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Jerome K. Vanclay  
*Southern Cross University*

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## **Community Attitudes towards Private Native Forestry in New South Wales**

*Jerome K. Vanclay*

Southern Cross University, PO Box 157, Lismore NSW 2480, Australia

### **Abstract**

An on-line survey during August-September 2006 examined community attitudes toward private native forestry. Survey findings (n=156) confirmed prior hypotheses that attitudes would correlate with associations (e.g., professionals in favour of incentives, farmers in favour of freedom to manage, conservationists in favour of regulations), and with interest (biodiversity enthusiasts in favour of regulations; producers in favour of incentives), but refuted the prior hypotheses that urban dwellers would be more likely to favour regulations. Respondents appear to reflect different constituencies with divergent views without a shared understanding of the condition and dynamics of these forests. This indicates the need for more extension and public education, particularly since forests continue to be an election issue. The survey does not gauge support for private native forestry, but helps to untangle the views from the constituencies promoting them. Regulatory approaches received most support from respondents affiliated with an environmental groups, with a national concern for biodiversity, who fear that private native forests are in poor condition and are going to get worse. Advocates for more landholder freedom tend to be landholders who believe that private native forests are in better condition than comparable State Forests, and who are optimistic about the future for private native forests. Advocates for incentives tend to be urban dwellers with a production focus and professional affiliations.

### **Introduction**

The NSW Government has spent a decade attempting to implement regulations dealing with private native vegetation (e.g., Prest 2003). Some interest groups have lobbied for the rapid introduction of strict regulations (e.g., Morrison 2006), assuming that the dominant interest of private native forest owners is to realize a profit as quickly as possible. Others have called for a more considered introduction of a stewardship scheme based primarily on incentives (e.g., Vanclay *et al.* 2006). This paper examines the evidence regarding landholder and community attitudes towards private native forestry.

### **Literature**

There is relatively little literature relating attitudes towards private native forestry in NSW. A recent thesis found only five such reports relating to private native forestry in the whole of Australia (amongst 60 world-wide; Deane 2004). Much related material deals with landholder attitudes to planted forests, not to the current topic of community attitudes toward private native forests. However, existing studies offer an insight both into the extent of information, and of attitudes towards these forests.

In 1992, the Resources Assessment Commission (1992, p.495-6) reported that *“Very little is known about the extent and condition of private native forest and the management practices that are followed. There is a poor understanding of the economic and other forces that may be affecting decisions of private land owners in matters such as the frequency of logging, conservation management and whether to regenerate cleared areas...”*

In 1997, the NSW State of the Environment Report (NSW EPA 1997) stated that *“private forests are not generally managed for long term sustainability”* of timber production. The foundation for this remark is not apparent.

In 1998, the Queensland CRA/RFA Steering Committee (1998) conducted a survey of farm forestry in south-east Queensland, and found that 60 respondents had private native forest, amongst whom 52% stated the intention *“was to manage at least part of their forest for ongoing wood production”*. Most of those consulted felt that there was great potential *“to successfully manage their native forests for sustained timber production”*. In a related survey, sawmillers indicated their view that 62% of landholders were managing for ongoing timber production, while 30% were clearing to improve grazing (Queensland CRA/RFA Steering Committee 1998). The study reported that one of the main impediments to sustainable PNF was a lack of silvicultural, market and economic information to enable informed decision-making by landholders.

A similar study in NSW (NSW CRA 1999) found that of 254 responses, 93% in the Upper North East and 75% in the Lower North East had private native forests. Over 35% indicated that they currently managed their forests for both timber production and conservation and would continue do so, while 15% managed for conservation only, and 5% managed for timber production alone. In relation to the main factors affecting forest management, 69% of respondents identified concern or confusion over regulatory and legislative requirements, 40% referred to problems in negotiating environmental controls, 43% expressed concern about financial returns, and 49% sought professional management advice. About 30% were interested in fauna and flora surveys. Although more than half the respondents had been involved in some form of forest management, they rated their forestry activities low relative to grazing and dairying, the two most common forms of land use. Most respondents reported that their forestry income amounted to less than 10% of total farm income.

A more recent study in southern NSW (Deane *et al.* 2003) revealed that the average length of PNF ownership was 26 years. Amongst these landholders, the prime reasons for an interest in PNF, attracting 87 to 89% of affirmations, were (1) seeking solitude and/or privacy, (2) observing animals and/or plants, and (3) hiking or nature walking. Many also take visitors into forest (65%), and go camping or picnicking (55%). Some 57% of respondents had harvested timber for on-property use, 50% had taken measures to reduce fire risk, and 39% had undertaken conservation activities. Deane *et al* (2003) reported that *“private forest landowners have a strong sense of stewardship over their forest”*. Some 53% of PNF owners felt that they should be able to do as they please with their forests, while 78% agreed that government should have a strong role in overseeing landowner use of their forest. A majority of landowners

agreed with the statement that, “if carefully managed, privately owned native forest can provide products from the forest and conservation outcomes”.

Every three years since 1994, the NSW EPA has conducted a survey of people’s attitudes to the environment. In 2003, the principal concern was for water, with 57% of the 1421 respondents identifying water as one of the top two environmental concerns facing NSW (NSW EPA 2003 Table 7). In contrast, only 10% of respondents included the land degradation, and only 4% mentioned logging or woodchipping. In 2003, the environment was mentioned amongst the top two concerns less frequently than in previous years (down by half since 1997), where as the concern for health and education has doubled. Despite this decline in environmental consciousness, 59% of respondents expressed support for increased taxes to fix environmental problems. When asked whether various sectors were doing enough to protect the environment in 2003, respondents expressed the view that farmers were doing more for the environment than any other sector (Table 1).

**Table 1.** Who is caring for the environment? (from NSW EPA 2003 Table 14).

<b>Sector</b>	<b>% think doing enough</b>	<b>% think need to do more</b>
Farmers	43	53
Local councils	32	66
Retailers	23	71
State Government	22	76
Commonwealth Government	20	77
Manufacturing industry	16	80
Individuals	14	85

## Survey

Most of the surveys regarding PNF have surveyed the landholders themselves, and there is little information about the attitudes of the broader community toward PNF. The recent NSW EPA’s ‘Who cares about the Environment’ survey reflects broad support for farmers and seems inconsistent with recent calls for tough legislation to regulate private forestry (e.g., Morrison 2006). A brief survey was devised to examine these conflicting attitudes to PNF, and was conducted during the display period for the Draft Code of Practice for Private Native Forests (NSW DNR 2006).

The survey was initiated in late July 2006 and ran for two months. It was conducted via a commercial on-line system (AdvancedSurvey.com, survey 42053) that offered a number quality assurance features, including the ability to prevent multiple responses from a single computer. to require a responses to selected questions. It was promoted on several email-discussion lists and bulletin boards, and care was taken to promote it equally through professional, farming, environmental and academic circles.

The survey was devised to test the hypotheses that attitudes would correlate closely with associations (e.g., professional, farming, conservation), with proximity to the forest (both residential and work situation), and with interest (biodiversity versus production). A list of the questions posed in included in the appendix.

## Results and Discussion

One hundred and fifty-six respondents completed the survey. Respondents represented a diverse constituency, with a median age of about 50 years, primarily rural workers (46% outdoor, 29% office) from rural areas (46% rural, 43% rural towns, 10% Sydney), who visited forests regularly (53% visited weekly). Of those who revealed their postcode, 26% reported postcodes in the NSW North Coast region. Many respondents indicated an affiliation with a professional (73%), farming (24%), or conservation (22%) association. Only 5% reported membership of a political party.

For many questions, the median and modal responses were the same. Thus the typical respondent felt that private native forests (PNF) were in roughly the same condition as those in State Forests, that PNF would deteriorate under the current regulatory environment, and that the best way to improve the prognosis for PNF was to offer financial incentives. The majority of respondents expressed a state-wide or national rather than a local concern for PNF. They were equally divided between those who expressed production (50%) and conservation concerns (biodiversity and other environmental services, 48%). They also expressed diverse views about the greatest threats to PNF: common concerns were clearing (36%), neglect (35%, weeds, feral animals, etc), inappropriate fire regimes (14%), logging (12%) and grazing (2%).

The nature of the sample makes it hard to interpret these univariate summaries, and it is more informative to examine multi-variate trends. For instance, the views expressed about effective strategies for PNF were strongly aligned with their affiliations: those with farming associations wanted freedom to manage as they saw fit, those with professional associations favoured financial incentives, and those with a conservation association but without a farming or professional association favoured stronger regulation (Table 2).

**Table 2.** Views coincide with Affiliations

Dominant View (>50% of respondents)	Stated Affiliations	n	% with dominant view
Stronger regulation	Conservation only	17	57%
Financial incentives	Professional only	89	75%
	Professional & Conservation	9	57%
	Professional, Conservation & Farming	5	60%
Freedom to manage	Farming only	18	57%
	Farming & Professional	11	60%
	Farming & Conservation	4	67%

Respondent's interests regarding production versus biodiversity also influenced many views. The majority (64%) of those who reported an interest in production values felt that the condition of PNF was generally comparable or better than in State Forests, whereas 52% of those with a biodiversity interest felt that PNF were worse than State Forests. Urban respondents regarded PNF as in worse condition than State Forests, whereas farm dwellers considered PNF in better condition than State Forests (Table 3). Most (70%) of those who consider PNF in poor condition think that things are going to get worse. Conversely, 40% of those who are optimistic about the future of PNF think they are already in better condition than State Forests. Those who consider PNF in poor condition, regard clearing for agriculture (34%) and logging (29%) as the

major threats. Conversely, those who regard PNG as comparable or better than State Forest consider weeds and feral animals (38%) and fire (20%) as the major threats.

**Table 3.** Views about the state of the forest align with location of residence. Emboldened entries indicate the median in each row.

	Respondent's view of PNF condition compared to State Forest					
	Poor	-	Comparable	-	Good	Total
In Sydney	3	<b>5</b>	4	1	2	15
In a town	18	13	<b>19</b>	8	7	65
Rural residential	4	4	<b>5</b>	3	2	18
On a farm	10	3	10	<b>8</b>	16	47
Total	35	25	38	20	27	145

These views about the state of, and prognosis for PNF also influence opinions about the best way to encourage better outcomes (Table 4). Those who regard PNF in good condition (compared to State Forests) favour greater freedom for landholders to manage as they see fit. Conversely, those who regard PNF in poor condition tend to favour stronger regulation.

**Table 4.** Proposed solutions align with perceived state of PNF. Table shows respondents in each category.

	Respondent's view of PNF condition compared to State Forest					
	Poor	-	Comparable	-	Good	Total
Freedom to manage	1	1	4	4	<b>14</b>	24
Financial incentives	16	14	<b>19</b>	12	8	69
Stronger regulation	<b>12</b>	4	3	0	1	20
Total	29	19	26	16	23	113

There is a limit to the analyses that may be attempted with textural and categorical data, so it is useful to convert the data into linear form to facilitate further analyses. There is an element of subjectivity in such conversions, but it is reasonable, for instance, to convert place of residence into a 5-point scale (Sydney -2, provincial city -1, country town 0, rural residential +1, on farm +2), and proposed solution into a 3-point scale (regulate=-1, freedom=0, incentives=+1). Table 5 summarizes this coding, and reports the correlations with two variables of interest. Some of the resulting significant ( $P < 0.05$ ) correlations have already been observed (members of conservation organizations are more likely to favour regulations; respondents with a production focus are more likely to favour incentives; more regulation is favoured by those who fear that PNF will deteriorate), new insights also emerge. Table 5 suggests that Sydney dwellers are likely to favour incentives, and that rural dwellers are more likely to greater freedom to manage as they see fit. Table 6 summarizes the original untransformed data, confirming the correlation and revealing the tendency of farmers to suggest 'Other' more complex solutions usually involving a combination of freedom, regulation and incentives.

**Table 5.** Correlation matrix with linearized data. Bold indicates P<0.05

Variable	Coding	Solution	Condition
Residence	Sydney=-2, Town=0, Farm=2	<b>-0.2028</b>	0.0609
Spatial scope	Local=0, National=3	<b>-0.1440</b>	-0.1262
Conservation assoc	No=0, Member=1	<b>-0.1371</b>	-0.0760
Main interest	Production=-1, Services=0, Biodiversity=1	-0.1294	<b>-0.2306</b>
Political party	No=0, Member=1	-0.1029	0.0566
Forest visits	Rarely=-1, Annual=0, Monthly=1, Weekly=2	-0.0898	0.0190
Work	Office=-2, Home=0, Farm=2	-0.0829	0.1078
Farming assoc	No=0, Member=1	-0.0502	0.1086
Age	21-35=1, 36-50=2, 51-65=3, 66+=4	0.0395	0.1257
Condition	Poor=-2, Good=2	0.0951	1.0000
Professional assoc	No=0, Member=1	0.1196	-0.0181
Prognosis	Deteriorate=-1, Improve=1	<b>0.1485</b>	0.1117
Solution	Regulate=-1, Freedom=0, Incentives=1	1.0000	0.0120

**Table 6.** Geographic influences on attitudes to PNF regulation. Median in each column is emboldened.

	Sydney	Regional city	Country town	Rural residential	On farm	Total
Regulate	2	2	7	5	6	22
Freedom	2	1	3	3	<b>16</b>	25
Incentives	<b>10</b>	<b>14</b>	<b>24</b>	<b>11</b>	16	75
Sub-total	14	17	34	19	38	122
Other	2	7	10	3	12	34

There is much autocorrelation between the variables in Table 5, so despite several significant univariate correlations, only two variables are significant in multivariate regressions. Least squares regression indicated the importance of residence (Sydney, town, farm) and main interest (production, biodiversity) as predictors of the ‘solution’ (regulation, freedom, incentives). Because regression estimates are somewhat subject to the subjective transformations, it is informative to offer a corresponding summary of the untransformed data (Table 7). Table 7 illustrates that city dwellers are most likely to be supportive of incentives (score $\geq$ 0.6, indicating a high proportion in favour of incentives=1), and that biodiversity enthusiasts in rural residential areas are most likely to favour regulations (score=0, indicating a high proportion favouring regulations=-1). After these residence and interest variables have been considered, other variables (membership of conservation or farming associations; local or national concern for forests; prognosis for forests, etc) offer no further explanatory ability.

**Table 7.** Tendency to favour incentives for PNF, tabulated by geography and responder’s interest (-1 indicates regulations, 0 indicates freedom, +1 indicates incentives).

	Biodiversity	Services	Production	Average
Provincial city	0.7		0.8	0.7
Sydney	0.6		0.6	0.6
Country town	0.3	1.0	0.5	0.5
Rural residential	0.0	0.5	0.7	0.4
Farm	0.2	0.0	0.4	0.3
Average	0.3	0.5	0.5	0.4

Many respondents offered long and detailed commentaries. Typical comments include (in the order in which they appeared):

- “... best form of protection is active management and site-specific management plans”
- “Focus on outcomes, not regulations”
- Much rural land has “changed ownership into seachange owners with diverse landuse goals”

- “... lock up and leave creates a fire hazard”
- “... regulation forces PNF owners to neglect their forested land because it has no economic value”
- “... the PVP process for PNF [should] include the ability to use ‘accredited experts’ with forestry skills”
- “... any code should not preclude appropriate silvicultural treatments”
- “... ruthless logging by landholders ... needs regulation and strong standards set by forest scientists”
- “main problem: limited regulation = farmers manage PNF as they think best; heavy regulation = no-one will manage it”
- “... bureaucratic intervention should be used very carefully – there is nothing like self-interest to ensure alternatives such as grazing do not degrade forest values”
- “Prohibit patch-clearfelling, which is just land-clearing by stealth, and ensure that areas approved for PNF become ineligible for any future land-clearing approvals”
- “... opportunity to improve the current condition of native forests for both timber and biodiversity objectives”
- “major threat to private forests is mismanagement caused by regulation creating inappropriate objectives”
- “DNR personnel ... need to be better resourced”
- “The government has sent a clear message to land owners not to have any flora or fauna that is on the threatened species list on your land”
- “... effort would be best focussed on trying to educate forest owners about how they can manage their forests sustainably ... CMA's should take up the education challenge ... Legislation is necessary, however education is the key”
- “I need money ... I ring up a local contractor and he asks what I have. I say I don't really know ... but could you please come and have a look ... Imagine if we sold cattle like this!”
- “Farmers care!”
- “... PNF in my area have been managed sustainably ... My major concern is [big] companies ...”
- “... As Thoreau said, ‘Government governs best which governs least’”.

There is no common thread in these commentaries, but they further illustrate the diversity of respondents and voices in the debate over private native forests.

## **Conclusions and future directions**

Survey findings confirmed prior hypotheses that attitudes would correlate with associations (e.g., professionals in favour of incentives, farmers in favour of freedom, conservationists in favour of regulations), and with interest (biodiversity enthusiasts in favour of regulations; producers in favour of incentives), but refuted the prior hypotheses that urban dwellers would be more likely to favour regulations and that rural dwellers would favour incentives. This finding of urban support for incentives appears novel and warrants confirmation through further study.

The results of this small survey suggest that attitudes of respondents reflect diverse constituencies who hold divergent views and who do not share a common understanding of the condition and dynamics of native forests. If confirmed, this is an important finding. Despite the weak evidence for this observation, the suggestion of a lack of a shared understanding indicates the need for more extension and public education, particularly since forests have often been, and continue to be an election issue that often fosters politically-motivated but far-reaching policies.



It is inappropriate to conclude from this survey that there is wide support for a financial incentive to improve private native forestry. It may be correct, but the survey was not designed to allow such a conclusion to be drawn. Instead, the survey sought to untangle diverse views from the constituencies promoting them. Regulatory approaches received most support from respondents affiliated with an environmental groups, with a national concern for biodiversity, who fear that private native forests are in poor condition and are going to get worse. Advocates for more landholder freedom tend to be landholders who believe that private native forests are in better condition than comparable State Forests, and who are optimistic about the future for private native forests. Advocates of financial incentives tend to be urban dwellers with a production focus and professional affiliations. These findings should be considered preliminary, and warrant further examination.

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## Appendix

### Questions posed in the survey

1. In your view, what is the typical condition of private native forest in NSW, with respect to comparable public forest in the vicinity?
  - Good
  - Slightly better
  - Comparable
  - Slightly worse
  - Poor
  - Don't know
2. Given the current regulations and markets, what is your prognosis for private native forests? Will they...
  - Be cleared and converted to other uses
  - Deteriorate
  - Remain the same
  - Improve
  - Don't know
3. Does your concern for private forests relate primarily to forests...
  - Nationally
  - State-wide
  - Within your region
  - Within your immediate neighbourhood
4. What is your major concern regarding these forests?
  - Biodiversity (protection of fauna and flora)
  - Scenery and recreation opportunities
  - Other environmental services (water, salinity, etc)
  - Production (of timber, honey, etc)
5. What do you think is the major threat to these forests?
  - Clearing for urban development
  - Clearing for agriculture
  - Fire (burning-off or wildfire)
  - Grazing
  - Logging
  - Weeds and feral animals
  - Other neglect (dumping of rubbish, drift of farm chemicals, etc)
6. What do you think is the best way to get better outcomes for private native forests in NSW?
  - Stronger legislation and more rigorous enforcement
  - Giving landholders more freedom to do as they see fit
  - Offering financial incentives for specified outcomes
  - Other (please specify)
7. Please tell us a little about yourself: Your age?
  - Under 21
  - 21-35
  - 36-50
  - 51-65
  - Over 65
8. Where do you live?
  - In Sydney
  - In a regional city
  - In a country town
  - Rural residential
  - On a farm
9. Where do you work?
  - Office
  - Factory
  - At home (or don't work)
  - On the land (farm or forest)
  - Service industry (indoor)
  - Service industry (outdoor)
  - Other indoor
  - Other outdoor
10. How often do you visit a forest (private or public, for work or pleasure, to walk or picnic)?
  - Couple times a week
  - Couple of times a month
  - Couple times a year
  - Rarely
11. Do you belong to any of the following groups?
  - Conservation organization
  - Farmers federation
  - Political party
  - Professional association
12. Any other observations or concerns about private native forests?