

## Chapter Five: The Rationale and Research...

### *The Rationale*

In 2004, RMIT University and the Environmental Jobs Network conducted a survey and gathered data to begin to understand the types of environmental jobs within Australia. It was the first piece of research of its kind and the information gathered was used to publish 'The Guide to Environmental Careers in Australia' filling a gap in the understanding of environmental employment and career opportunities in Australia at that time. The research also highlighted:

- the connection between the future of mankind relying, in part, on the skills and qualifications of people employed within the sector and their ability to prevent and reverse the impact humans have on the planet and achieve sustainability
- the need for extensive information about environmental careers being made available to people considering and wishing to pursue a career within the industry, and promoting the potential of the industry as a career option to others

This guide was published electronically on the Environmental Jobs Network website ([www.environmentaljobs.com.au](http://www.environmentaljobs.com.au)) and has proved to be a source of invaluable information and advice on the environmental industry, the jobs within it and what these roles involve. This information has been used by school and university students, teachers, career advisers, recruitment specialists as well as career changers alike.

Five years on, the environmental industry has grown rapidly, and with good reason. Environmental jobs, or "*Green Jobs*" or "*Green Collar Workforce*" as they have become known are jobs created to reduce our carbon emissions and environmental pollution, and change the way we live to achieve sustainability, restore ecological balance and manage global warming. Intensifying environmental issues, developing policy areas and larger environmental budgets have created a swathe of new environmental roles. In fact the growth has created whole new sectors within the industry, such as climate change and carbon trading. Existing sectors have also changed and grown as the industry has matured. Environmental roles have also been created in completely different industries, such as finance, hospitality, printing and marketing. The Environmental Jobs Network has been contacted by a huge number of people wanting to change careers into the industry and there's an increased interest in green jobs focused often on trade and non-professional employment.

However, detailed information on the growth of the environmental sector and the impact its had on the breadth of jobs and careers in Australia, is not really known. There is a need to ascertain the significant changes in the industry and identify the range of environmental careers that are available today. There also exists a need for a broadened and ongoing understanding of what is required, now and in the future, for potential environmental employees to enter and secure employment within the sector.

RMIT University and the Environmental Jobs Network have teamed up again to undertake a national research project on environmental careers. The project was undertaken between September 2009 – February 2010 and involved three separate pieces of research to collect data from environmental professionals and environmental recruitment consultants. This research collated up to date information on environmental careers, in-depth information on the generic and environmental specific skills required to undertake these roles, the tasks required within the roles, as well as some inside information on what the roles are really like and how to get your first break into the sector.

The results of this research work is published in this guide, the outline of which is detailed in the 'Introduction' and the method of which is detailed in 'The Research' section.

## ***The Research - Methods and Statistics..***

### **Aim**

The aim of this project is to document the range of professional environmental jobs across Australia and identify the types of skills associated with these jobs.

This research was to ascertain:

- the significant changes within the industry since 2004
- what jobs are now included in the broad category of green collar jobs
- skills, education and experience required to secure these roles
- keys tasks undertaken in the range of roles that now exist
- the future trends of employment within the environment industry

This information would be used to:

- develop a career guide on the environmental industry for secondary students, graduates and career changers
- help shape promotion of environmental careers to secondary students, graduates and career changers
- provide information on potential career options and paths for potential entrants to environmental sector
- identify and campaign on any skills gap identified within the sector

### **Method**

The national project involved undertaking the following pieces of research:

- web-based employee survey of people engaged in environmental work to gather data related to their careers. Called: The Environmental Professionals Survey.
- web-based survey on existing and future employment needs and possibilities with key environmental recruitment consultants. Called The Recruitment Specialists Survey.
- telephone and email communications with environmental professionals to develop environmental career profiles.

The surveys built on the experiences of the 2004 research work and subsequent publication The Guide to Environmental Careers In Australia 2004 and expanded the range of questions slightly, to gather data on the following:

- categories of professional environmental employment
- common position titles - the title by which the respondents' positions were designated
- most common activities - instances of the types of activities that the respondents in each category are engaged with
- Education and skills - the types of educational qualifications obtained by the respondents, and the skills that they considered to be most useful
- employment – length of their career, and the sectors in which they have been employed during their careers.
- which skills are essential to their employment – specifically the skills that are described as 'generic skills' and 'sustainability specific skills', and what they consider to be the three main skills that have been important in their early career, and in their current position
- personal profile - a summary of the structural factors of their position (such as salary), their personal comments on the job, and suggestions for anyone wanting to enter the field of employment
- trends - current trends and future demand from their sector and the environmental industry in general

The survey content was developed by the project team and uploaded onto the Survey Monkey web based survey application. The content of the survey can be found in Appendix 2. This application was chosen because it is both simple and efficient for both the researcher and participant and the responses are anonymous.

Participants were invited to take part in the survey by an email detailing information about the research and a link to the survey. The email was distributed through a wide selection of third party networks (see appendix 1). Information about the research, text introducing the survey, a link and invitation to take part was distributed through the following networks:

- Environmental Jobs Network website and E-Bulletin
- Environmental professional associations (Such as EIANZ, ICLEI, Environmental Business Australia)
- Environmental consultancies
- Environmental not for profit organisations
- Federal and state government environmental departments in each state
- Local governments and local government associations in each state
- Environmental recruitment specialists
- Online environmental events calendars / blogs / networks

A full list of organisations who distributed the information through its networks can be found in the appendices.

### *The Team*

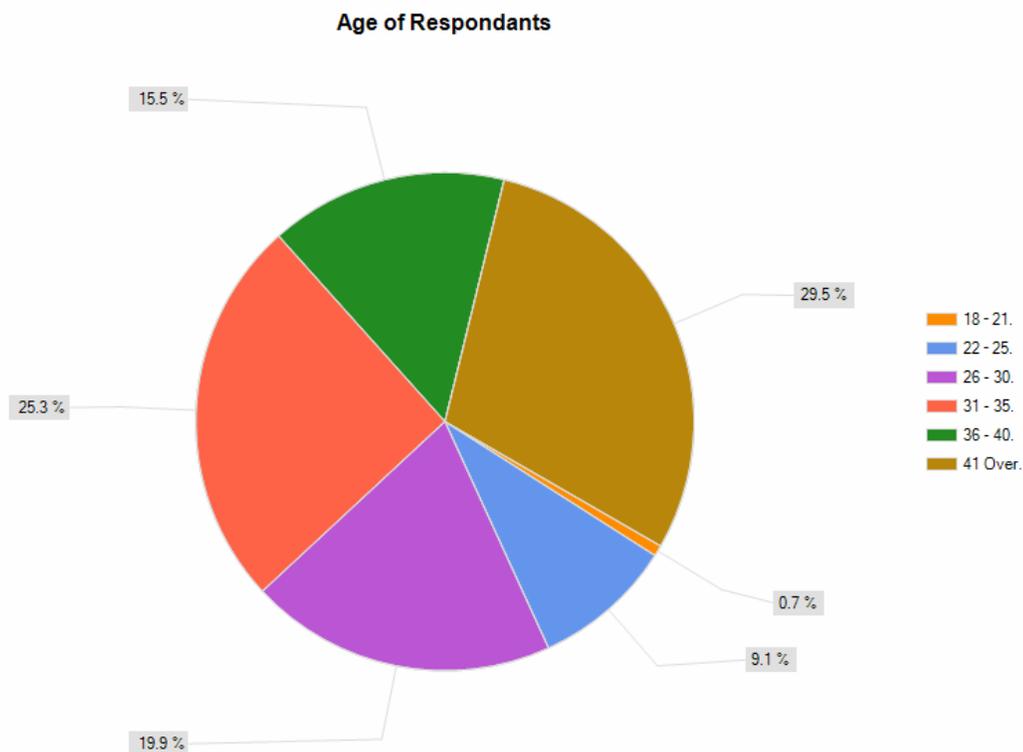
The project was driven by Associate Professor Ian Thomas, Discipline Head, Environment and Planning, Teresa Day, Researcher and Writer, RMIT University and Tracey Skinner Office Manager and ECO Coordinator of the Environmental Jobs Network.

### *Survey Base*

The survey received 432 responses from environmental professionals and 4 from environmental recruitment consultants, over the month that the survey was open. To understand the information that is contained in this guide, its useful to understand who took part in the survey.

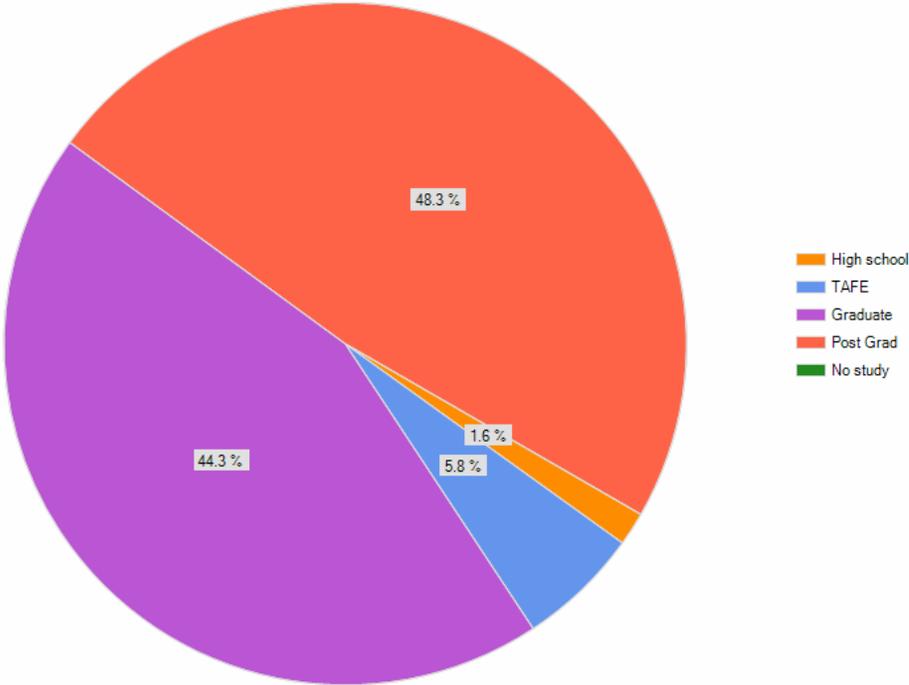
### *Statistics*

The survey was completed by professionals of all ages, with 30% being aged 41 years and over and 25% being aged 31 – 35 years. The group with the smallest response was the 18 – 21 year olds (1%).

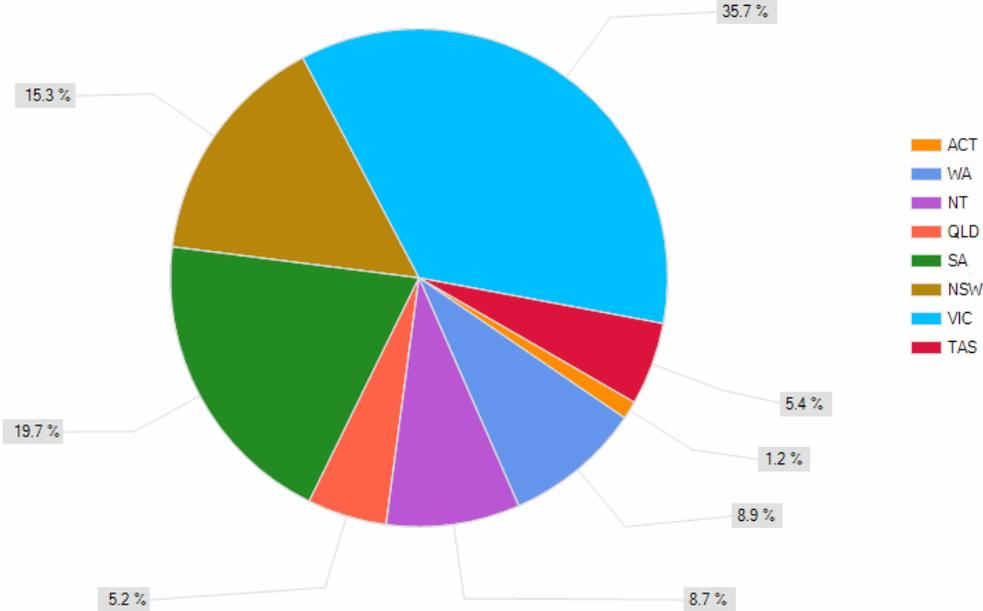


This can be explained when looking at the education level achieved, with 49% post graduates, 43% graduates, 6% TAFE and 2% high school level.

**Level of Education of Respondants**



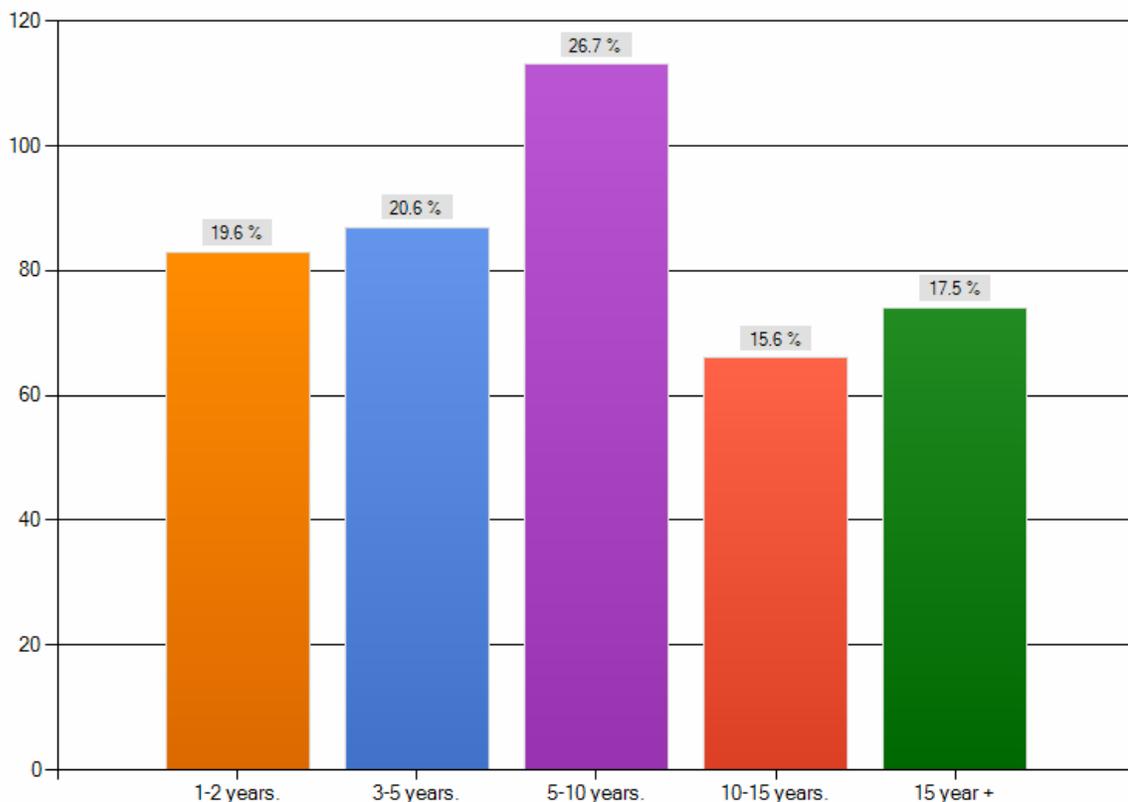
**Where the Respondants are based**



The survey is fairly evenly split in terms of gender, with 44% male, 55% female (1% undisclosed). A deliberate effort was made to ensure that the survey received responses from all over Australia, rather than just one or two states. Responses were made from all states, Victoria (36%), South Australia (20%), New South Wales (15%), Northern Territory (9%), Western Australia (9%), Queensland (5%), Tasmania (5%) and ACT (1%).

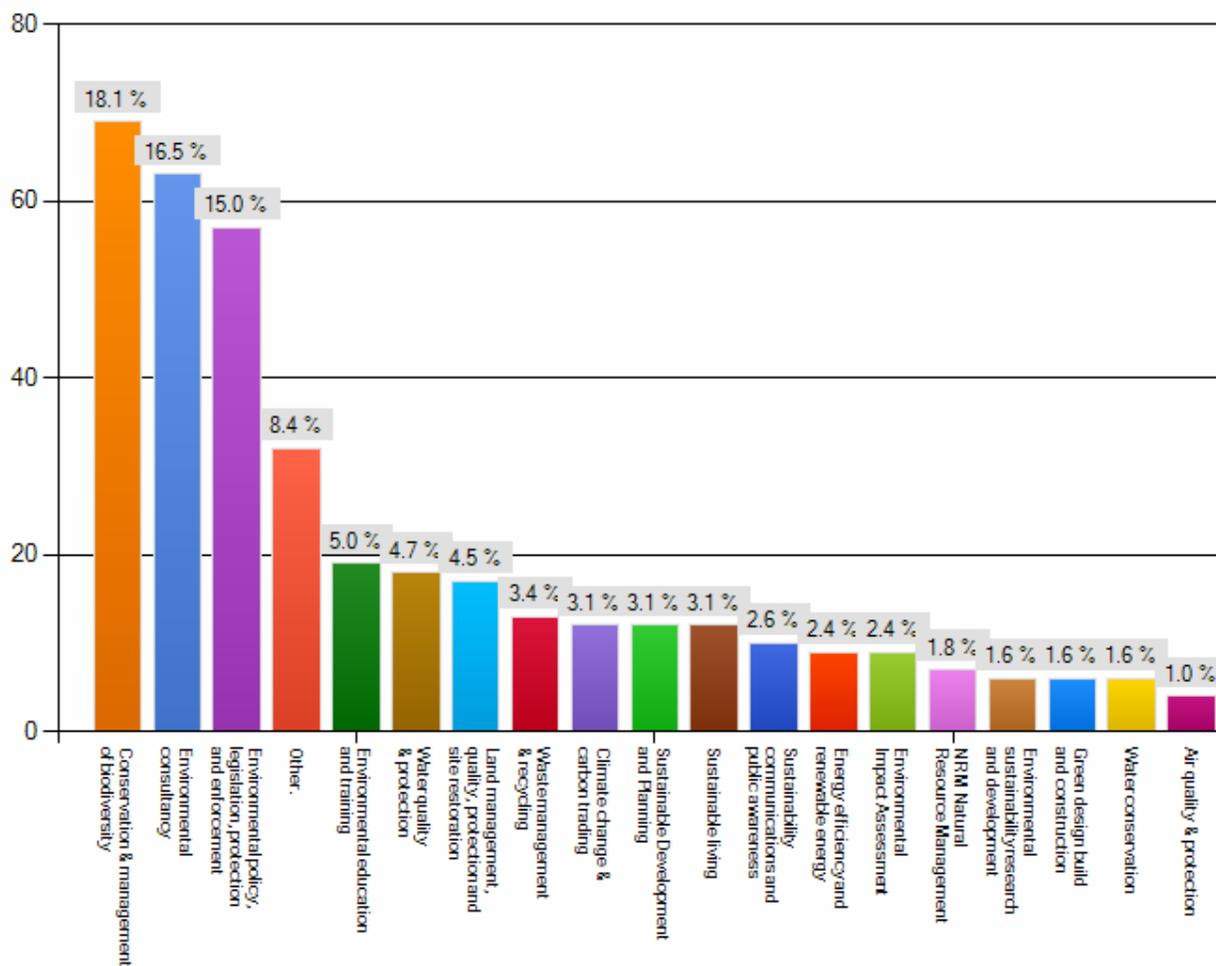
With regards to length of employment within the industry the most frequent answer was 5 – 10 years (27%), with a further 21% of respondents having worked for 3 – 5 years. The majority of the respondents saw themselves as an 'environmental professional working in an environmental organisation' (62%), 14% as 'environmental professionals working in a non environmental organisation' and 18% as 'non environmental professionals working in an environmental organisation'. The vast majority (80%) worked full time, with others working part time (11%), on contract (3%) or having their own business (2%).

**Length of time Respondants have worked in Environmental Sector**



*Where do they work?* We received responses from people who work in 19 of the 21 sectors that were listed. The top three most popular sectors were conservation and management of biodiversity (18%), environmental consultancy (17%) and environmental policy, legislation, protection and enforcement (15%). No responses were received for agriculture and organic food and ecotourism and sustainable transport sectors. Details of the percentage of each of the other sectors is detailed in 'the Careers' section under each of the sectors.

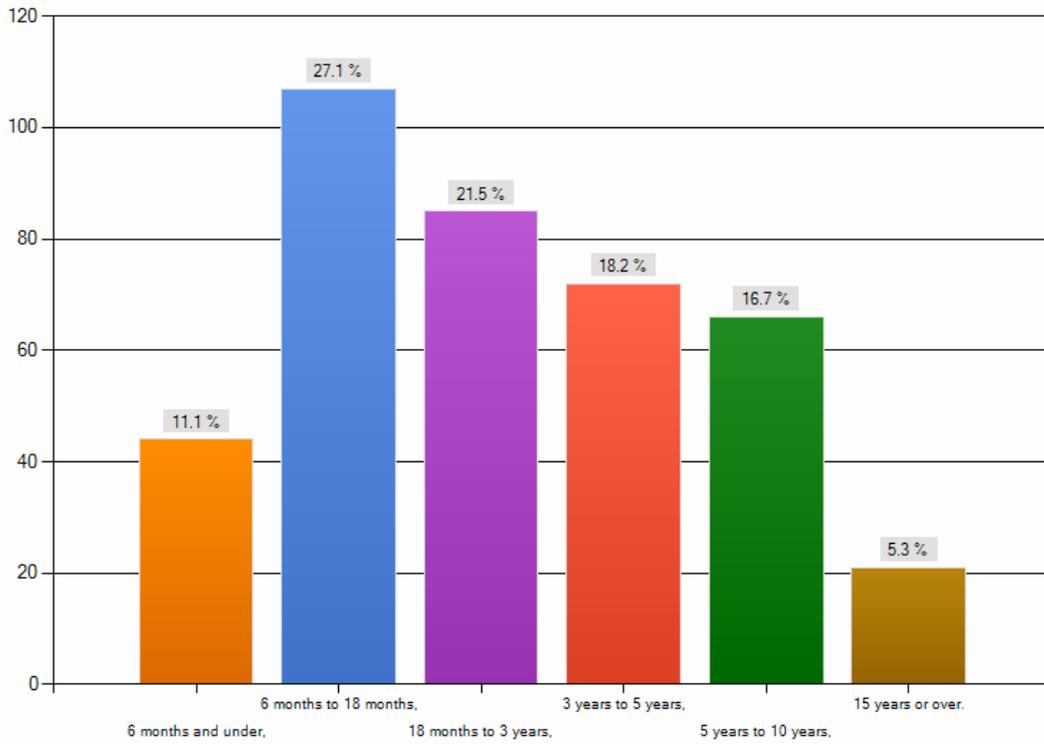
## The sector in which the respondents worked



Of the prescribed job titles detailed within the survey, the most frequent ones were Project Manager, Environmental Officer, Project Officer, Environmental Scientist, Manager, Consultant, Policy Officer, Environmental Consultant, Environmental Protection Officer, Scientist, Education Officer and Environmental Manager.

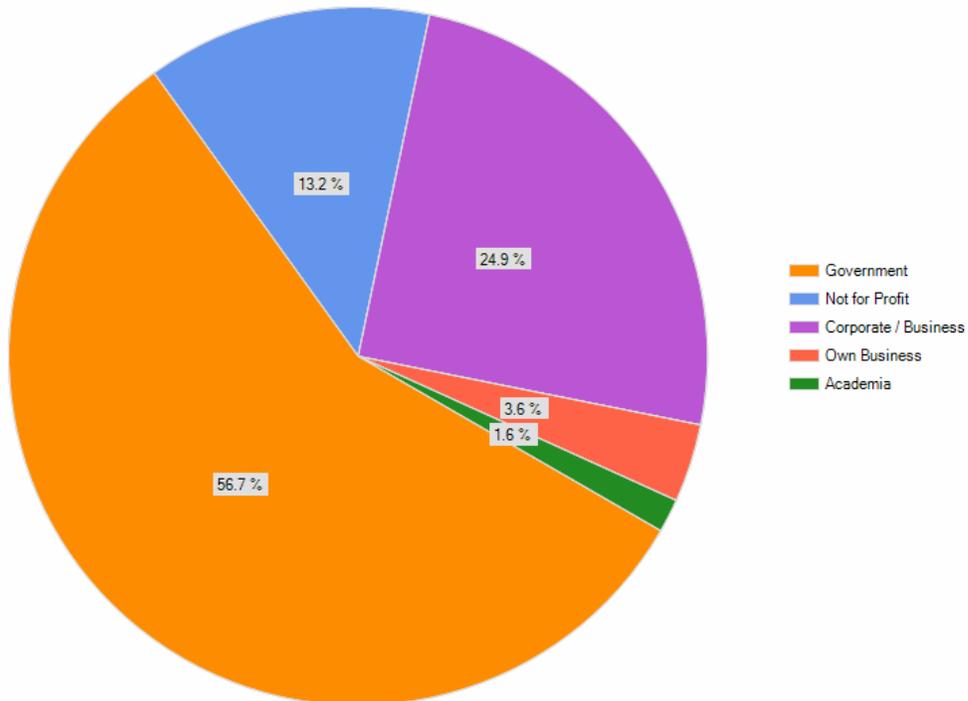
The respondents had been in their roles for a various amount of time, with 27% in the role for 6 months to 18 months, 22% for 18 months to three years and 5% for 15 years and over.

Length of time in role



The majority of the respondents worked for government (57%) whilst others worked for corporate/business (25%) not for profit (13%), own business (3%) and academia (2%).

Who the Respondants work for



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## Appendix 1 – Organisations and Networks used to promote the survey

### Organisations

360 Environmental  
Acacia Environmental Management  
AECOM  
Alternative Technology Association  
Aquaterra  
ATMA Environmental  
Atmospheric Solutions  
Australian Association for Environmental Education  
Australian Business Network NSW  
Australian Conservation Foundation  
Australian Contaminated Land Consultants Association  
Australian Environmental Labelling Association  
Australian Government - Department of Climate Change  
Australian Government - Department of the Environment, Water, Heritage and the Arts  
Australian Land and Groundwater Association (ALGA)  
Australian Water Association  
Baralga Environmental Services  
Beyond Neutral  
Blyss Personnel  
BMT WBM  
Bradman Recruitment  
Bush Heritage Australia  
Carbon Alliance  
Carbon Neutral  
Carbon Reduction Institute  
CERES  
Chamber of Commerce NT  
Clean Energy Council  
Clean Up Australia  
Connell Wagner  
Conservation Volunteers Australia  
Department for Environment and Heritage - SA  
Department of Environment and Resource Management  
Department of Environment, Parks, Heritage and the Arts - TAS  
Department of Natural Resources, Environment and the Arts and Sport - NT  
Department of Primary Industries and Water - TAS  
Department of the Environment, Climate Change, Energy and Water - ACT  
Department of Water - WA  
Dept of Environment and Climate Change and Water - NSW  
Dept of Industry and Investment - NSW  
Dept Sustainability and Environment - VIC  
Earth Systems  
Earthwatch  
Eco logical Australia  
ECO Recruitment  
Eco wise Environmental  
Energy Conservation Systems  
Energy Networks Australia  
Enviro Search Global  
Environment Protection Authority - NT  
Environment Protection Authority (SA)  
Environment Protection Authority Tasmania  
Environment Resources Management  
Environment Victoria  
Environmental Business Australia  
Environmental Defender Office  
Environmental Institute of Australia and New Zealand  
Environmental Protection Authority - VIC  
Environmental Protection Authority of Western Australia  
Forestworks  
Global Sustainability RMIT University  
Going Solar  
Graham Brown and Assocs  
Greening Australia  
Habitat Environmental Consulting  
Hyder Consulting  
International Council for Local Environmental Initiatives  
Jules Remay Executive  
Kay Farnell Recruiting  
Local Government and Shires Associations of New South Wales (LGSA).  
Local Government Association of Tasmania  
Local Government Association - South Australia  
Local Government Association of Queensland  
Local Government Association of the Northern Territory  
Minerals Council Australia  
Municipal Association of Victoria  
Office of Water - NSW  
Plastics and Chemicals Industries Association  
Port Philip Eco Centre  
Principal Consulting  
Rural Solutions  
S Jobs  
SEE Sustainability Consulting  
Stormwater Industry Association  
Sustainability Victoria  
Sustainable Living Foundation  
The Climate Institute  
The Environmental Jobs Network  
The Ethos Foundation  
The WA Local Government Association  
The Wilderness Society  
Total Earth Care Pty Ltd  
Turning Green Consultants  
URS  
Victorian Association for Environmental Education  
Victorian Planning and Environmental Law Association  
Waste Management Association of Australia  
WWF

### Websites

ECO Shout  
EcoDirectory  
EnviroInfo

Facebook  
G Magazine  
Go Greener Australia  
GreenDrinks List  
Greenleap

Linked In  
Sustainability Drinks  
The Green Directory  
UWA Green Drinks

## Appendix 2 – Survey Content

### Environmental Professionals Survey

#### Introduction

Since the last environmental job survey five years ago, the environmental sector has grown considerably. Detailed information on the impact this growth has had on breadth of jobs and careers within Australia, is very limited. To ensure the sector continues to secure professionals and suitable personnel, now and in the future, detailed information on career options and career potential is essential to promote the sector as a great career choice. This is where your help and this survey steps in.

This survey will ascertain the range of professional environmental or green jobs across Australia and identify skills and education requirements for, and basic tasks of, these roles. This information will be used to provide career advice and guidance to those wanting to work, and currently working, in the environmental sector.

The survey is being undertaken by RMIT and Environmental Jobs Network and should be completed by professionals whose main focus in their work (or the organisation they work for) plays a role in reducing environmental pollution and degradation and changing the way we live to restore ecological balance and achieve sustainability.

The survey takes 25 minutes to complete. We understand that this is a big request, but the information you provide will be used to help the sector to continue to secure professionals and suitable personnel, now and in the future. It also gives you time to reflect upon your career. The survey closes on the 30th November 2009.

We are also looking for individuals to provide information about their career profiles that will be featured in the finished guide (the profiles will be anonyms so that your identity and organisation will not be identifiable). If you are interested in contributing your profile please provide your name and telephone number where indicated.

#### Questions

Q1. How old are you?

Multiple choice: 18 – 21. 22 – 25. 26 - 30. 31 - 35. 36 - 40. 41 Over.

Q2. Male / Female / Not disclosed

Q3. Which state are you based in?

Multiple choice: ACT. WA. NT. QLD. SA. NSW. VIC. TAS

Q4. How long have you worked in the Environmental Sector?

Multiple choice: 1-2 years. 3-5 years. 5-10 years. 10-15 years. 15 year +

Q5. How would you describe yourself? (NB an environmental professional is an individual who has an environmental qualification or environmental specific skill that is used within their role)

Multiple choice:

Environmental professional working in an environmental organisation

Environmental professional working in a non environmental organisation

Non environmental specific professional working in an environmental organisation

Other

Q6. As part of the guide, several career profiles will be included. Would you be interested in providing more information about your career at a later date that could be included in the guide?

Q7. In which industry, within the environmental sector, do you work?

Multiple choice:

Agriculture and organic food. Air quality and protection. Climate change and carbon trading. Conservation and management of biodiversity. Energy efficiency and renewable energy. Environmental consultancy. Environmental education and training. Environmental Impact Assessment. Environmental policy, legislation, protection and enforcement. Environmental sustainability research and development. Green design build and construction. Land management, quality, protection and site restoration. NRM Natural Resource Management. Sustainability communications and public awareness. Sustainable Development and Planning. Sustainable living. Sustainable

Transport and Eco Tourism. Waste management and recycling. Water conservation. Water quality and protection. Other

Q8. What is your job title? To help the analysing of results, please choose / detail your job title by either using generic job titles listed below ( IE if you are a water conservation policy officer, Multiple choice. Please see master job title list for

Q9. Type of role?

Multiple choice: Full time. Part time. Casual. Volunteer. Contract. Consultant. Own business. Other

Q10. Length of time in role?

Multiple choice: 6 months and under. 6 months to 18 months. 18 months to 3 years. 3 years to 5 years. 5 years to 10 years. 15 years or over.

Q11. How did you find out about and apply for this role?

Multiple choice: Advert on job website. Advert in newspaper / magazine. Organisations website. Recruitment consultant. Graduate Program / Intake. Through word of mouth (friends). Through word of mouth (professional networks). Through previous role. Speculative Approach / cold call. Other.

Q12. Did you change careers when entering this role? If yes, please answer the next three questions. If no, please go to question 9.

Multiple choice: Yes. No.

Q13. What activity did you do to achieve this career change? (can select more than one)

Multiple choice: Retrained. Returned to education. Undertook unpaid work to gain experience. Used contacts / networks. Used transferable skills. Other (i.e. complete luck)

Comments box detail

Q14. Why did you undertake this career change? (can select more than one)

Multiple choice: More rewarding role. Better work life balance. Increased salary. Better career potential. Work with like-minded people. Challenge. Other (i.e. my mates suggested it)

Q15. What do you think, helped you get the job? (can select more than one)

Multiple choice: General career experience. Specific environmental experience. General skills. Specific skills. Environmental (academic) qualification. Networks in environmental industry. Other (i.e. dynamic personality)

Comments box detail

Q16. What would you say are the top three generic skills that have enabled you to work in this role? (Please select three) See Appendix 4 for list.

Q17. What would you say are the top three environmental / sustainability specific skills, knowledge or experience that have enabled you to work in this role? (i.e. enviro system knowledge, GIS Mapping) (List two of each below)

Q18. Has the education you have undertaken been fundamental to this role?

Multiple choice: Yes. No

Q19. What are the most common activities / tasks you undertake within this role? Please list up to 5 bullet points.

Q20. Who do you work for?

Multiple choice: Government. Not for Profit. Corporate / Business. Own Business. Academia.

Option to provide name of employer.

Q21. This question is optional, but any information you can provide will help our understanding of the profession. What is the annual salary scale for your role (based on full time hours)?

Multiple choice \$0 (volunteering). \$1K - \$30K. \$31K - \$40K. \$41K - \$50K. \$51K - \$75K. \$76K - \$100K. \$101K - \$125K. \$126K - \$150K. \$151K plus

Q22. How do you describe your job to friends or to people you meet? (your personal take on the job)

Q23. Do you have one suggestion / tip for anyone looking to secure this role? (not necessarily yours, but from someone familiar with the environment sector!)

Q24. To what level are you educated?

Multiple choice: High school. TAFE. Graduate. Post Grad. No study

Q25. Was this qualification Environmental focussed?

Multiple choice: Yes. No.

Q26. If yes, please choose one broad focus. If no, please go on to next question.

Multiple choice: Environmental Science. Environmental Engineering. Environmental Studies / humanities. Environmental Education. Environmental Economics. Environmental Health. Environmental Management. Natural Resource Management. Environmental Policy and Law. Sustainable Development and Planning. Sustainable Management and Corporate Social Responsibility. Other

Q27. What was the main subject/module/unit that has been valuable in your career to date? Please give details

Q28. What would you say are the top three most useful generic skills / attributes that enabled you to work in the environmental / sustainability sector in the early stages of your career (NB not just current role)? please select three. See Appendix 4 for list

Q29. What would you say are the top three specific environmental / sustainability skills or knowledge that have enabled you to work in the environmental / sustainability sector (NB Not just current role)? Please list three

Q30. Where have you worked predominately?

Multiple choice: Government. Not for Profit. Corporate / Business. For self. Academia. Other

Q31. Please list brief details of the previous roles you have had. (Please list up to 2 to give an indication of career pathway. Detail job title, industry worked in and time in role)

Q32. How would you describe your plans for the future (in terms of your career)?

Multiple choice: Plan to stay in current industry / role. Plan to stay in current industry and move up the ladder. Plan to further my education in this area. Plan to undertake training related to my role / area. Plan to move to another industry within the environmental sector. Plan to move out of the environmental sector altogether. Plan to retire from this role. Other.

Q33. Where would / do you go to get information about jobs / careers in the environmental sector?

Q34. How can the Environmental Jobs Network (EJN) or other employment organisations help you with your career development needs? (can select more than one)

Multiple choice: Information on career paths. Information on the industry and its trends. Information on career news. Information on environmental career networks and events. Information on jobs. Provide advice by running workshops. Provide advice by one on one sessions. Provide advice by running internet blogs / interactive sessions. Provide advice by providing online tutorials. Provide practical information on job application. Undertake more detailed research into the sectors skills needs and job market. Other.

Q35. Looking at the last twelve months, has your industry and role been impacted by the current economic downturn? If yes, how?

Q36. What do you think is the key challenge and key opportunity that currently faces your industry (as identified in Section 3, Question 1) in terms of skills, employment and sector development (not environmental issues)?

Q37. What do you think is the key challenge and key opportunity that currently faces the environmental sector as a whole in terms of skills, employment and sector development (not environmental issues)?

### **The Recruitment Specialist Survey**

The Recruitment specialist survey contained the above questions but where aimed at an organisation:

Q3. Q4. Q7. Q16. Q23. Q35. Q36. Q37

Additional questions:

- What is your turnover in number of positions filled per year?
- What are the key challenges in recruiting for the environmental sector? (Lack of Proper Education/Training / Lack of Experience / Lack of Skills / Poor Work History/References / Lack of Preparation / Work Ethic)?

## Appendix 3 - Industry and Job Classification

### Industry Breakdown

Agriculture, Food, Organics  
 Air quality and protection  
 Climate Change and Carbon Trading  
 Conservation and Management of biodiversity  
 Wildlife  
 Flora  
 National parks and protected areas  
 Marine parks  
 Energy Efficiency and Renewable Energy  
 Environmental consultancy  
 Environmental education  
 Environmental Sustainability Policy and legislation  
 Environmental Sustainability Research and development  
 Green Design Build and Construction  
 Land quality protection and site restoration  
 Natural Resource Management  
 Fisheries  
 Forests  
 Minerals  
 Sustainability communications and public awareness  
 Sustainable Living  
 Sustainable Transport  
 Waste management and recycling  
 Water conservation  
 Water quality and protection  
 Other. Please specify.

### Job titles

Administrator  
 Affairs Officer  
 Auditor  
 Campaigner  
 Communications Officer  
 Community Affairs Officer  
 Compliance and Enforcement Officer  
 Computer Modeler  
 Conservation Officer  
 Consultant  
 Coordinator  
 Decontamination Officer  
 Development Officer  
 Education Officer  
 Efficiency Officer  
 Engineer  
 Environmental Affairs Officer  
 Environmental Auditor  
 Environmental Campaigner  
 Environmental Consultant  
 Environmental Engineer  
 Environmental Health Officer  
 Environmental Impact Analyst  
 Environmental Liaison Officer  
 Environmental Manager  
 Environmental Officer  
 Environmental Planner

Environmental Policy Officer  
 Environmental Protection Officer  
 Environmental Resource Manager  
 Environmental Scientist  
 Environmental Technician  
 Field or Laboratory Technician  
 Impact Analyst  
 Lecturer  
 Legal Officer  
 Liaison Officer  
 Manager  
 Modeler  
 Planner  
 Planning Officer  
 Policy and Economic Analyst  
 Policy Officer  
 Primary or Secondary School Teacher  
 Professor  
 Programs Manager  
 Project Manager  
 Project Officer  
 Protection Officer  
 Regenerator  
 Regulatory Affairs Officer  
 Remediation Officer  
 Research Analyst  
 Research Assistant  
 Research Associate  
 Research Economist  
 Research Officer  
 Research Scientist  
 Resource Manager  
 Resource Officer  
 Resources Manager  
 Scientist  
 Sustainability Officer  
 Sustainability Auditor  
 Sustainability Campaigner  
 Sustainability Consultant  
 Sustainability Manager  
 Sustainability Planner  
 Sustainability Policy Officer  
 Technical Advisor  
 Other. Please specify

2. If your job title is specific and is not detailed above, please write full title in space provided. (IE Ecologist or Agronomist)

## Appendix 4 - General Skill Listing in Survey

Questions referring to identifying general skills provided a list of multiple choice of:

**Communication** - for productive and harmonious relations between employees and customers

- Writing
- Spoken/Verbal
- Customer Service

**Team work** - for productive working relationships and outcomes

- Co-ordination
- Instructing
- Negotiation / Persuasion / Build Argument
- Timeliness
- Honesty
- Ability to get along with others

**Problem Solving Skills** - to contribute to productive outcomes

- Using mathematics to solve problems
- Using scientific rules and methods to solve problems
- Identifying complex problems and provide solutions
- Judgment and Decision Making
- Troubleshooting
- Initiative and enterprise

**Resource Management Skills** – Management and monitoring performance.

- Personnel
- Financial Resources
- Material Resources
- Management of self
- Long term planning and organising

**Technical Skills**

- Computer Skills
- Equipment maintenance
- Installation of equipment / systems
- Operation and control of equipment / systems
- Operation monitoring & analysis
- Technology Design

**Learning Skills** - for ongoing improvement and expansion in employee and company operations and outcomes

**Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problem

**Other**