

Quantifying Community Use of Pollutant Inventories

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ABSTRACT

In Australia, the National Pollutant Inventory (NPI) commenced in 1998 with the first reports published on the Internet (www.npi.gov.au) in 2000. Eight years of annual emission data on 90 substances from 4000 of the most significant pollutant emitters in Australia has been collected and published. Reporting to the NPI is mandatory if a facility exceeds the thresholds relating to substance usage, fuel or waste burning or emissions to the environment. Like other Pollutant Release and Transfer Registers (PRTRs), the NPI was established with Community Right to Know (CRTK) cited as one of the main drivers. It therefore follows that the success of the NPI, and other PRTRs, is at least partly dependant on community knowledge and use of the information in the PRTR. Despite this, apart from the numerous case studies reported by the Working Group on Community Right-to-Know, there is little evidence in the literature of comprehensive analysis of the level of knowledge and use of PRTRs by members of the community. Such analysis is particularly relevant in Australia as there is anecdotal evidence suggesting that the NPI has been embraced less enthusiastically by environment groups than has been the case with some overseas inventories. This paper will present the findings of a survey of members of pro-environment community groups in Australia concerning the NPI. The survey sought information on the organization's awareness of the NPI and whether it had used information from the NPI to plan or conduct actions against reporting facilities. The paper will also outline further research that is currently being conducted on barriers to community knowledge and use of the NPI.

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INTRODUCTION

Anthropogenic activities result in the emission of substances to air, land and water. Globally, the concentration and mass load of these pollutants are increasing as a result of increasing population and industrialization. Although developed countries have reduced emissions in recent years, pollutant emissions in developing countries are increasing.¹

Marchi notes that pollution issues are not as obvious as they once were.² Emissions, such as black smoke and foul odours have been replaced by invisible toxic pollutants, acid rain, climate change and depletion of the ozone layer. In Australia, this is even more pronounced with a significant portion of the population having moved “from crowded, polluted and unhealthy environments to a land of wide spaces, sunshine and pristine environment”.^{3 p. 248} These more complex issues are generally less well understood by the population and, to bring about change, there is a need to increase public understanding and awareness.²

In developed countries and in some developing countries, community involvement is seen as a mechanism to pressure companies to reduce pollutant emissions.^{4,5} Pollutant Release and Transfer Registers (PRTRs) have been established in many countries using Community Right-to-Know (CRTK) principles.⁶ This is on the basis that an informed community will influence reductions in pollutant releases by bringing pressure to bear on polluters,⁷

Governments are looking towards alternatives to direct regulatory control of pollution⁸. Gunningham *et al* make the case that government can act as a facilitator to empower the community as a surrogate regulator.⁹ Stephan goes further, arguing that there are fundamentally only two central players: the polluting corporation and the citizens who may be harmed by such pollution.¹⁰ Other players such as government officials, the media and interest groups are only intermediaries who may act on behalf of the citizens. CRTK legislation can be introduced by governments and in the case of the right-to-know about pollutants, this legislation usually involves the establishment of a PRTR.

CRTK refers to requiring industry “to provide information to the public and, in particular, to the local community, concerning the dangers presented by on-site chemical hazards or industrial waste that may be released into the environment as a result of industrial processes”.^{11p. 3-4}

The United States’ Emergency Planning and Community Right to Know Act 1986 (EPCRA) was the culmination of the demands of public interest and environment groups following disasters such as Bhopal in 1984.¹² This legislation was formulated by activists and policy makers with one central principle “that citizens have the right to know whether the actions of private industry have a negative impact on their lives” or in the words of the United States Environmental Protection Agency (USEPA): “This law was designated to help local communities protect public health, safety, and the environment from chemical hazards”.^{10p192,13} A central platform of EPCRA was the creation of a requirement for operators of facilities to inform communities of the chemical hazards in their area. A reporting and disclosure program, the Toxics Release Inventory (TRI) was established to facilitate this.¹²

Gunningham argues that access to adequate information on pollutants through CRTK legislation is fundamental for community involvement and action.¹¹ One of the key concepts in CRTK is that an informed community will act to bring pressure to bear on polluters and pollutant reductions will occur.^{7, 8, 14, 15}

In Australia, the pressure for CRTK legislation built in the wake of the Coode Island chemical fire in 1991.¹⁶ Adams and Ruchel outlined the benefits of CRTK in a report submitted to the Coode Island Review Panel.¹¹ This report and the work of NGOs such as the National Toxics Network (NTN) focused attention on the need for community right to know legislation.¹⁶ In 1992 the then Prime Minister Mr. Paul Keating announced the establishment of a legislated NPI which would be designed to satisfy community right to know about pollutants and wastes.^{16, 17}

The NPI was introduced in 1998 and has released eight years of annual pollutant emissions data.¹⁸ However, a market research survey conducted in late 2002 and two other studies found that there was low awareness of the NPI both in the general community and in key target groups.^{17,19, 20}

Howes suggests that the effectiveness of CRTK information in Australia has been curtailed by a political culture that “encourages green groups to focus on wilderness rather than industrial issues” and a legal system that “makes cases based on inventory data difficult”.^{21p331} Lloyd-Smith agrees with the statement about the legal system, and further states that the extensive protection afforded to commercial business information in Australia has little consideration of the public interest.^{22 p.131}

CRTK is a principle vigorously defended by NGOs who believe the community do have a right to this information.^{16, 23, 24} These NGOs strongly argue to improve the information that is made available.²² Businesses have argued strongly against the introduction of CRTK reporting requirements citing regulatory burden as reason and they continue to lobby government to reduce requirements or at least not make them more onerous.^{25,26} Sometimes they are successful, as evidenced by the recent proposal by the USEPA to change the reporting requirement from annual to two-yearly.²⁷ This was rejected by Congress after extensive and effective lobbying by concerned community groups.²⁸

CRTK mainly deals with information relating to pollutant releases and hazardous materials and PRTRs are the main basis for this information.²⁴ The next section will provide more specific information about PRTRs.

POLLUTANT RELEASE AND TRANSFER REGISTERS (INCLUDING THE NATIONAL POLLUTANT INVENTORY)

PRTRs have been established in many countries using Community Right to Know (CRTK) principles.²⁹ These PRTRs include the TRI in the United States of America; the Canadian National Pollutant Release Inventory (NPRI); the United Kingdom’s Pollutant Inventory; the French *Registre Français des émissions polluantes* (iREP); the European Union’ European Pollutant Emission Register (EPER); and, the Australian NPI.^{12,18,30-33}

PRTRs operate by requiring polluting entities to provide information to the relevant government agency who then publish that information so that it is accessible to the community.⁶ This is on the basis that an informed community will influence reductions in pollutant releases by bringing pressure to bear on polluters.⁷

Despite differences in approach, the introduction of PRTRs is widely accepted as a major factor in the reduction of pollutant emissions.^{7, 8, 29, 34-36} In the United States, the TRI has been

credited with reducing emissions by 46% and the National Pollutant Release Inventory (NPRI) in Canada is credited with reducing emissions by 38%, although these figures appear to originate from the relevant government agencies and have not been independently corroborated.⁷ In the United States and Canada this is supported by non government organizations (NGOs) such as Scorecard and the Right to Know Network who provide additional interpretation and advice on how communities can use the information.^{23,37}

In Australia, the NPI commenced in 1998 and the first reports were published in 2000. The data is published on the Internet based on a database that has been in existence since 1998. Annual emission data on 90 substances from 4000 of the most significant pollutant emitters in Australia is collected and published. Reporting to the NPI is mandatory if a facility exceeds certain thresholds relating to substance usage, fuel or waste burning or emissions to the environment.¹⁸ The peak environment groups in Australia have not developed an easy to use interface for the NPI, such has been the case with Scorecard in the United States and Canada, although Lloyd-Smith envisages that one will be established.¹⁶ It is probable that Australian environment groups saw no need to establish a separate interface as the one established by the Australian Government is acknowledged by the OECD to be an example of a PRTR that provides easy access, important perspectives and context for the PRTR data.³⁸

Although PRTRs have reasons other than CRTK for being established, CRTK is cited by most as being of foremost priority.^{6,13, 18,30} It therefore follows that there is an expectation that the community will access and use the information provided. The next section will examine whether this is occurring.

THE ROLE OF THE COMMUNITY IN USING PRTR INFORMATION

Harrison and Antweiler report that, in both Canada and the United States, community groups have embraced their respective PRTRs - at a local level they directly influence the facility of concern, while at a national level the groups tend to work on interpreting the data for the public.⁷ The mode of use by national groups is evidenced by the Scorecard, RTKNET and the Working Group on Community Right-to-Know websites in the United States and the information on the Friends of the Earth website in the United Kingdom.^{23,24,37,39} The OECD also report that many community groups have developed tools to enhance the presentation of PRTR data.³⁸ It is therefore apparent that PRTRs are widely known about by community groups and that many of these groups have the skills to access and use the data. Given that groups do successfully access PRTR data, how do they then use that data to influence the reduction of pollutant emissions?

Hamilton reports that community groups use the TRI to learn about the variety and magnitude of chemical releases and to bring pressure to bear on polluters by focusing attention on them.⁴⁰ The differing modes of use of the TRI are detailed in the USEPA publication "How Are the Toxics Release Inventory Data Used? -- government, business, academic and citizen uses" with a clear distinction between local groups engaged in direct activism and national groups taking a more strategic approach.⁴¹ Groups working at a local level are a feature of the numerous case studies reported by the Working Group on Community Right-to-Know in their electronic newsletter "Working Notes" and encouraging direct activism is a significant feature of the Scorecard website.^{24,37} Howes supports this view, suggesting that online databases such as the TRI do increase public accessibility to pollutant information and may increase civic engagement as a result.¹⁷ Stephan notes that this

evidence is more suggestive than definitive and reports that the exact role of the community in influencing reductions in pollutant emissions is poorly understood.¹⁰ Several authors suggest that relationship is indirect and even tenuous.^{7, 42, 43}

Harrison and Antweiler argue against the view that direct activism by community groups is the mechanism by which pollutant emissions decrease.⁷ They suggest that community activism is more indirect, working through consumer, worker, investor and regulatory pressures. Scorse supports this, giving a credible argument that the main modes of influence are by: political pressure; green consumerism (not buying products from highly polluting companies); future liability (public record that may influence a company's legal position or ability to obtain insurance cover); and, future expansion (public record that may create difficulties for the company in obtaining finance).⁴⁴

Stephan reports that there are several hypotheses, all with some merit, that explain how information disclosure can be effective in reducing emissions: reducing information costs makes citizen participation more likely; information causes "shock" and "shame" – the shock by the community of the size of the emissions can lead to collective action or a company may perceive that the community is or may be shocked and therefore be shamed into reducing emissions; facilities or companies can be compared and groups can focus on the worst performers; media focus on the worst emitters leads to reduction so that the facility is not in the spotlight; and, policy setting – governments can concentrate on the facilities that are shown by the disclosure to be the worst emitters.¹⁰

All these approaches have the common theme that the community needs to be aware of the information and that subsequent action results from the awareness. There is general agreement that publishing pollutant emissions data does influence pollution reduction and that the community has a part to play in this reduction.^{7, 36, 40, 42-45}

Bryant demonstrates the vital importance of a community group in acting on information about pollution.⁴⁶ The effectiveness of a collective action depends on whether the group is organized with defined goals and spokespersons.⁴⁷ Sharpe *et al* note that "Mobilizing a community to take action requires exceptional organizational skills. It also demands a high level of confidence, knowledge of government policy and legal processes and the ability to establish a campaign and build media relationships."⁴⁸ They also note the role of advocacy groups (for example, pro-environment community groups) in the vocalizing of information obtained. Dreier shares this view, emphasizing that leadership training and capacity building is essential for community empowerment.⁴⁹ Shapiro also agrees, arguing that decreases in chemical emissions are dependent on the community's ability to understand the information, their ability to act collectively and separate industrial production factors.⁵⁰ These studies show that environmental education programs and facilitation are important if communities are to be effective in influencing pollutant emission reductions. It follows then, that organized community groups that are interested in pollutant emissions are essential if members of communities are to become aware of information that is available and especially if they are to act on that information.

The supposition that organized community groups are important if CRTK programs are to be effective in reducing emissions has particular difficulties in the Australian context if these groups are not focused on "brown" or pollutant issues. The relationship of the Australian environment movement to pollutant issues will be explored in the next section.

AUSTRALIAN ENVIRONMENT MOVEMENT AND POLLUTANT ISSUES

Pollution issues have a long history in the environment movement.² However, it has been suggested that pro-environment community groups in Australia are more interested in “green” issues (that, is protection of flora and fauna) than in the “brown” issues (that is, pollution).^{3, 21, 51}

Hutton and Connors report that it is not unusual in the Australian environmental movement for pollution issues to be the province of local community or not-in-my-backyard (NIMBY) groups which have little or no contact with larger environmental organizations, while the more organized national groups concentrate on wilderness and forestry issues.⁵² They do, however, point to some very successful nationally organized campaigns on pollution and toxics issues including: the siting of hazardous industrial plants at Kurnell in Sydney and at Wesley Vale in Tasmania; sewage ocean outfalls in Brisbane and Sydney; toxic waste; pesticides; and, the Greenpeace “Clean Waters” campaign. Toyne in his book “The Reluctant Nation” shows that the majority of major environmental actions in Australia have been based around “green” rather than “brown” issues.⁵³

The insight on the Australian environment movement by Hutton and Connors and Toyne puts into context the observation by Howes that CRTK in Australia has “been inhibited by a political culture that encourages green groups to focus on wilderness rather than industrial issues”.^{21 p. 331, 52, 53} Further in this vein, Rees suggests that, although pollution issues are important for government, failure by government to address the green issues has meant that these remain firmly in the focus of environment groups.⁵¹ Rae suggests that this may be changing, noting that recently there has been a shift in community concern from nature conservation issues to concern about pollution emissions from industrial and transport sources.³

COMMUNITY INTEREST IN THE NATIONAL POLLUTANT INVENTORY

The NPI reporting requirement commenced in 1998 and covered the 1998/1999 financial year. This data, covering 1200 facilities and 67 substances (although only 36 were mandatory), was published on the Internet in late January 2000.⁵⁴ In a paper published the following year, Howes reports that the website is user friendly and it is easier to access data from the NPI than it is from the United States’ TRI.¹⁷ In a limited survey of 33 students undertaking a university environment course, he found that nine out of the 33 had heard of the NPI. He also reports there is a perceived lack of public interest in the NPI and that NPI staff have been contacted very little by pro-environment community groups. He notes that this is at odds with the views of environmentalists who appeared to be very interested in the NPI. He concludes that there is a need to promote the program more widely. A possible reason for the perceived lack of interest reported is the disenchantment with consultative process by environment groups in the establishment of the NPI. Lloyd-Smith notes that the final form of the NPI was far below the expectations of the environment groups and that it is neither adequate nor effective.¹⁶ She states, that this was despite environment groups being involved for 5 years in the development and, that the environment groups appeared to be ignored in the final stages. It is pertinent that the peak environment toxics group, the National Toxics Network, only refers to the NPI in a hyperlink and that this link is a number of years out of date.⁵⁵

Surveys of members of the community in the State of New South Wales (NSW) and the State of Queensland have shown a high level of concern in environmental issues generally and also a high level of concern with pollution issues.^{56,57} However, in NSW, the level of interest in pollution issues dropped significantly between 2003 and 2006. The Queensland survey was only conducted in 2006 and no historical comparison is available. Web usage statistics compiled for the NPI website have shown a 5 fold increase in usage between 2001 and 2006 indicating that interest in the NPI is increasing steadily.⁵⁸ Ease of access to the Internet (and thus the NPI) is also improving with 81% of adult Queenslanders having access to the Internet at home with 57% of this being a broadband connection.⁵⁹ This is a significant change from 2001 when only 44% of the adult population had access to the Internet at home and for most people this was using dial-up modem connection.⁶⁰ These trends appear to indicate that community knowledge and use of the NPI should be increasing.

In addition to the work by Howes, two other studies have considered the level of community knowledge of the NPI.¹⁷ First, Riley-Smith and Binder conducted market research in late 2002 which utilized a telephone survey with 582 respondents and a series of focus groups.¹⁹ They reported that in response to the question "Have you heard of the National Pollutant Inventory or NPI?" there was a 6% affirmative response. They noted that despite this low level of awareness, in the group interviews conducted they found that there was a high level of interest in the type of information that was available on the NPI website. One of their main conclusions was that the community as a whole and members of pro-environment community groups has little knowledge of and even less usage of the NPI. Second, Lock and Gleeson, in developing a communications plan in 2006 for the South Australian Government, utilized a telephone survey of 84 respondents.²⁰ Thirteen percent of respondents indicated that they had heard of the NPI however less than 5% actually had true awareness of the NPI. Both the Howes and Riley-Smith and Binder surveys give some indication of knowledge and use of the NPI in its early days and Lock and Gleeson appears to demonstrate that this has not changed, which is at odds with the information available from the web usage and Internet usage figures given above.^{17, 19,20} However, all three surveys were limited in scope and rigour and concentrated on individuals in the community or general community groups rather than pro-environment community groups. As such, these studies have not provided a firm basis to establish what the level and use of the NPI was in 2001 or 2002 or what it is likely to be at present, particularly with regard to the pro-environment community groups that could be considered to be the most organized and effective in influencing pollutant emission reductions.

This paper will investigate community use of the NPI by analyzing data that was collected in a survey of pro-environment community groups in 2001, providing a comparison against the other surveys that were conducted, in particular, looking at whether there is a difference in awareness of the NPI between the general population and the community groups and whether the community groups are likely to use this awareness to reduce pollutant emissions. It will also foreshadow work that is currently underway in better characterizing the barriers to community knowledge and use of pollutant information in the general community and pro-environment community groups.

METHODS

A prototype survey was designed after some key issues were identified from a literature review and a series of interviews with NPI workers at the state and national levels of government. An initial version of the survey questionnaire (that included a comparison with the US TRI) was tested on a group of 33 university students who were in their second year of environmental science degrees and feedback was collected in four follow-up focus groups. The main findings of the literature review, interviews, trial surveys and focus groups were published as a journal article.¹⁷ This preliminary work appeared to indicate that there was a positive correlation between familiarity with the NPI and the likelihood of action to be taken by activists. There was a similar correlation between the ease of use of the NPI website and likely action. Based on the feedback obtained the survey questionnaire was modified to focus just on the NPI (the TRI material being removed) to focus and simplify the instrument. This revised version underwent further peer review before being sent to environmental groups.

A group of 127 environmental organizations whose websites indicated an interest in pollution were identified from around Australia as potential targets for the survey. They varied in size from local, temporary alliances to permanent national and/or international organizations. Some groups operated in urban areas, some in rural areas, and some in both. They also ranged from quite moderate in their demands for reform to quite radical. The survey questionnaire was posted to the identified groups with a covering letter, an information sheet about the nature of the research, an informed consent form, and a pre-paid pre-addressed envelope. No follow-up contact with the groups was undertaken unless it was at their instigation. This was to ensure that groups did not feel harassed by the research process and was in compliance with Griffith University's ethics guidelines for social science research.

The questions were clustered into several sections. Questions 1-7 explored the degree of familiarity with the NPI website and the level of interaction with NPI staff. Questions 8-16 tested the degree activity that the groups might take in contacting the national, state and local governments respectively if they discovered large amounts of pollutants being released into their local environment. Questions 17-22 investigated what action the group might take against a company identified as a high polluter on the NPI. Questions 23-27 asked the respondents to rate the frequency and ease of use of the NPI website. Questions 28-30 gave some contextual information about the nature of the respondent group. The aim of the survey was to see if the kind of responses and correlations discovered in the preliminary survey of students also occurred in the environmental activist community.

Analysis of the survey data was performed using SPSS v15 and Microsoft Excel 2007.

RESULTS

Forty-two questionnaires were returned completed from the 127 sent out, giving a response rate of 33%. All respondents indicated that they supported community right-to-know about local pollution emissions levels and that they had access to the Internet. Most (90%) indicated that they had heard of the NPI and 48% indicated that their organization had collected information from the NPI website. 41.5% indicated that they had been contacted by NPI staff, and 29% having attended an information session on the NPI.

Figures 1 to 4 show the responses given by respondents when asked “If the National Pollutant Inventory revealed that a local company was legally releasing large quantities of pollution, which of the following actions would your organization most likely adopt regarding the Commonwealth government?” The x-axis scale is the number of respondents giving that response. It is positive if respondents would take that action and negative if they would not take that action or were unsure.

Figure 1. Contact the Prime Minister’s Office?

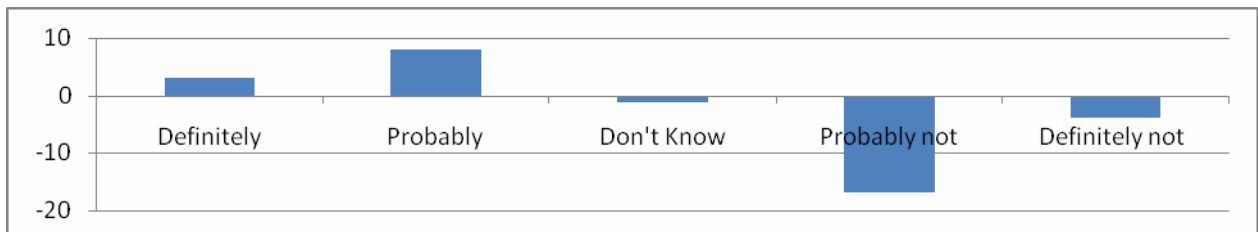


Figure 2. Contact the Commonwealth Minister for the Environment?

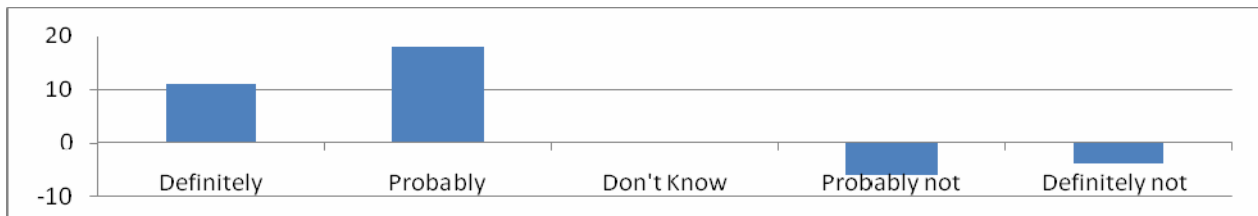


Figure 3. Contact your Commonwealth member of parliament?

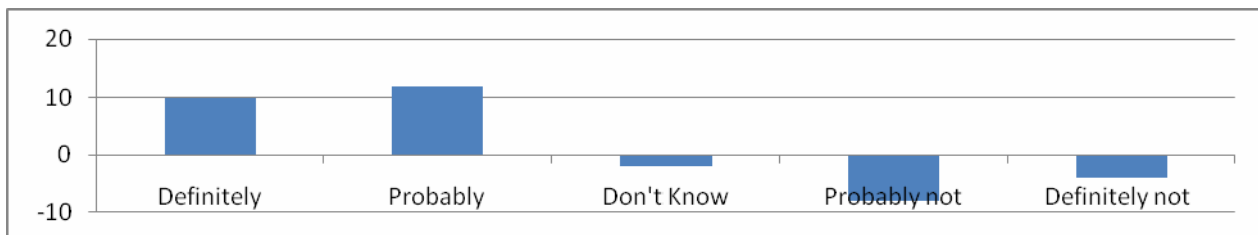
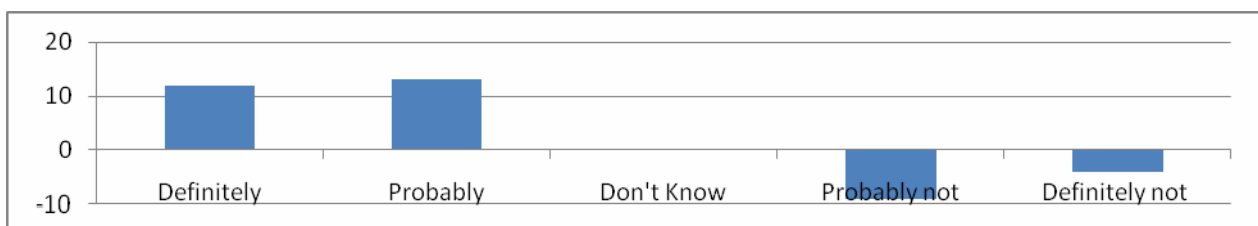


Figure 4. Contact the Commonwealth Department of the Environment?



Figures 5 to 9 show the responses given by respondents when asked “If the National Pollutant Inventory revealed that a local company was legally releasing large quantities of pollution, which of the following actions would your organization most likely adopt regarding the State government and Local Council?” The x-axis scale is the number of respondents giving that response. It is positive if respondents would take that action and negative if they would not take that action or were unsure.

Figure 5. Contact the Premier’s office?

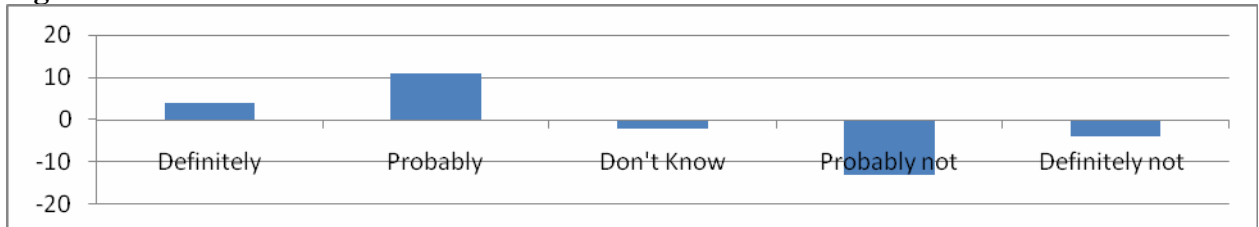


Figure 6. Contact the State Minister for the Environment?

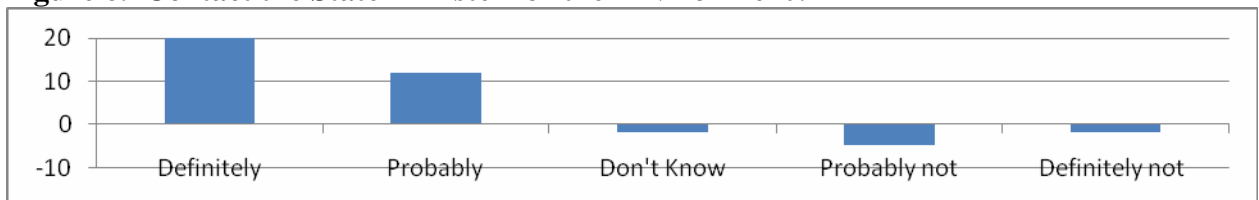


Figure 7. Contact your State member of parliament?

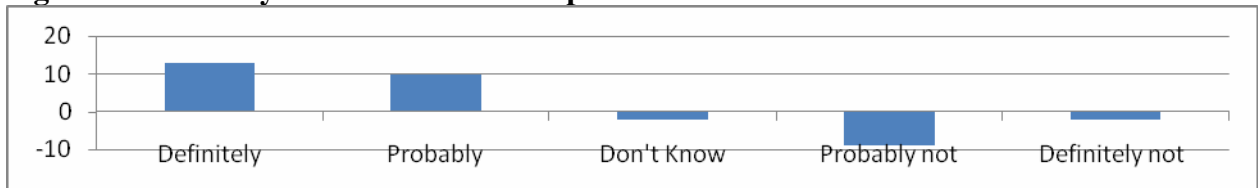


Figure 8. Contact your State Environment Protection Agency

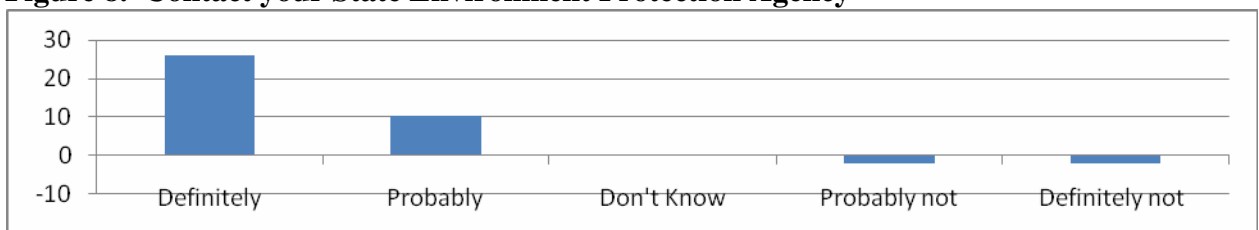
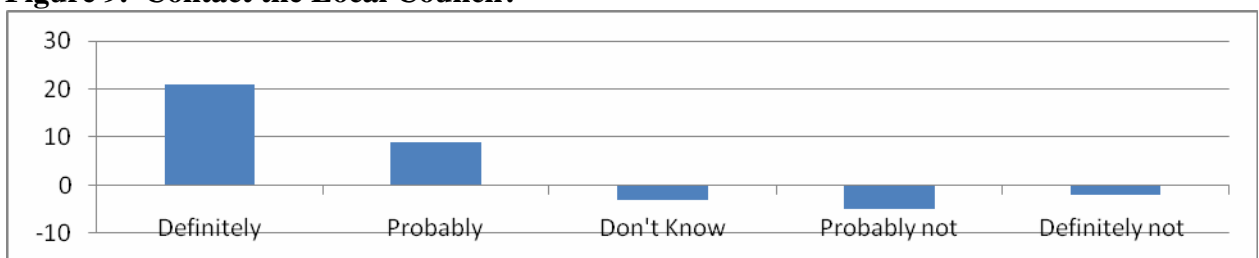


Figure 9. Contact the Local Council?



Figures 10 to 14 show the responses given by respondents when asked “If the National Pollutant Inventory revealed that a local company was legally releasing large quantities of pollution, which of the following actions would your organization most likely adopt regarding the polluting firm itself?” The x-axis gives the count as a positive if respondents would take that action and as a negative if they would not take that action or were unsure.

Figure 10. Contact the polluting company directly?

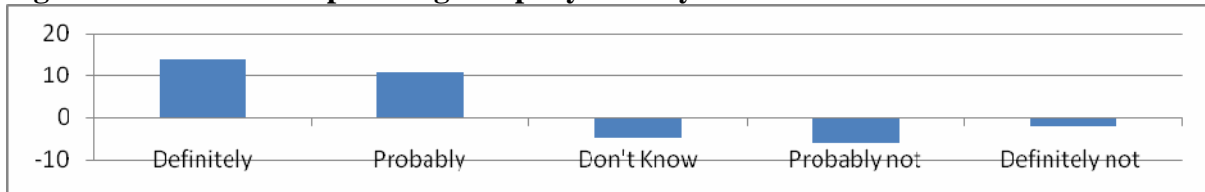


Figure 11. Publicise the polluting company's actions?

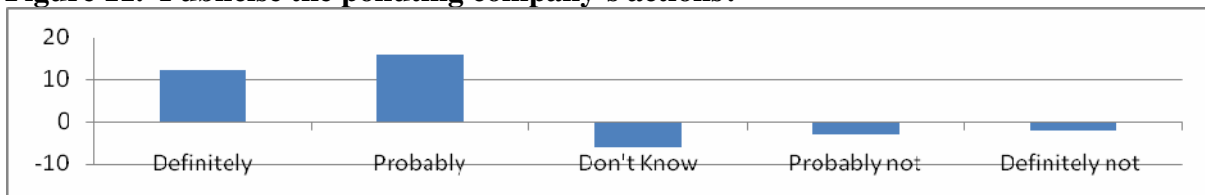


Figure 12. Organise a protest?

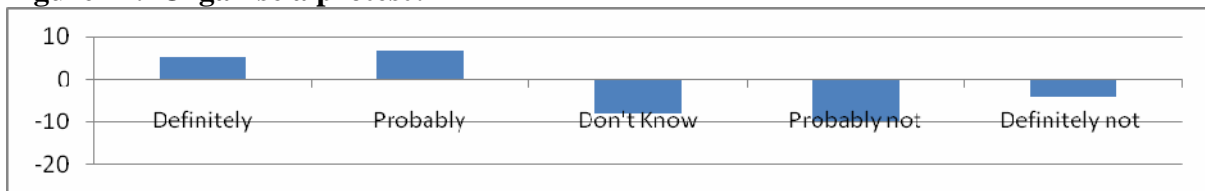


Figure 13. Call for a boycott of the company's products?

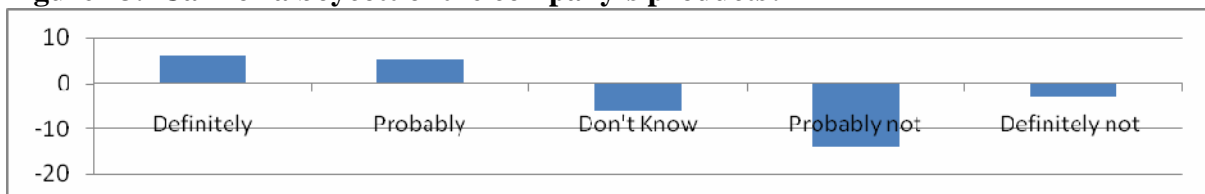
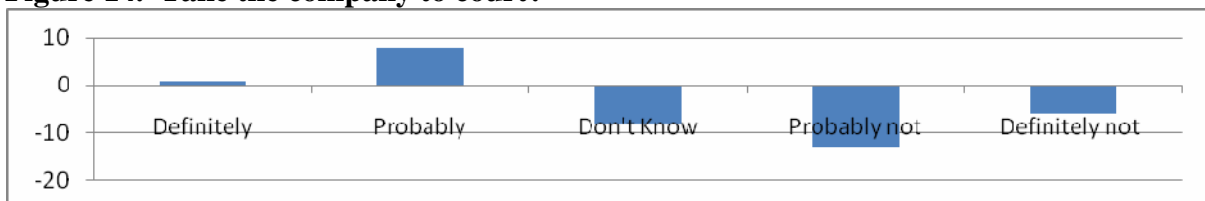


Figure 14. Take the company to court?



The responses to Questions 1 to 7 were combined to form an “Index of familiarity with the National Pollutant Inventory”, the responses to questions 8-16 were combined to form an “Index of likely lobbying of government” and the responses to Questions 8 to 21 were combined to form an “Index of likely direct action against the polluter”. The first index was compared against the other two indexes to see if correlations existed.

Figure 15 shows that no correlation exists between the “Index of familiarity with the National Pollutant Inventory” and the “Index of likely lobbying of government” ($R^2 = 0.003$).

Figure 15. Familiarity with NPI vs Likely Lobbying of Government

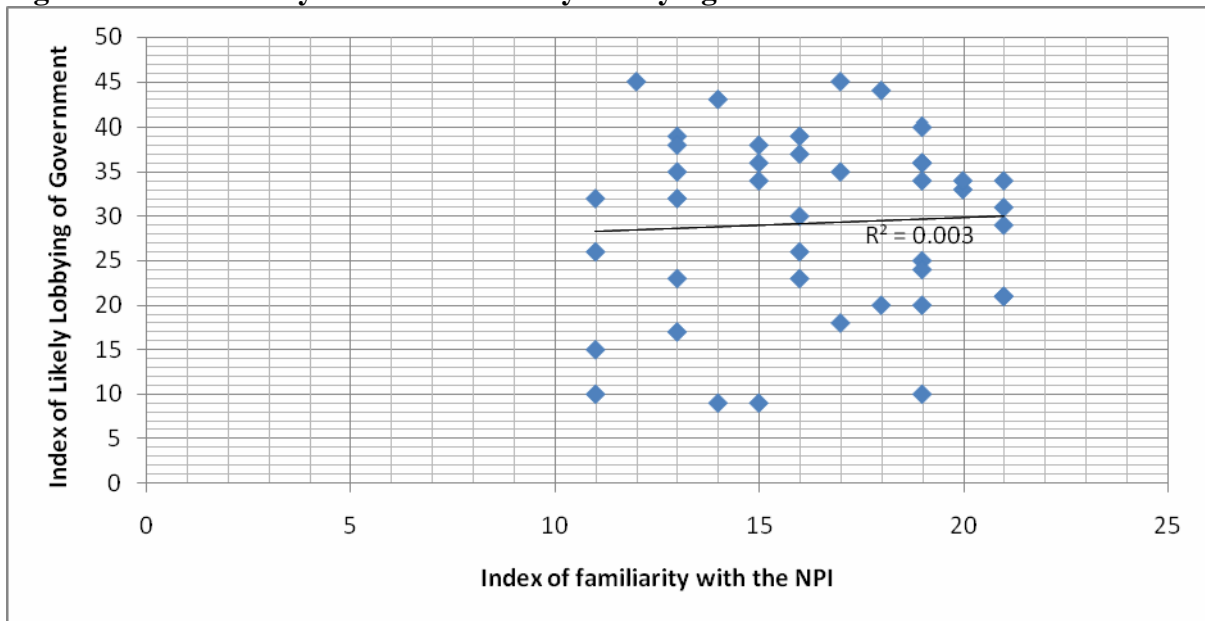
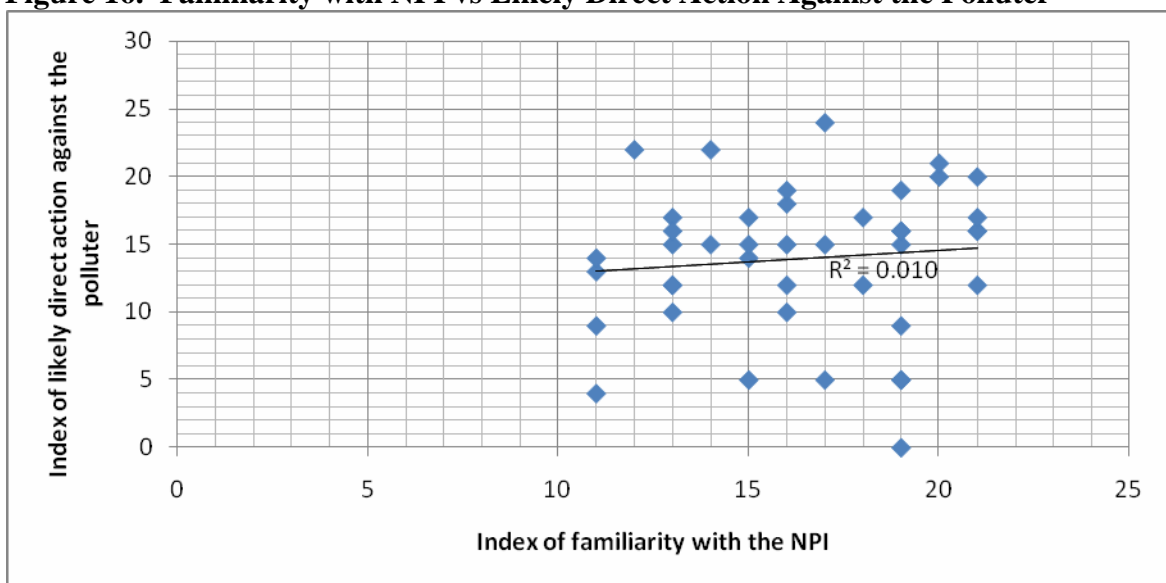


Figure 16 shows that no correlation exists between the “Index of familiarity with the National Pollutant Inventory” and the “Index of likely direct action against the polluter” ($R^2 = 0.010$).

Figure 16. Familiarity with NPI vs Likely Direct Action Against the Polluter



The responses to Questions 23-26 were combined to form an “Index of ease of use of the National Pollutant Inventory website”, which was then compared to the “Index of likely lobbying of government” and the “Index of likely direct action against the polluter” to see if correlations existed.

Figure 17 shows that no correlation exists between the “Index of ease of use of the National Pollutant Inventory website” and the “Index of likely lobbying of government” ($R^2 = 0.005$)

Figure 17. Ease of Use of Website vs Likely Lobbying of Government

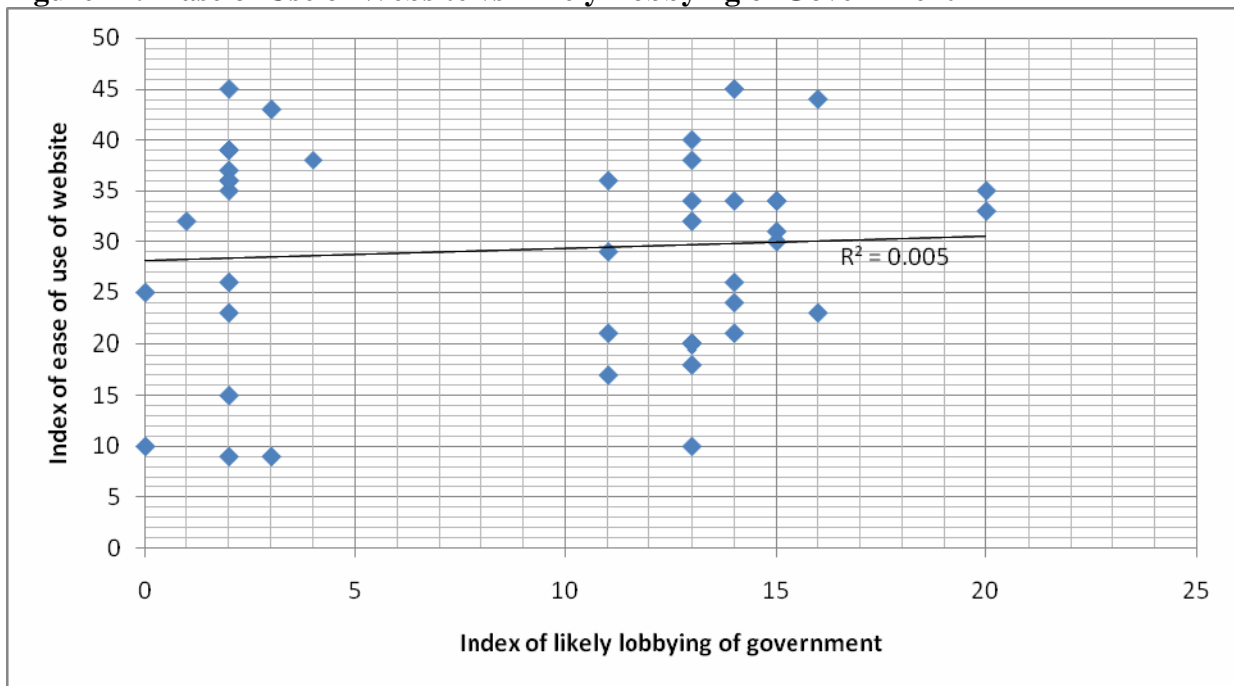
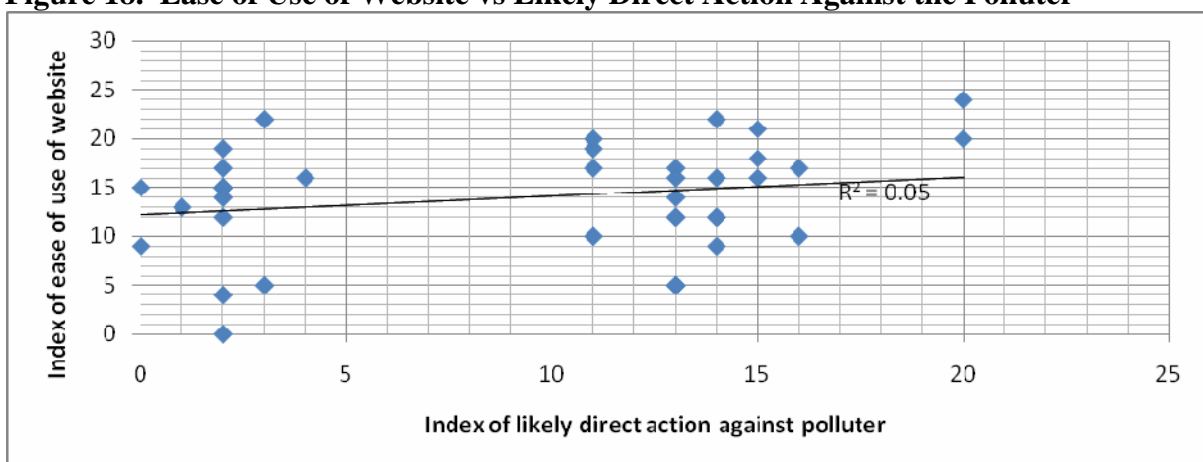


Figure 18 shows that no correlation exists between the “Index of ease of use of the National Pollutant Inventory website” and the “Index of likely direct action against the polluter” ($R^2 = 0.05$).

Figure 18. Ease of Use of Website vs Likely Direct Action Against the Polluter



DISCUSSION

The results of the survey show that, as would be expected, awareness of the NPI among these pro-environment community groups is considerably higher (90%) than the general community (5-13%). If the NPI reveals a high polluter, respondents are more likely to contact either the State or Commonwealth Minister for the Environment rather than the State or Commonwealth Member of Parliament for their local area. Even higher preference was given for contacting their local council or state environment agency rather than the national government. This shows an understanding by the community groups about where the decision making power lies and supports the view that these groups are organized and politically astute. While they might contact the company directly they are less likely to undertake some sort of direct public action against them. This supports the view by several authors who suggest that the influence of community groups on polluting industries is indirect.^{7, 42, 43} Unlike the USA, which has a much more litigious political culture and easier access to the courts system, few Australian environmental groups considered suing a high polluting company. All of this confirms the results obtained in the prototype survey of university students.¹⁷

Surprisingly there is little correlation between familiarity with the NPI website and either the lobbying of government or putting pressure on polluters. Further, there is little correlation between the ease of use of the NPI website and the likelihood of environmental groups taking action. This is stark contrast to the student survey that found strong positive correlations of this kind.¹⁷ This may be representative of the weak focus that Australian environment groups have on pollution reduction that has been reported by several authors.^{3, 21, 51} This may also reflect a low level of confidence in the NPI, possibly as a result of the disenfranchising reported by Lloyd-Smith.¹⁶

In the intervening years since this survey was done there has been limited but increasing media exposure of the NPI but there have been no major court cases or campaigns mounted on the basis of the NPI data, directed either at government or industry.⁶¹ This is despite some two significant reviews of the program (in 2000 and 2005) where environmental groups were asked to provide feedback and submissions.^{62, 63}

It is clear that both the awareness of the NPI and the use that the data might be put to, need further investigation. A current research project is underway by the authors (and supported by the Commonwealth government and the Queensland government) to undertake a broader survey of the general public and to re-survey pro-environment community groups. This will involve a postal questionnaire sent to a random sample of 2000 households in Queensland and a purposeful survey of 200 members of pro-environment community groups. The aim of this work is to: establish the level of knowledge and use of the NPI in both the general community and among members of pro-environment community groups; identify the modes of access and use of the NPI; and, identify possible barriers to accessing and using the NPI. This will build on the work reported above and allow exploration of possible explanations for the different responses. We hope to be able to report back on this research in 2008.

CONCLUSIONS

The NPI has now been collecting and releasing data on major Australian polluters for the last eight years. In contrast to the US TRI there has been far less research into its impact on the community, business and environmental groups. The results outlined in this paper came from surveys undertaken after the first two years of operation. They suggest that the level of awareness of the NPI is higher amongst environmental groups than the general public, and that any actions would mainly be directed at state and local government rather than as direct actions against a polluting company. There was, however, an interesting difference between the correlations discovered in the student subjects and the environmental groups surveyed. More research is being undertaken to build upon this knowledge base.

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