacts. Both carefully laid out the various options and associated cost and benefits, not only in monetary, but also less tangible dimensions of social impact. One in particular advocated a ‘win-win’ position whereby conversion of the Bloomfield Track to a walking track, combined with the upgrade of the inland route, could lead to currently unavailable opportunities for ‘node’ development, trapping economic activity at each end, rather than being a glance out the window as the tourist busses pass by.

One issue raised that was not previously considered by deliberators related to incremental attrition — the potential for the Bloomfield Track to be gradually upgraded via a series of steps, each seemingly insubstantial, but with dramatic consequences, increasing overall pressure on the region. This includes improved access increasing the likelihood of development of existing

¹⁹ This had been in the public domain for some years (Ayling and Ayling 1991; Ayling and Ayling 1999) but it is a testament to the power of symbolic arguments that they persist in the face of countervailing evidence. Importantly, the evidence presented did not prove that there was, or ever would be an adverse impact of the Bloomfield Track on the inshore reefs. It only supported the case that none could be found, such is the nature of scientific research. This point was contested among deliberators on the final day of the FNQCJ. The debate has implications for the role of basic scientific literacy in deliberation of evidence, which is beyond the scope of this paper.

²⁰ Including transport (fuel, vehicle maintenance), road maintenance and ‘indirect’ costs (particularly in relation to environmental damage).

²¹ The alternative referred to above concerns the ongoing upgrade of the inland route (shown in Figure 1).

freehold land, as yet unoccupied. Associated increased demand for services would result in more pressure on a region already delicately poised in balancing environmental concerns with human activities. Another presenter reinforced these arguments, adding legitimacy by grounding them in the decisions that currently faced the Douglas Shire Council.²² This included the ‘planning disaster’ associated with poorly serviced rural developments, such as that north of Daintree River.²³

Although the deliberative process provided the impetus to engage the issue in all its complexity and filled important information gaps, deliberators also demonstrated strong capacity to grapple with the issues. The results of the FNQCJ support the contention that, under the right circumstances, ordinary citizens are capable of dealing with these issues, in contrast to the sceptics of deliberative democracy.²⁴ However, the results also raise a number of questions regarding the proper interpretation of the role of formal deliberative approaches, such as citizens’ juries. Most importantly, without proper attention to the (communicative) ideals of deliberative democracy, the results may be devoid of meaning, particularly in the face of contingencies during the deliberative process. A number of these are discussed below.

6.4. Contingency and Deliberative Outcomes

Although the FNQCJ yielded a dramatic transformation of policy preferences, it did not result in a definitive consensual outcome. Based on the perceived emphasis on consensus as an outcome of deliberative process — albeit incorrect (Dryzek and Niemeyer 2003)— this could be interpreted as a disappointing result. However, from a bounded-rationality perspective (Simon 1957) the fact that deliberation concerning a complex issue such as the Bloomfield Track did not achieve a consensus is not entirely surprising. Individuals that are privy to the same information and with similar values may yet still disagree. Cognitive limitations will mean that the interpretation and processing of the same information will not be the same for all.²⁵

This emphasis on consensus has led to a number of criticisms of deliberative democracy. For example, social choice theorists such as Van Mill (1996) argue correctly that complete consensus is unlikely, and conclude incorrectly that as a consequence deliberative democracy is effectively pointless because it will still give rise to indeterminate outcomes. More substantive is the argument that a deliberative consensus is likely to be an oppressive one (e.g. Kuran 1998). If consensus were indeed the objective of deliberation it would be problematic, but it is not. Dryzek and Niemeyer (2003) argue that what is important is agreement at the ‘meta level’: regarding the set of legitimate values, arguments and preferences, which is both more easily defended on normative grounds and achieved during actual deliberative processes.

What is potentially problematic for deliberative democracy — at least its formal deliberative process counterparts — is that there will always remain contingencies giving rise to different outcomes, no matter how well the process is designed. In short, even with a fixed design we speculate that circumstances (both anticipated and unforeseen) will lead to systematic

²² It is interesting to note that this witness also played a strong role in the environmental activism in the early 1980s seeking to stop construction against the Douglas Shire Council and Queensland State Government. He lost that battle, but was elected as Mayor in 1991 on an openly pro-environmental platform, and has remained in that position ever since. All deliberators were aware of the witness’ activist past. Many were preparing to adopt a sceptical position in relation to his presentation. This was in no small part due to earlier evidence on the reef, which could not emphatically support claims regarding the impact of the Bloomfield Track. Consequently, there was scepticism among deliberators regarding such symbolic claims. Before his presentation, the witness was symbolically associated with these claims, which tainted him in the eyes of many deliberators. The witness dispelled completely the perceptions among some deliberators that he was another ‘greenie ratbag’. He surprised most deliberators with his frank agreement regarding the veracity of symbolic claims such as reef damage. The focus of his presentation was not addressing such claims, but an integrated perspective of the issue over the long-term in which a wide range of impacts were considered.

²³ Residents who were once happy to purchase unserviced blocks (no water, electricity etc.) were subsequently demanding services that could only be subsidised at the cost of the rest of the Shire. Figures cited included examples of rates from residents just to the south of the Bloomfield River, which yielded an annual return of approximately AU\$6000 in rates. This compared unfavourably to an approximate AU\$50,000 in annual maintenance costs for the Bloomfield Track, which residents claimed were essential for access.

²⁴ For a review, see Dryzek (2000).

²⁵ As is well understood in the literature on the understanding of risk (Slovic 1987; Irwin 2001).

variation in deliberative outcomes. However, unlike indeterminacy of the sort encountered by social choice²⁶, systematic variation in the outcomes of deliberation can be addressed by focussing instead on reasons rather than outcomes (in the form of policy preferences). We will now attempt to address contingencies in respect to the FNQCJ and outline the role of considered reasons in communicating outcomes of deliberative processes into the policy arena.

Two important contingencies need to be considered with respect to the FNQCJ. The first pertains to the turning point during the site inspection on the first day of proceedings, which occurred by accident when deliberators stepped off the bus and got ‘close up’ to the Bloomfield Track in its rainforest setting. As discussed earlier, this was an important deliberative event. It also raises the question of ‘what if’ the field trip was on schedule and, instead of that particular experience, deliberators had witnessed first-hand the isolation of the Bloomfield Communities — which was otherwise left to the community witnesses to represent. Arguably, visiting these communities would have served to enfranchise the Bloomfield community’s arguments for the Bloomfield Track in the same way that the unscheduled stop served to enfranchise nature.

Another consideration pertains to the presentations of community witnesses — or rather the absence of presentations by certain groups. Two community groups in the region were approached to provide presentations. Both reacted with some hostility and refused — being mistrustful of the process and concerned that the outcomes may not be in their favour. This left the elected local councillors as the primary community voice. There remains a question as to whether a stronger case could have been made for the explicit need for the Bloomfield Track, one that outweighs any conservation imperative.

To address the questions raised by these contingencies would require a full understanding of the reasons why deliberators arrived at the conclusions they did, given the evidence available, and the provisos with which they were made. The deliberators were made aware of the developments leading to the absence of community groups from the process. Most expressed disappointment at their recalcitrance. This was particularly the case for the indigenous community of Wujal Wujal.

However, even if representations were made directly by senior members of the Wujal Wujal community, there would be a serious question as to representativeness and legitimacy. Power relationships within the community, driven by a complicated mix of political and cultural processes, have tended to distort the messages in relation to the Bloomfield Track issue (Anderson 1989). Therefore, even addressing this contingency would itself raise serious questions as to the veracity of the deliberative process.²⁷

Moreover, great sensitivity was given to Bloomfield community needs in the formulation of recommendations, which can only be appreciated through the detailed recommendations and reasons given. In doing so it can be seen that in formulating their positions, most deliberators developed positions that addressed Bloomfield community access by some or other means, or stipulated policies that were contingent upon other developments. Those deliberators who favoured the closing the Bloomfield Track did so only as part of a suite of policies aimed at alleviating isolation in the Bloomfield region, such as the upgrading of the road north to Cooktown to meet the upgraded inland ‘highway’.

Similarly, those who favoured of the status quo did so only as far as they felt the impacts associated with the Bloomfield Track were not well established — which is not the same as denying the possibility. Many stated that filling these information gaps could change their minds. In short, deliberation facilitated the development of sophisticated and integrated policy positions, through which they sought to find a way through an increased appreciation for issue complexity.

Given these detailed reasons, that there also remained a degree of dissensus is not necessarily problematic. Disparate positions were supported by arguments that were tractable, unlike the pre-deliberative situation resulting from political processes aimed at eliciting particular outcomes. Moreover they may better reflect the nature of the issue. Where symbolic politics

²⁶ See footnote 13 above.

²⁷ Such issues of representation are problematic, and beyond the scope of this paper (see Eckersley 2000; Dryzek 2001). However, it could be argued that effective (and relatively dispassionate) representations of general discourses *were* made, in addition to a member of the deliberative group who was herself a member of the indigenous community in the Daintree Region.

feeds off a desire for certainty, the residual dissensus among the deliberators required confidence and a realistic grasp of the uncertain ties of the issue. Certainly the deliberators themselves recognised this. One in particular (Rastus) commented that an advantage of the deliberative process was:

The fact that we did not come to a definite solution, I think, shows how successful the [deliberative] process is at tackling any problem — i.e. this problem does not have a definite solution.

Although there is no definitive outcome from the FNQCJ, it provides a way forward for devising policies consistent with those that might be formulated under the ideals of deliberative democracy.

7. CONCLUSION

The FNQCJ dramatically transformed the policy preferences of deliberators, with strong convergence towards a single position during the process. It did not result in complete consensus, but it was, arguably, far from a failure. It assembled citizens, whom were able to bring a suite of values to bear on the issue during deliberations and find areas of common ground that were heretofore subject to distortion and manipulation in the public sphere. Before deliberation, the complexity of the issue permitted deep fracturing of consensus within the prevailing political environment, despite widely shared values such as long-term concern for environmental issues, as well as community access. Deliberation enhanced participants' ability to engage in 'central' processing of the issue in all its complexity to arrive at more sophisticated perspectives and a stronger degree of consensus. The conclusions were based on judgement and reason, rather than symbolic cues, and are legitimate only as far as these reasons, and not straightforward policy preferences, are transmitted into the policy-making arena.

The analysis of the FNQCJ contrasts with implicit assumptions of many deliberative approaches such as deliberative opinion polls (Fishkin 1995) and deliberative valuation methods (Niemeyer and Spash 2001). Although drawing on ideals of deliberative democracy, in practice these methods tend to focus almost exclusively on producing reductionist conclusions, dispensing with the rich information embedded in the deliberative process. This serves not just to distort deliberative outcomes (O'Hara 1996), it also assumes a finality to a deliberative process that is not just epistemologically questionable (increasing knowledge and contemplation often generates more questions than it answers, not certainty) but also negates a myriad of contingencies intrinsic to deliberative processes by virtue of the use of deliberative designs and the occurrence of chance events; indeed, the very complex nature of the issue itself.

Given these contingencies, deliberative processes often raise questions that seriously threaten to undermine the legitimacy of formal deliberative processes in policy making, rendering them easily dismissed by opponents and public alike as invalid or manipulated. The only remedy is to focus on reasons, rather than conclusions. This is the mark of a truly 'reflective democracy' (Goodin 2002). It is also consistent with complex environmental issues, where definitive conclusions are likely to prove elusive.

These findings have practical implications for the use of formal deliberative processes in decision-making. It is not argued here that formal deliberative processes such as citizens' juries should replace established democratic decision processes. However, the case of the FNQCJ shows that, if conducted with care, they can provide sound decision inputs. On a broader level they may also provide a partial remedy to manipulative political processes, such as symbolic politics.

8. REFERENCES

- Anderson, C. (1983). "Aboriginals and tin mining in North Queensland: a case study in the anthropology of contact history." *Mankind* **13**: 473–497.
- Anderson, C. (1989). "Aboriginals and conservation of the Daintree." *Australian Journal of Social Issues* **24**(3): 214–227.
- Arrow, K. (1963). *Social Choice and Individual Values*. New York, Wiley.
- Ayling, A. M. and A. L. Ayling (1991). The Effect of Sediment Run-off on the Coral Populations of Fringing Reefs at Cape Tribulation. A Report to the Great Barrier Reef Marine Park Authority. Townsville, Great Barrier Reef Marine Park Authority.
- Ayling, A. M. and A. L. Ayling (1999). Medium-term changes in coral populations of fringing reefs at Cape Tribulation. A report to the Great Barrier Reef Marine Park Authority. Townsville, Great Barrier Reef Marine Park Authority.
- Barber, B. (1984). *Strong Democracy: Participatory Politics for a New Age*. Berkley and Los Angeles, University of California Press.
- Bessette, J. M. (1980). Deliberative democracy: the majority principle in republican government. *How Democratic is the Constitution?* R. Goldwin and W. Shambra. Washington, D.C., American Enterprise Institute: 102–116.
- Blamey, R., M. Common, et al. (1995). "Respondents to contingent valuation surveys: consumers or citizens?" *Australian Journal of Agricultural Economics* **39**: 263–288.
- Bohman, J. F. (1998). "The coming of age of deliberative democracy." *Journal of Political Philosophy* **6**(4): 399–423.
- Borschmann, G. (1984). *Greater Daintree: World Heritage Forest at Risk*. Hawthorn, Australia, Australian Conservation Foundation.
- Brennan, G. and L. E. Lomasky (1993). *Democracy and Decision: The Pure Theory of Electoral Preference*. Cambridge, Cambridge University Press.
- Brook, S. (2000). Raiders of the lost rainforest: Ecologists are searching the rainforest for useful plant extracts. The Australian. Sydney, NSW: Review 4–5.
- Cottrell, A., S. Cunliffe, et al. (2001). Awareness and preparedness for natural hazards in a remote community: Bloomfield River Region and Rossville. Townsville, Centre for Disaster Studies, School of Tropical Environment Studies and Geography, James Cook University.
- Doyle, T. (1992). "Environment and the media." *Social Alternatives* **11**(1): 47–54.
- Dryzek, J. S. (1990). *Discursive Democracy: Politics, Policy and Political Science*. Cambridge, Cambridge University Press.
- Dryzek, J. S. (2000). *Deliberative Democracy and Beyond: Liberals, Critics, Contestations*. Oxford, Oxford University Press.
- Dryzek, J. S. (2001). "Legitimacy and economy in deliberative democracy." *Political Theory* **29**(5): 651–669.
- Dryzek, J. S. and S. J. Niemeyer (2003). Pluralism and consensus in political deliberation. Paper presented at the 2003 Annual Meeting of the American Political Science Association, Philadelphia.
- Eckersley, R. (2000). Deliberative democracy, ecological representation and risk: Towards a democracy of the affected. *Democratic Innovation: Deliberation, Representation, and Association*. M. Saward. London, Routledge. **9**: 117–132.
- Edelman, M. J. (1964). *The Symbolic Uses of Politics*. Urbana, Univ. of Ill. Press.
- Fishkin, J. S. (1995). *The Voice of the People: public opinion and democracy*. New Haven, Conn., Yale University Press.
- Fitzgerald, R. (1984). *From 1915 to the Early 1980s: A History of Queensland*. St Lucia, University of Queensland Press.
- Gibbons, J. D. (1993). *Nonparametric measures of association*. Newberry Park, Calif, Sage Publications.
- Goodin, R. E. (1996). "Enfranchising the Earth and its Alternatives." *Political Studies* **44**(5): 835–849.
- Goodin, R. E. (2000). "Democratic deliberation within." *Philosophy and Public Affairs* **29**(1): 81–109.
- Goodin, R. E. (2002). *Reflective Democracy*. Oxford, Oxford University Press.
- Goodin, R. E. and S. J. Niemeyer (2003). "When does deliberation begin? Internal reflection versus public discussion in deliberative democracy." *Political Studies* **51**(4): 667–689.
- Goodin, R. E. and K. W. S. Roberts (1975). "The ethical voter." *American Political Science Review* **69**: 926–928.

- Hajer, M. (1995). *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Oxford, Clarendon Press.
- Irwin, A. (2001). "Constructing the scientific citizen: science and democracy in the biosciences." *Public Understanding of Science* **10**(1): 1-18.
- James, R. and R. K. Blamey (2000). A Citizens' Jury Study of National Park Management. Canberra, Research School of Social Sciences, The Australian National University.
- Joss, S. (1998). "Danish consensus conferences as a model of participatory technology assessment: an impact study of consensus conferences on Danish Parliament and Danish public debate." *Science and Public Policy* **25**(1): 2-22.
- Kuran, T. (1998). "Insincere deliberation and democratic failure." *Critical Review* **12**(4): 529-544.
- Lupia, A. (1994). "Shortcuts versus encyclopedias: information and voting behaviour in California insurance reform elections." *American Political Science Review* **88**(1): 63-76.
- Marden, J. I. (1995). *Analyzing and modeling rank data*. London ; New York, Chapman & Hall.
- Niemeyer, S. J. (2002). Deliberation in the wilderness: transforming policy preferences through discourse. Unpublished PhD Thesis, Social and Political Theory Programme, Research School of Social Sciences, The Australian National University. Canberra.
- Niemeyer, S. J. (Forthcoming). "Deliberation for the wilderness: displacing symbolic politics." *Environmental Politics*.
- Niemeyer, S. J. and C. L. Spash (2001). "Environmental valuation analysis, public deliberation, and their pragmatic syntheses: a critical appraisal." *Environment and Planning C* **19**(4): 567-585.
- O'Hara, S. U. (1996). "Discursive ethics in ecosystem valuation and environmental policy." *Ecological Economics* **16**: 95-107.
- Petty, R. E. and J. Cacioppo (1986). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York, Springer-Verlag.
- QLA (1983). Queensland Parliamentary Debates. Queensland Legislative Assembly. Brisbane, Government Printers.
- Rainforest CRC (2000). Daintree Futures Study: A report to the Wet Tropics Ministerial Council. F. N. S. Rainforest CRC Cairns with Gutteridge Haskins and Davey. Cairns, Rainforest CRC.
- Rolls, E. (1994). Threat to forest bats, bacteria. Sun Herald. Sydney: 32.
- Russell, R. (1985). *Daintree: Where the Rainforest Meets the Reef: Our Last Paradise at Risk*. McMahons Pt, NSW, Kevin Weldon & Assoc., The Australian Conservation Foundation.
- Sagoff, M. (1988). *The Economy of the Earth: Philosophy, Law and the Environment*. Cambridge, Cambridge University Press.
- Sears, D. O. (1993). Symbolic Politics: A Socio-Psychological Theory. *Explorations in political psychology*. S. Iyengar and W. J. McGuire. Durham, NC, Duke University Press. **5**.
- Simon, H. A. (1957). *Models of Man: Social and Rational*. New York, Wiley.
- Slovic, P. (1987). "Perception of risk." *Science* **236**: 280-285.
- Stern, H. (1993). Probability models on rankings and the electoral process. *Probability Models and Statistical Analyses for Ranked Data*. M. A. Fligner and J. S. Verducci. New York, Springer-Verlag: 173-195.
- Sunstein, C. R. (1995). "Incompletely theorized agreements." *Harvard Law Review* **108**: 1733-1772.
- Van Mill, D. (1996). "The possibility of rational outcomes from democratic discourse." *Journal of Politics* **58**: 734-52.
- Webb, L. J. (1984). Scientific values of the rainforests of the Douglas Shire. Brisbane, QLD, Griffith University. School of Australian Environmental Studies: 15.
- Wilderness Action Group (1983). *The Trials of Tribulation*. Mossman, Wilderness Action Group.
- WTMA (1992). The economic contribution of tourism to the Daintree/Cape Tribulation area. W. S. Cummings, Economic Research Services. Cairns, Wet Tropics Management Authority: 34.

APPENDIX 1. THE DELIBERATORS

Table 6 shows the deliberators selected to participate in the FNQCJ. A total of 16 citizens were selected from the FNQ region from approximately 600 responses to 2000 letters sent to randomly selected addresses. Four of the selected participants were unable to participate in the process, leaving the twelve deliberators.

Table 6. The Deliberators

<i>Codename</i> ²⁸	<i>M/F</i>	<i>Age</i>	<i>Occupation</i>	<i>Education</i>	<i>Residency (years)</i>	<i>Shire</i> ²⁹
<i>Adventure</i>	F	41	Bookkeeper	Tertiary	>5	Douglas
<i>Aswad</i>	F	57	Inspector	Yr10	>20	Cairns
<i>Boat</i>	M	40	Engineer	Tertiary	>1	Douglas
<i>Janine</i>	F	43	Program coordinator (community services)	Yr10+Ter	>20	Cairns
<i>Julie</i>	F	56	Retired	Yr12	>10	Cairns
<i>Keith</i>	M	64	Retired	Yr12	>5	Cairns
<i>Koda</i>	F	34	Marine scientist	Tertiary	>10	Douglas
<i>Matilda</i>	F	39	Mother/ part-time study	Yr12	>10	Cairns
<i>Pearl</i>	F	29	Tourism	Yr10	>10	Cairns
<i>Rastus</i>	M	34	Professional musician	Yr10+Ter	>5	Cairns
<i>Snoopy</i>	M	54	Real estate agent	Yr12	>10	Cairns
<i>Tamarra</i>	M	49	Orchardist	Yr12	>20	Mareeba

²⁸ To protect their identity, deliberators were encouraged to choose codenames.

²⁹ See Figure 1 for location of Shires.

APPENDIX 2. TEST FOR CONCORDANCE

One test for concordance among ordered ranking of policy options uses Spearman distance, which is the square of Euclidean distance, or the hypotenuse of the triangle formed by the change in rank for the m policy options in m -dimensional space,

$$d_{Euc}(x, y) = \sqrt{i^2 + j^2 + \dots + m^2}$$

Where $m = 5$ policy options used in the policy preference survey (see Marden 1995, pp. 21 & 24).

The test for concordance uses the array of distances between deliberator ranks to generate a probability distribution, much in the same way as for a standard t -test (Gibbons 1993). The results of the test for change in concordance are shown in Table 7. It shows that the average (Spearman) distance between each of the individual preference ranks of deliberators has decreased during the deliberative process from 17.0 to 5.5, a statistically significant change of nearly two-thirds the pre-deliberative value.

Table 7. Test for Change in Concordance

	Deliberative Stage		Change
	<i>Pre</i>	<i>Post</i>	
Average distance (Spearman)	17.0	5.5	11.6
Standard error	3.4	1.5	3.7
Z score	3.41	3.53	3.1
Significance	99%	99%	99%