Marine NRM
Saltwater Community Survey

2015 REPORT

30 October 2015

Sydney

Contents

Executive Summary

To further consultation in the development of OceanWatch Australia's Marine NRM plan, an invitation was extended to stakeholders to complete the 2015 Saltwater Community Survey. The views of key stakeholders are fundamental in shaping OceanWatch's future marine NRM strategies and projects.

Key information sought through the survey included what respondent's value about our marine environment, what threats they believe our marine environment faces, and which of the threats they were most concerned about.

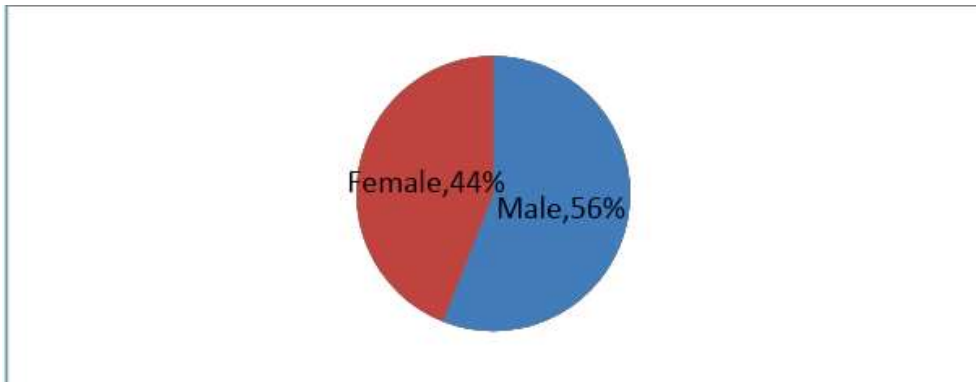
In addition to understanding stakeholder's perceived values of a healthy marine environment as well as the perceived threats to the marine environment, OceanWatch also sought to understand respondent's typical level of awareness and understanding of NRM in Australia.

Of particular interest was the level of support for marine NRM as a threat abatement priority, and support for OceanWatch's vision as the marine NRM organisation.

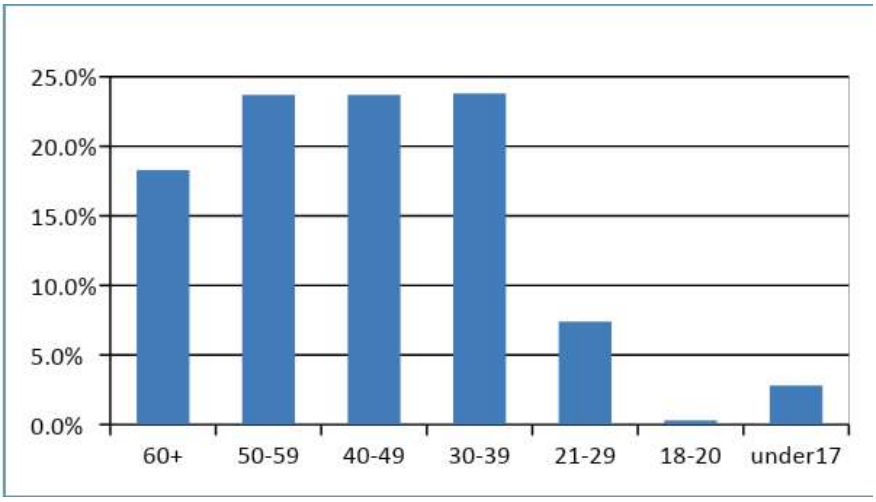
The following provides a summary of all 720 respondent responses

Demographics

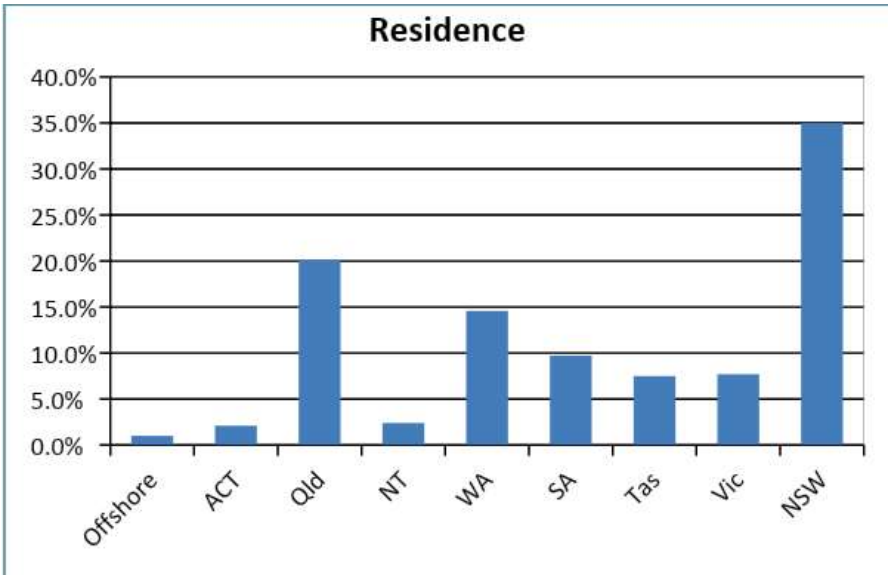
Q1. Are you male or female?



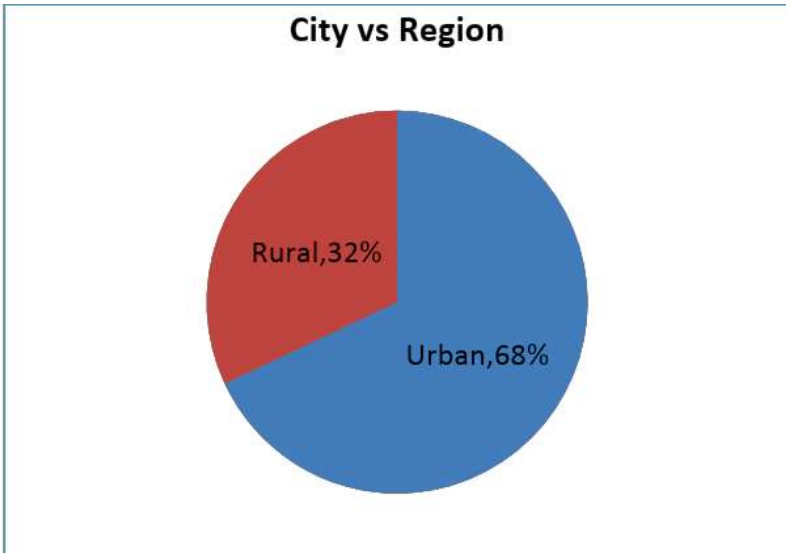
Q2. What is your age?



Q3. In what state or territory do you live?

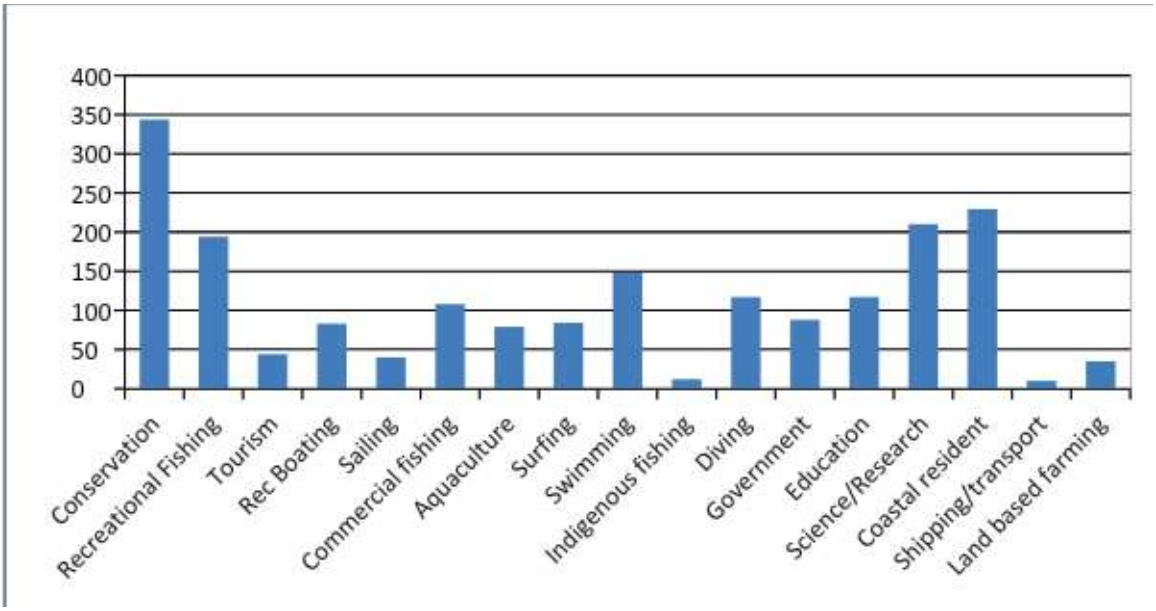


Q4. Do you consider yourself to live in an urban or rural environment?



Q5. Which activity/sector do you most identify with?

Each respondent could choose up to 3 sectors. A total of 1,942 responses were recorded.

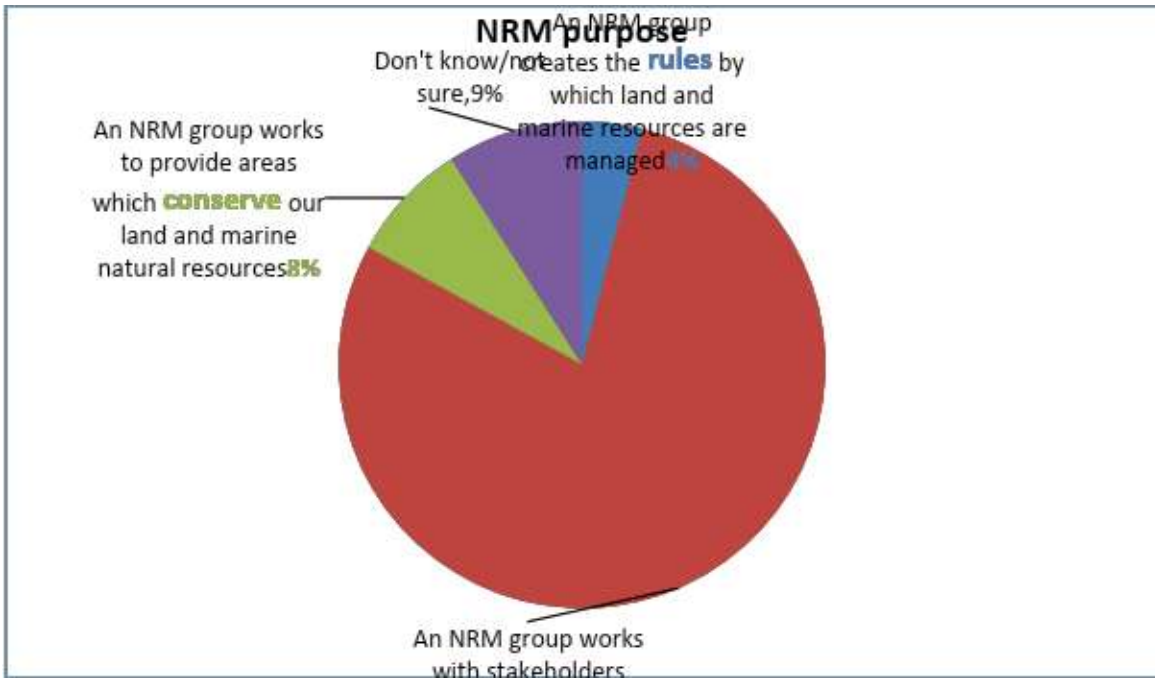


Conservation received the highest activity/sector identified with at 344 selections (overall18 %). It was the highest 1st choice (with 146 selections) and highest 2nd choice selected (with 121 selected) and came in a close second in the 3rd choice selected by survey respondents (with 77 selected).

The survey recorded respondents from all States and Territories of Australia (including Offshore Territories). A wide cross-section of demographics were recorded, although the number of NSW respondents was proportionally higher.

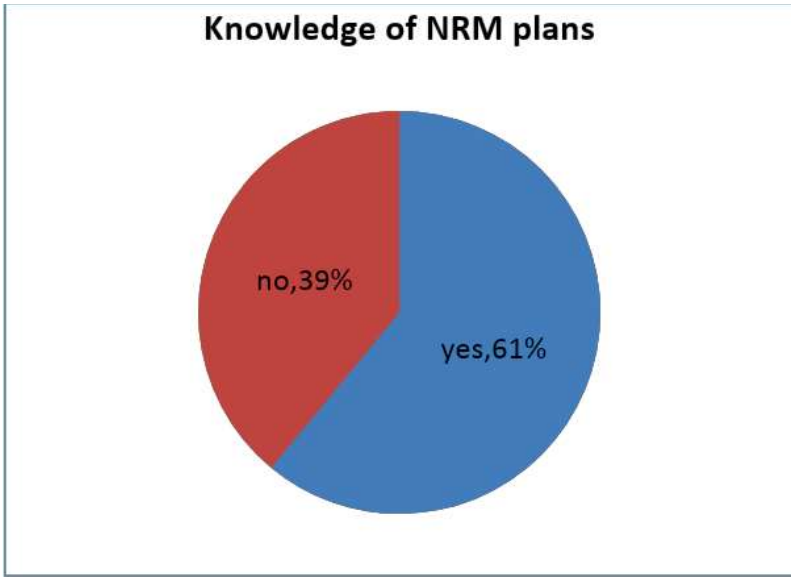
Understanding of NRM

Q7. What do you think best reflects the role of a NRM organisation?

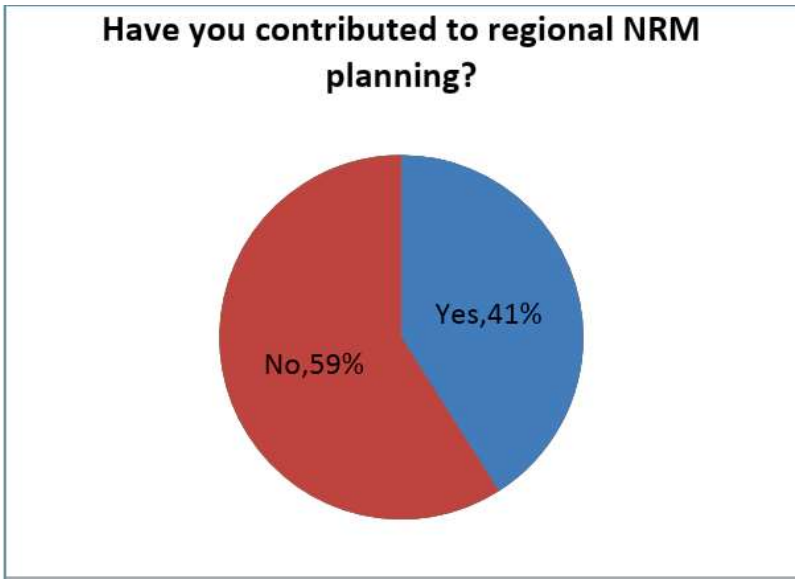


Stakeholders responding to this survey had a high level of understanding of the role of an NRM group in the stewardship of natural resources.

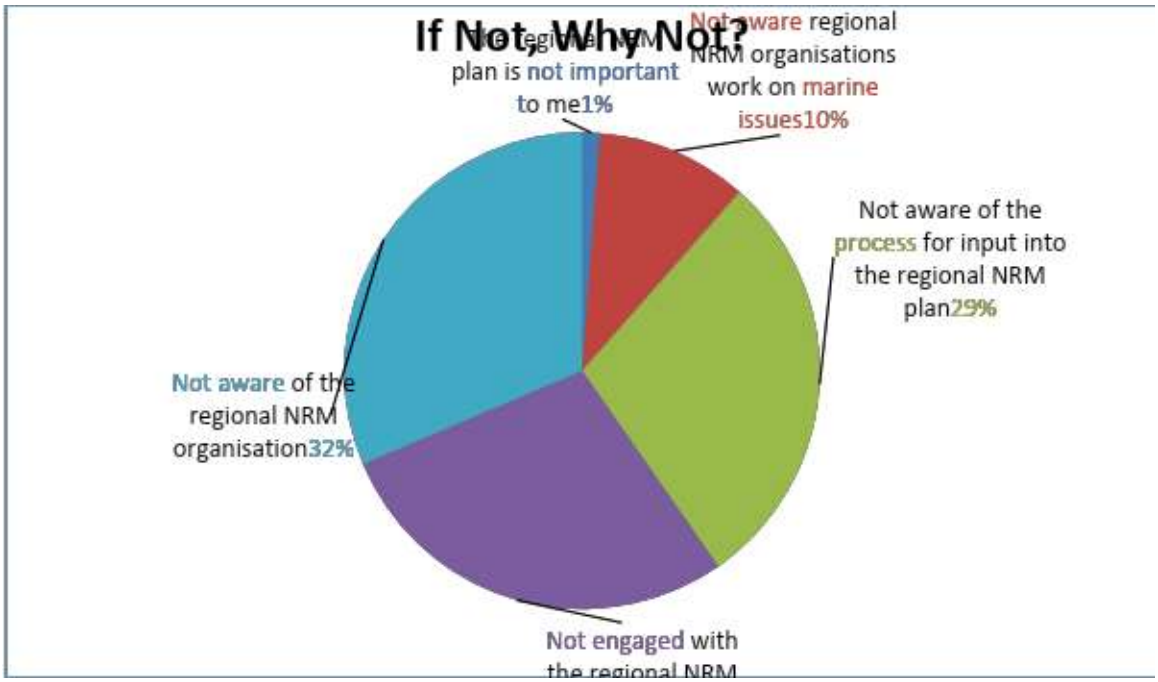
Q8. Are you aware regional NRM organisations have plans that include marine topics?



Q9. Have you contributed to regional NRM planning?



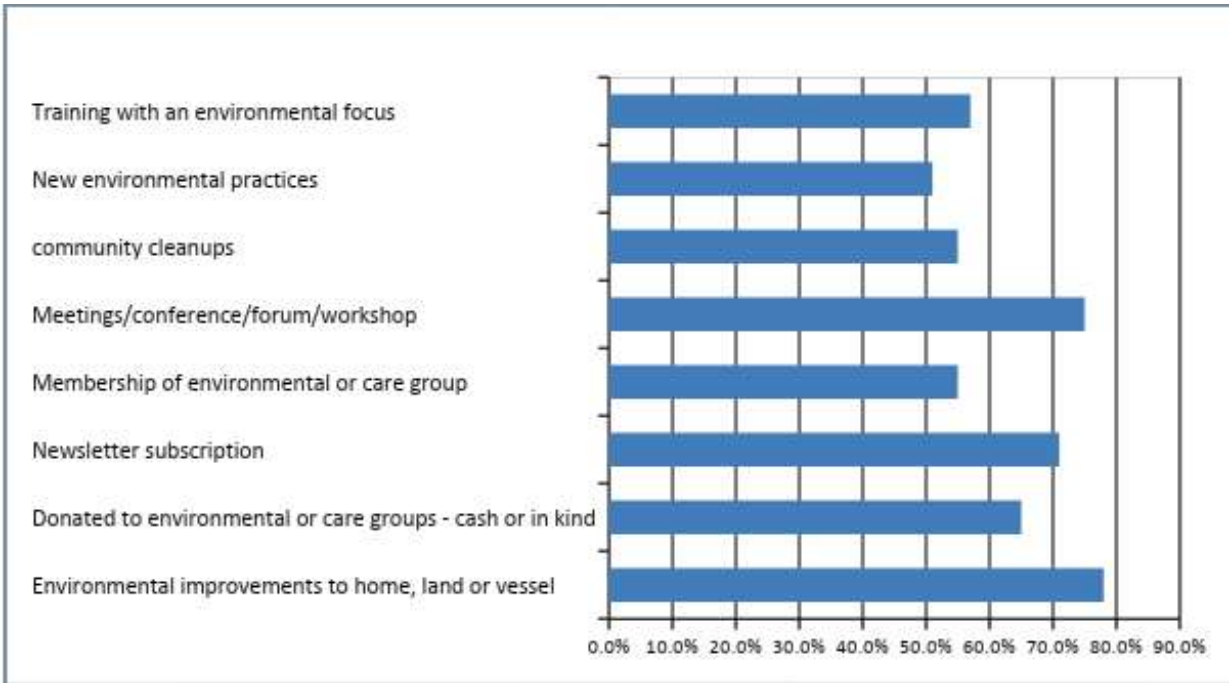
Q10. If not, why not?



A high proportion of survey respondents are not aware of the regional NRM organisations or not being engaged by the NRM regions in their planning process, and that would indicate that their priorities are not being recorded or addressed. Regionally across Australia, over half of Tasmanian, South Australian and Queensland respondents had contributed to NRM planning. Less than half of NT, ACT, Victoria, Western Australia and New South Wales had contributed to regional NRM planning.

NRM Participation

Q11. Have you participated in any of the following activities in the last 12 months?



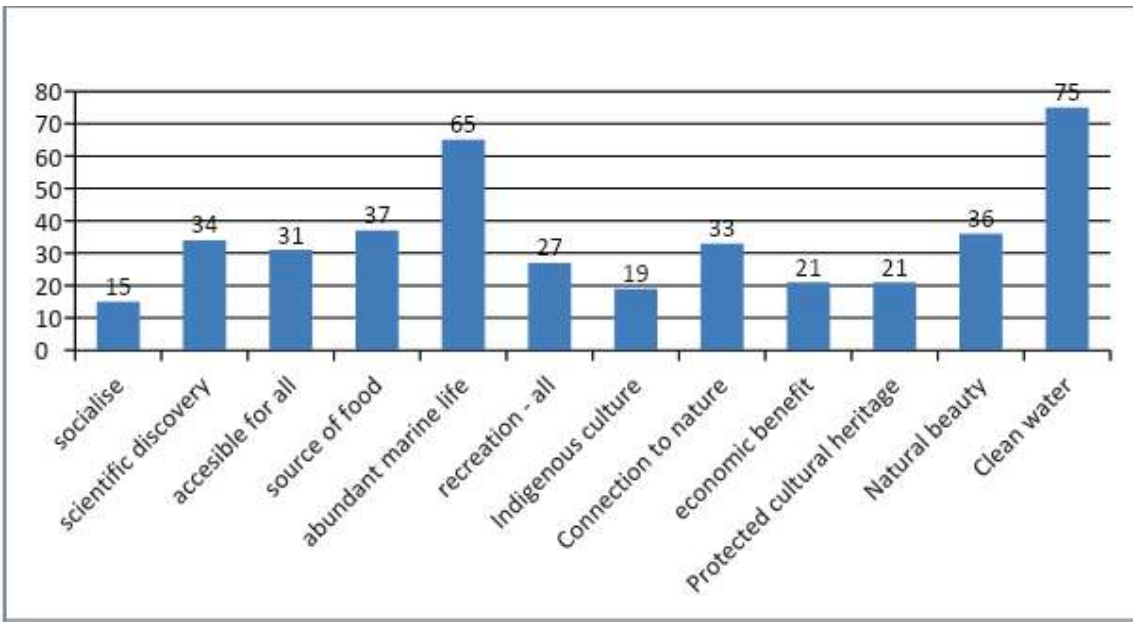
The average respondent participated in at least two types of activities, however the fishing & aquaculture sector respondents were identified as unlikely to be members of environmental 'care' groups such as Landcare or Coastcare. Engagement of this sector through traditional NRM pathways is lacking traction.

Marine Values

Q12. Rate the value you place on the following aspects of the marine environment.

Respondents were asked to rate their responses from 1= not important, to 5 = Absolutely critical.

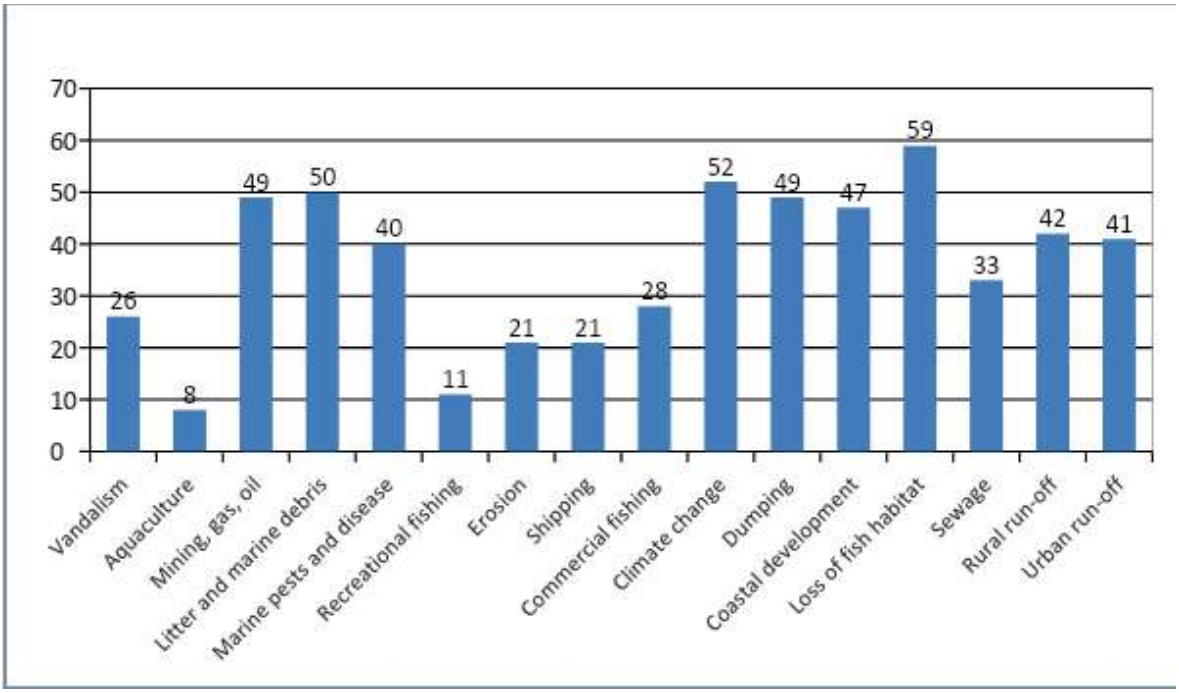
Absolutely critical responses were as follows.



The four fishing & aquaculture sectors agreed on clean water and abundant marine life as vital marine values for a healthy marine environment. Overall survey respondents also believed that a source for food was in addition a key marine value.

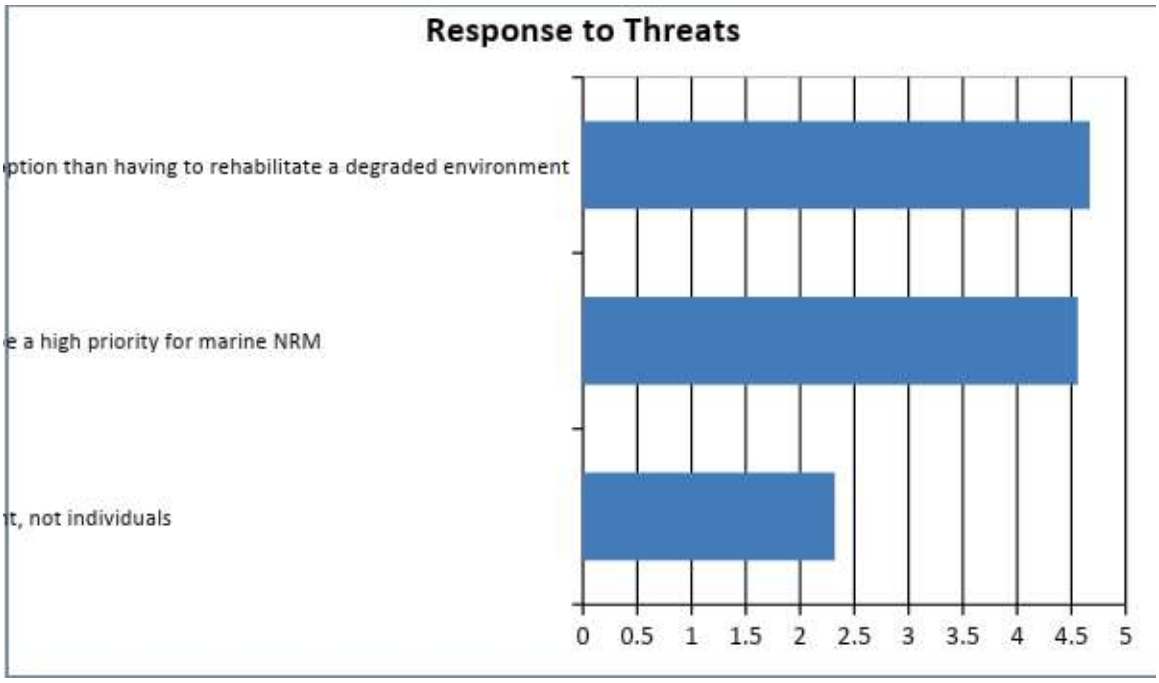
Threats to Marine Values

Q13. Rate the following threats and their impacts on the health of the marine environment. Respondents were asked to rate their responses from 1= not important, to 5 = Absolutely critical. Absolutely critical responses were as follows.



Response to Threats

Q14. Rate the level of agreement with the following statements
Ratings: 1 = strongly disagree 5 = strongly agree

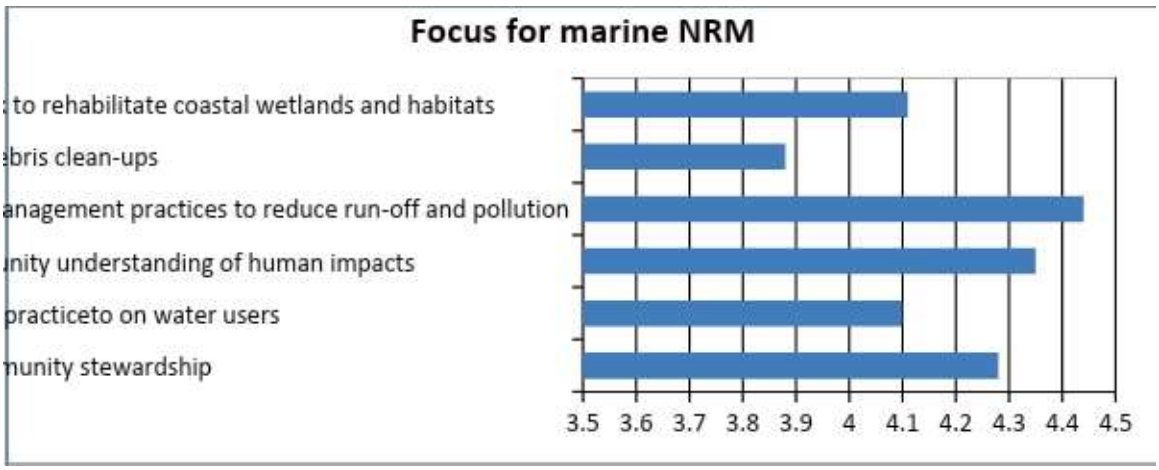


Survey respondents identified effective marine stewardship today to be desired above the necessity of rehabilitating degraded marine environments tomorrow.

The support of stewardship was considered a high priority for marine NRM.
Government intervention was seen as a lower priority by the majority of respondents.

Future Focus for marine NRM

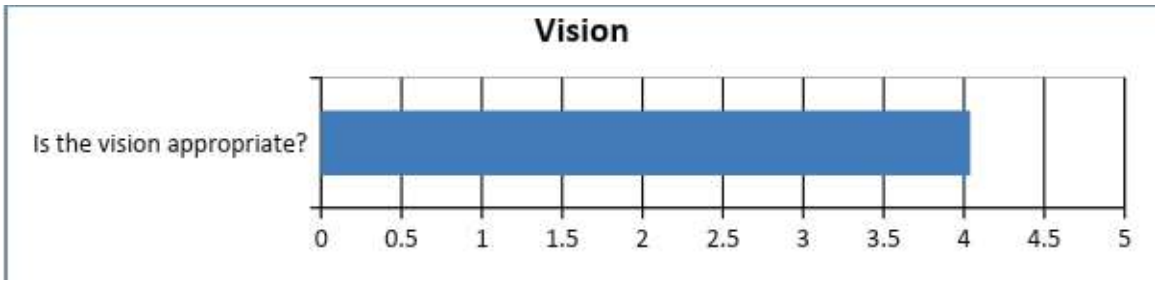
Q15. How important are the following activities in conserving marine environments?
Ratings: 1 = not important 5 = critical



Both rural and urban respondents agreed on the need to improve land management practices to reduce run-off and pollution affecting the marine environment.

OceanWatch Vision

Ratings: 1 = strongly disagree 5 = strongly agree



It was evident that the current OceanWatch vision, which identified the need to develop a balanced approach to marine environment use, resonated with the respondents across Australia and throughout the various sector/activities.

1. Introduction

Background

OceanWatch Australia is a not-for-profit company working to advance environmental, economic and social sustainability in the Australian fishing and aquaculture industry and promotes awareness and stewardship within other parts of the community that use and value the marine environment.

In 2014 the Australian Government recognised OceanWatch as the national organisation responsible for the delivery of its marine NRM related programs and, through funding agreements, assists it to achieve mutually agreed long term outcomes. Although the delivery of the Australian Government NRM related programs imposes contractual responsibilities on OceanWatch, they are consistent with the long standing activities and current Vision of the Company.

OceanWatch was originally established in 1989 by Peter Doyle AO, as it was then recognised that the NSW commercial wild-catch fishing sector's future was dependent upon a healthy marine environment and sustainable fishing practices.

OceanWatch Australia has worked with the seafood industry since 1989 delivering a broad range of successful projects to improve sustainability - both environmentally and economically. Projects have also focused on restoring important coastal habitats, and improving water quality in Australia's waterways by working with local communities and interest groups to ensure the marine environment stays healthy and productive.

The OceanWatch catchphrase *Healthy Catchments* = *Healthy Oceans* was coined in the early 1990s to reflect the direct connection between land use and the health and productivity of Australia's marine environment.

The Company's Constitution lists its Objects as:

- to seek the protection of aquatic habitats
- to seek an end to water pollution
- to ensure that industry groups are fully informed as to the nature of environmental problems and ways of dealing with them
- to seek the support of other sectors of society in promoting the conservation of aquatic habitats

OceanWatch is a small Sydney based company with a national influence that has developed its organisational structure to optimise its performance. OceanWatch's stakeholders include:

- the Australian seafood industry

- the community, including recreational and Indigenous customary fishers, that uses and values the marine environment.
- Commonwealth, state, territory and local governments
- Regional NRM organisations
- other industry users of the marine environment where these users may affect, interact with or share common interests with fishing and aquaculture operations.

Purpose of survey

To assist OceanWatch Australia as the national Marine NRM group to better serve Australia's marine environments and those who live and work on our coasts, an invitation was extended to the Australian community to complete the 2015 Saltwater Community Survey. Survey respondent views are considered important in helping shape the organisation's future strategies and projects.

Key information sought via the survey was how respondents value our marine environment, what threats they believe our marine environment face and which of the threats they were most concerned about.

In addition to understanding the perceived values of a healthy marine environment as well as the perceived threats to the marine environment, OceanWatch was also keen to understand the typical level of awareness and understanding of natural resource management of respondents around Australia. Of particular interest was any difference measurable between the urban and rural perspective, and what level of support marine NRM was in receipt of in terms of threat abatement priorities and an appropriate future vision for OceanWatch.

2. Summary of key outcomes

The survey reach recorded respondents from each State and the all Territories of Australia (including offshore). A good cross-section of demographics was also recorded, although the number of NSW respondents was proportionally higher than the population. Future survey should focus on greater engagement with interstate stakeholders particularly in Victoria, and also stakeholder in the under 21 age groups.

Marine NRM stakeholder responding to this survey had a high level of understanding of the role of an NRM group, but a high proportion of survey respondents are not being engaged by the NRM regions in their planning process, and that would indicate that their priorities are not being recorded or addressed.

Regionally across Australia, over half of Tasmanian, South Australian and Queensland respondents had contributed to NRM planning. Less than half of NT, ACT, Victoria, Western Australia and New South Wales had contributed to regional NRM planning.

The four fishing & aquaculture sectors agreed on clean water and abundant marine life as vital marine values for a healthy marine environment. Overall survey respondents also believed that a source for food was in addition a key marine value.

The survey identified key activities that marine NRM should undertake as a priority. Both rural and urban respondents agreed on the need to improve land management practices to reduce run-off and pollution affecting the marine environment. Survey respondents identified effective marine stewardship today to be desired above the necessity of rehabilitating degraded marine environments tomorrow. The encouragement of stewardship and improved awareness and better practice on land and on water was considered as vital by the majority of respondents.

Survey respondent were considered to be a very environmentally active community with the average respondent participating at least two types of activities such as attendance at environmentally themed workshops or meetings, belonging to environmental care groups, or receiving environmental topic newsletter. However the fishing & aquaculture sector respondents were identified as unlikely to be members of environmental 'care' groups such as Landcare or Coastcare, and therefore engagement of this sector in traditional NRM pathways would probably not succeed.

It was evident that the updated OceanWatch vision, which identified the need to develop a balanced approach to marine environment use, clearly resonated with the respondents across Australia and throughout the various sector/activity.

The survey results confirmed that Marine NRM stakeholders through survey respondents' views have far more in common in terms of shared values and understanding of marine environmental threats than previously identified, and that there was an appetite for engagement and active participation, through not-traditional NRM channels that was currently not being met.

3. Methodology

Survey Design

OceanWatch was keen to know who our pro-active Marine NRM stakeholders were. In order to do this, a survey was designed by staff which would yield results on the basis of their:

- Gender
- Age
- Geographic location
- Residing in a rural or urban location
- Allegiance to certain activities/sectors
- Understanding of the role of an NRM organisation
- Awareness of any marine activities in the NRM Regions
- Previous contribution to NRM planning
- Participation in environmental activity
- rating of a predetermined set of environmental values
- threats rating to a predetermined set of issues
- support for stewardship action
- rating of predetermined set of activities to conserve the marine environment
- rating on the appropriateness of the OWA vision

The sixteen questions were crafted, in response to the above criteria, and are listed in Appendix 1.

Distribution

OceanWatch Australia disseminated the survey via email alerts to as wide a potential audience as possible.

The email with the survey link went out via mailchimp http://eepurl.com/bbVSRL to the following;

- 184 NRM regions/groups
- OWA donors
- OWA corporate partners
- OWA fishing industry contacts
- Landcare contacts
- OWA suppliers
- 328 community groups nationwide
- 65 conservation groups nationwide
- 63 education establishments

- 149 science establishments
- 374 government contacts
- 6 tourism organisation
- 24 recreational fishing organisations
- 260 Aquaculture operations

Network contacts in the recreational fishing, conservation, and NRM sector were asked to forward the survey to appropriate stakeholder. Members of the OceanWatch Australia network were also contacts with invitations to complete the survey.

4. Results

Total responses

The OceanWatch Australia Marine NRM Saltwater Survey 2014-2015 was opened in December 2014 and closed at the end of April 2015. The survey attracted a total of 720 completed 'survey monkey' responses, which is 0.0031% of the population of Australia completed the Marine NRM 2015 survey.[1]

Question 1 - Gender

Question 1 of the Saltwater Survey asked the survey respondents to indicate their gender. There were 317 female survey respondents (44%), and 400 male survey respondents (56%).

Question 2 - Age Groups

Question 2 of the Saltwater Survey asked the survey respondents to indicate their age group from a pre-determined list of age groups. The age groups were as follows;

- 17 or younger
- 18-20
- 21-29
- 30-39
- 40-49
- 50-59
- 60 or older

The 30-39 age group was marginally the largest with 170 survey respondents (23.6%). This was very closely followed by 169 survey respondents in the 50-59 age group (23.4%), and an additional 169 in the 40-49 age group (23.4%). Only 53 survey respondents were in the 21-29 years age group (7.3%). 2 survey respondents were 18-20 years of age and 20 survey respondents were in the 17 or younger age group, which made a combined total 22 (3%). 131 survey respondents were in the 60 or older age group (18.1%).

[1] On 27 September 2015, the resident *population of Australia* was projected to be: 23,882,957 (ABS).

Question 3 - Geographic Location

Question 3 of the Saltwater Survey asked the respondent to select their residential State or Territory. The spread of survey respondents amongst the States and Territories of Australia was very diverse. New South Wales had the highest responses at 251 (35%), followed by Queensland with 144 (20%), Western Australia with 105 responses (14%), South Australia with 70 responses (10%), Victoria with only 55 responses (8%) (very low considering population), next was Tasmania with 54 responses (7.5%) and followed with the Northern Territory at 17 responses (2%), ACT at 15 responses (2%) and Australian offshore territories with 7 responses (1%).

Question 4 - Urban/Rural Identity of Survey respondents

Question 4 of the Saltwater Survey asked the survey respondents to identify if they lived in an urban or rural environment. The urban and rural split of the survey respondents was 235 survey respondents recording living in a rural environment (32%) and 490 recorded living in an urban environment (68%).

Question 5 - Respondent Activities/Sectors identified with

Question 5 of the Saltwater Survey asked survey respondents to select from a list of activities and sectors, and choose which they indentified with. Survey respondents were able to choose up to three activities/sectors. The choice of activities/sectors provided for survey respondents, were as follows;

- Aquaculture
- Commercial Fishing
- Conservation
- Costal Resident
- Diving
- Education
- Government
- Indigenous Fishing
- Land-based Farming
- Recreational Boating
- Recreational Fishing
- Sailing
- Science/Research
- Shipping/Transport
- Surfing
- Swimming
- Tourism

A total of 1,942 responses were recorded.

Conservation received the highest activity/sector identified with at 344 selections (overall18 %). It was the highest 1st choice (with 146 selections) and highest 2nd choice selected (with 121 selected) and came in a close second in the 3rd choice selected by survey respondents (with 77 selected).

Coastal resident was the next highest overall sector at 229 selections (12%), with science/research at 210 selections (11%) and recreational fishing at 194 selections (10%). Swimming received 148 selections (8%), followed by Diving and Education both at 117 selections respectively (both with 6%). Commercial fishing had 108 selections (6%). Government had 88 selections (4%), Surfing has 84 selections (4%), Recreational Boating had 83 selections (4%), Aquaculture had 79 selections (4%), Tourism had 44 selections (2%), Sailing had 40 selections (2%), and Land-based farming had 35 selections (2%). Indigenous Fishing had 12 selections (.5%) and Shipping/Transport has 10 selections (.5%).

Question 6 - Importance of Environmental Best Practice

Question 6 of the Saltwater Survey asked survey respondents to rate their agreement with a statement on the priority they place on environmental best practice of their marine activities. Environmental best practice was explained as "operating to the best of your ability, using available knowledge and technology to protect and conserve the environment'. The survey respondents were given 5 pre-determined responses to select from. They were;

- Strongly disagree
- Disagree
- Neither agree or disagree
- Agree
- Strongly agree

50 survey respondents selected to strongly disagreed with the statement (7%). 2 survey respondents selected to disagreed with the statement (under 1%). 23 survey respondents selected to neither agree nor disagree (2%). 169 survey respondents selected to agreed with the statement (25%). 428 survey respondents selected to strongly agreed with the statement (64%).

Questions 7- Understanding of the role of an NRM organisation

Question 7 of the Saltwater Survey asked survey respondents to consider 3 statements, and indicate which of the three statements best reflects the role of an Natural Resource Management organisation. The three statements were as follows;

- Statement 1: An NRM group created the rules by which land and marine natural resources are managed.

- Statement 2: An NRM group works with stakeholders and community to improve stewardship of land and marine natural resources.

- Statement 3: An NRM group works to provide areas which conserve our land and marine natural resources.

In addition, the survey respondents were given the option of a don't know/not sure response. From the four options, Statement 1 received 27 selections (4%), Statement 2 received 528 selections (79%), Statement 3 received 54 responses (8%) and 63 survey respondents selected the Don't know/Not sure option(9%).

Question 8 - NRM Plans – awareness of marine topics

Question 8 of the Saltwater Survey explored the survey respondents awareness that costal NRM region's have plans which include marine topics. Two response options were provided; Yes and No. 408 survey respondents indicated that Yes they were aware that the 38 coastal NRM regions had marine topics in their plans (61%). 262 survey respondents indicated that Nos they were not aware that the 38 coastal NRM regions had marine topics in their plans (39%).

Question 9 - Involvement in Regional NRM Planning

Question 9 of the Saltwater Survey asked survey respondents to comment on whether they had contributed into regional NRM planning. Two response options were provided; Yes and No. 275 survey respondents indicated that Yes they had contributed to regional NRM planning (41%). 394 survey respondents indicated that No they had not contributed to regional NRM planning (59%).

Question 10 - Not involved in Regional NRM Planning

Question 10 of the Saltwater Survey asked survey respondents to comment on why they had not provided input into regional NRM planning. Five pre-determined answers were provided for survey respondents to select. They were as follows;

- The regional NRM plan is not important to me
- Not aware regional NRM organisations work on Marine issues
- Not aware of the process for input into the regional NRM plan
- Not engaged with the regional NRM organisation
- Not aware of the regional NRM organisation

183 of survey respondents selected the response that they were not aware of the regional NRM organisation (32%). 165 of survey respondents were not engaged

with the regional NRM organisations (28%). 168 of survey respondents were not aware of the process for input into the regional NRM plan (29%). 60 survey respondents were not aware that regional NRM organisations work on Marine issues (10%), and 7 survey respondents indicated that the regional NRM plan was not important to them (1%).

Question 11 - Involvement in Environmental activities

Question 11 explored the extent of respondent's involvement in environmental activities. Pre-determined selections of environmental activities were provided for survey respondents. Survey respondents were asked if they had participated in a selection of pre-determined list of environmental activities over the past 12 months. They list of activities were as follows;

- Environmental improvements to your home, land or vessel
- Donated to environmental or 'care' groups (cash or in-kind)
- Newsletter subscription with an environmental focus
- Membership of environmental or 'care' group
- Meetings/conference/forum/workshop with an environmental focus
- Community clean-up
- New environmental practice
- Training with an environmental focus

Survey respondents were asked to indicate a Yes or No response for each activity. Not all survey respondents provide answers.

Responses indicated that 473 (78%) had made environmental improvements to their home, land or vessel and 383 (55%) had donated to environmental or 'care' groups (cash or in-kind). 422 (71%) had a newsletter subscription with an environmental focus and 319 (55%) had a membership with an environmental or 'care' group. 469 (75%) survey respondents had attended meetings, conference, forum or workshop with an environmental focus, whilst 232 (47%) has been involved in Community clean-ups. 283 (51%) had taken up new environmental practices and 326 (57%) had been involved in training with an environmental focus.

Question 12 - Marine environmental values

Question 12 of the Saltwater Survey asked the respondent to rate the values they placed a pre-determined selection of aspects of a healthy marine environment. There pre-determined aspects were as follows;

- A place to socialise with family and friends
- A source of scientific study
- Accessible for all Australians

- A source of food
- Abundant marine life
- A place for recreation -fishing, surfing, boating, diving, etc.
- Indigenous cultural values
- Connecting people to nature
- Provides economic benefits – tourism, fishing, etc.
- Protected cultural heritage
- Natural beauty
- Clean water

Survey respondents were given five responses to select from. They were as follows;

- Not at all important
- Somewhat important
- Important
- Very important
- Absolutely critical

A place to socialise with family and friends was not at all important to 18 survey respondents (3%), somewhat important to 88 survey respondents (13%), Important to 203 survey respondents (31%), very important to 247 survey respondents (38%), and absolutely critical to 103 (15%) survey respondents.

A source of scientific study was not at all important to 5 survey respondents (1%), somewhat important to 46 survey respondents (7%), Important to 148 survey respondents (22%), very important to 236 survey respondents (36%), and absolutely critical to 226 (34%) survey respondents.

Accessible for all Australians was not at all important to 15 survey respondents (2%), somewhat important to 79 survey respondents (13%), Important to 153 survey respondents (23%), very important to 210 survey respondents (32%), and absolutely critical to 203 (32%) survey respondents.

A source of food was not at all important to 14 survey respondents (2%), somewhat important to 71 survey respondents (11%), Important to 129 survey respondents (19%), very important to 203 survey respondents (31%), and absolutely critical to 246 (37%) survey respondents.

Abundant marine life was not at all important to 1 survey respondents (0%), somewhat important to 5 survey respondents (1%), Important to 36 survey respondents (5%), very important to 189 survey respondents (29%), and absolutely critical to 431 (65%) survey respondents.

A place for recreation -fishing, surfing, boating, diving, etc. was not at all important to 7 survey respondents (1%), somewhat important to 51 survey respondents (8%), Important to 163 survey respondents (24%), very important to 264 survey respondents (40%), and absolutely critical to 181 (27%) survey respondents.

Indigenous cultural values was not at all important to 35 survey respondents (5%), somewhat important to 101 survey respondents (15%), Important to 177 survey respondents (27%), very important to 223 survey respondents (34%), and absolutely critical to 127 (19%) survey respondents.

Connecting people to nature was not at all important to 5 survey respondents (1%), somewhat important to 38 survey respondents (5%), Important to 130 survey respondents (20%), very important to 270 survey respondents (41%), and absolutely critical to 219 (33%) survey respondents.

Providing economic benefits – tourism, fishing, etc. was not at all important to 17 survey respondents (3%), somewhat important to 68 survey respondents (10%), Important to 168 survey respondents (25%), very important to 273 survey respondents (41%), and absolutely critical to 140 (21%) survey respondents.

Protected cultural heritage was not at all important to 23 survey respondents (3%), somewhat important to 98 survey respondents (15%), Important to 188 survey respondents (29%), very important to 214 survey respondents (32%), and absolutely critical to 138 (21%) survey respondents.

Natural beauty was not at all important to 8 survey respondents (1%), somewhat important to 26 survey respondents (4%), Important to 118 survey respondents (18%), very important to 273 survey respondents (41%), and absolutely critical to 234 (36%) survey respondents.

Clean water was not at all important to 2 survey respondents (.5%), somewhat important to 2 survey respondents (.5%), Important to 25 survey respondents (3%), very important to 140 survey respondents (21%), and absolutely critical to 494 (75%) survey respondents.

Question 13 - Identification of threats to the marine environment

Question 13 of the Saltwater Survey asked the survey respondents to rate a pre-determined list of threats for their impact on the health of the marine environment.
The list of threats was as follows;

- Environmental vandalism
- Aquaculture
- Mining, Gas and Oil
- Litter and marine debris
- Marine pests and diseases
- Recreational fishing
- Erosion
- Shipping

- Commercial fishing
- Climate change
- Dumping of industrial waste
- Coastal development
- Loss of fish habitat
- Sewage
- Run-off from rural areas
- Run-off from urban areas

Survey respondents were asked to rate the threats as either Very low, Low, Moderate, High or Very High.

Environmental vandalism was rated as a very low risk by 20 survey respondents (3%), as a low risk by 99 survey respondents (15%), as a moderate risk by 181 survey respondents (27%), as a high risk by 196 survey respondents (29%) and a very high risk by 169 survey respondents (26%).

Aquaculture was rated as a very low risk by 49 survey respondents (8%), as a low risk by 137 survey respondents (21%), as a moderate risk by 263 survey respondents (40%), as a high risk by 159 survey respondents (24) and a very high risk by 51 survey respondents (8%).

Mining, Gas and Oil was rated as a very low risk by 7 survey respondents (1%), as a low risk by 40 survey respondents (6%), as a moderate risk by 106 survey respondents (16%), as a high risk by 179 survey respondents (28%) and a very high risk by 319 survey respondents (49%).

Litter and marine debris was rated as a very low risk by 2 survey respondents (0%), as a low risk by 18 survey respondents (3%), as a moderate risk by 89 survey respondents (13%), as a high risk by 222 survey respondents (34%) and a very high risk by 326 survey respondents (50%).

Marine pests and diseases was rated as a very low risk by 1 survey respondents (0%), as a low risk by 21 survey respondents (3%), as a moderate risk by 113 survey respondents (17%), as a high risk by 258 survey respondents (40%) and a very high risk by 260 survey respondents (40%).

Recreational fishing was rated as a very low risk by 48 survey respondents (7%), as a low risk by 141 survey respondents (22%), as a moderate risk by 237 survey respondents (36%), as a high risk by 159 survey respondents (24%) and a very high risk by 70 survey respondents (11%).

Erosion was rated as a very low risk by 15 survey respondents (2%), as a low risk by 57 survey respondents (9%), as a moderate risk by 181 survey respondents (28%), as a high risk by 253 survey respondents (40%) and a very high risk by 136 survey respondents (21%).

Shipping was rated as a very low risk by 10 survey respondents (2%), as a low risk by 79 survey respondents (12%), as a moderate risk by 214 survey respondents (33%), as a high risk by 216 survey respondents (33%) and a very high risk by 134 survey respondents (21%).

Commercial fishing was rated as a very low risk by 36 survey respondents (5%), as a low risk by 77 survey respondents (12%), as a moderate risk by 169 survey respondents (26%), as a high risk by 193 survey respondents (29%) and a very high risk by 182 survey respondents (28%).

Climate change was rated as a very low risk by 21 survey respondents (3%), as a low risk by 37 survey respondents (6%), as a moderate risk by 96 survey respondents (15%), as a high risk by 157 survey respondents (24%) and a very high risk by 345 survey respondents (52%).

Dumping of industrial waste was rated as a very low risk by 7 survey respondents (1%), as a low risk by 44 survey respondents (7%), as a moderate risk by 96 survey respondents (14%), as a high risk by 189 survey respondents (29%) and a very high risk by 323 survey respondents (49%).

Coastal development was rated as a very low risk by 2 survey respondents (1%), as a low risk by 18 survey respondents (2%), as a moderate risk by 99 survey respondents (15%), as a high risk by 228 survey respondents (35%) and a very high risk by 310 survey respondents (47%).

Loss of fish habitat was rated as a very low risk by 4 survey respondents (1%), as a low risk by 10 survey respondents (2%), as a moderate risk by 62 survey respondents (10%), as a high risk by 190 survey respondents (29%) and a very high risk by 382 survey respondents (59%).

Sewage was rated as a very low risk by 8 survey respondents (1%), as a low risk by 47 survey respondents (7%), as a moderate risk by 159 survey respondents (24%), as a high risk by 228 survey respondents (35%) and a very high risk by 215 survey respondents (33%).

Run-off from rural areas was rated as a very low risk by 2 survey respondents (1%), as a low risk by 20 survey respondents (3%), as a moderate risk by 106 survey respondents (15%), as a high risk by 250 survey respondents (38%) and a very high risk by 274 survey respondents (42%).

Run-off from urban areas was rated as a very low risk by 2 survey respondents (1%), as a low risk by 11 survey respondents (2%), as a moderate risk by 99 survey respondents (15%), as a high risk by 268 survey respondents (41%) and a very high risk by 275 survey respondents (41%).

Question 14 - Community support for Marine Stewardship

Question 14 of the Saltwater Survey asked survey respondents to rate three statements on the topic of marine stewardship. The three statements were as follows;

Statement 1: Looking after the marine environment is a role for government, not individuals.

Statement 2: Supporting Australian's to be better marine stewards should be a high priority for marine NRM

Statement 3: Effective stewardship of our marine environment is a better option than having to rehabilitate a degraded environment.

Survey respondents were asked to rate their level of agreement with the three statements with the following answers;

- Strongly disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly agree
- Strongly disagree

Statement 1 had 174 survey respondents strongly disagree (27%), 223 survey respondents disagree (34%), 152 survey respondents neither agree nor disagree (24%), 65 survey respondents agree (10%), and 33 survey respondents strongly agree (5%)

Statement 2 had 8 survey respondents strongly disagree (1%), 3 survey respondents agree (1%), 21 survey respondents neither agree nor disagree (3%), 202 survey respondents agree (31%), and 420 survey respondents strongly agree (64%)

Statement 3 had 9 survey respondents strongly disagree (1%), 9 survey respondents agree (1%), 17survey respondents neither agree nor disagree (3%), 120 survey respondents agree (19%), and 499 survey respondents strongly agree (76%)

Question 15 - Opinion on Marine NRM focus

Question 15 of the Saltwater Survey asked survey respondents to indicate the importance of a list of pre-determined activities in conserving the marine environment. The list of activities were as follows;

- Encourage community stewardship
- Promote best practice to on-water users
- Improve community understanding of human impacts
- Improve land management practices to reduce run-off and pollution
- Litter/marine debris clean-ups
- On-ground work to rehabilitate coastal and wetlands and habitats

Survey respondents were given five responses to select from. They were as follows;

- Not at all important
- Somewhat important
- Important
- Very important
- Absolutely critical

Responses indicated that encouraging community stewardship was not at all important for 1 survey respondent (0%), somewhat important for 14 survey respondents (2%), important for 77 survey respondents (12%), very important for 267 survey respondents (41%) and absolutely critical to 291 survey respondents (45%).

Responses indicated that promoting best practice to on-water users was not at all important for 3 survey respondents (1%), somewhat important for 15 survey respondents (2%), important for 116 survey respondents (18%), very important for 297 survey respondents (45%) and absolutely critical to 222 survey respondents (34%).

Responses indicated that improve community understanding of human impacts was not at all important for 0 survey respondents (0%), somewhat important for 12 survey respondents (2%), important for 73 survey respondents (11%), very important for 246 survey respondents (38%) and absolutely critical to 323 survey respondents (49%).

Responses indicated that improve land management practices to reduce run-off and pollution was not at all important for 0 survey respondents (0%), somewhat important for 9 survey respondents (1%), important for 66 survey respondents (10%), very important for 206 survey respondents (32%) and absolutely critical to 372 survey respondents (57%).

Responses indicated that litter/marine debris clean-ups was not at all important for 4 survey respondents (1%), somewhat important for 47 survey respondents (7%),

important for 172 survey respondents (26%), very important for 231 survey respondents (35%) and absolutely critical to 200 survey respondents (39%).

Responses indicated that on-ground work to rehabilitate coastal and wetlands and habitats was not at all important for 2 survey respondents (0%), somewhat important for 19 survey respondents (3%), important for 134 survey respondents (21%), very important for 247 survey respondents (38%) and absolutely critical to 251 survey respondents (39%).

Question 16 - Appropriateness of OceanWatch Australia vision

Question 16 of the Saltwater Survey asked survey respondents to reflect upon the appropriateness of the OceanWatch Australia vision for Australia's Marine NRM organisation. The vision is: Australia's marine ecosystems are healthy, productive, values; and used in a responsible way.

Survey respondents were asked to strongly disagree, disagree, Neither Agree nor Disagree, Agree or strongly agree that the vision was appropriate.

Responses indicated that 13 survey respondents strongly disagree with the vision (3%), 42 survey respondents disagreed with the vision (6%), 68 survey respondents neither agree nor disagree with the vision (10%), 311 survey respondents agree with the vision (48%), and 215 survey respondents strongly agree that the vision was appropriate (33%).

5. Discussion

Gender and Age Groups

A total of 317 females and 398 males answered the survey, with the most popular age group for females was the 30-39 group. The most popular age group for males was the 50-59group. 13% of female respondents were under 30 years, whilst only 8% of male survey respondents were under 30 years. In the 40 or older age groups, there were more male respondents, with the over 60s having a 71% to 20% split towards males.

Female respondents were on average younger and

male respondents older

Each of the age brackets were fairly evenly spread apart from the under 20s with 90% and 40% of the over 60s from NSW. Very few respondents were under 21.

Tasmania (58%), South Australia (56%), Western Australia, New South Wales (58%) and the ACT all recorded more males respondents than female, whilst Victoria (76%) Northern Territory (76%) and Queensland (51%) all recorded more female respondents.

ACT and was the most youthful of respondent locations, with the most popular age group with 33% of respondents, 21-29years. Victoria (29%), Offshore Territories (42%), and South Australia (31%) had the 30-39 years age group as their most popular. Northern Territory (35%)and WA (27%)both had the 40-49 group as their most popular age group, whilst Tasmania had 40-49 and 50-59 groups both tied at 28% each, Queensland's most popular group was the 50-59 at 27%, whilst New South Wales has it most popular group as the 60+ the oldest group at 23%.

A fairly even split of genders was seen in the government selected respondents at male 49% and females at 51%. Science/research was also fairly equal with male 46% to female 53% respectively. Conservation selected respondents were biased with females at 62% to males at 38%. Science/Research selected respondents showed an overall lower age profile, whilst Conservation and Government were fairly similar, apart from the greater number of 60+ in the conservation selected respondents.

The of the four fishing & aquaculture sectors, commercial fishing and Indigenous fishing were represented mostly by those in the 50-59age bracket. Representation was more evenly distributed in the Aquaculture and recreational fishing sectors, with an even spread of ages between 30 and the 60+ age groups. Survey respondents were predominantly male across all four fishing & aquaculture sectors, ranging from 82% male in the recreational fishing sector, down to 58% in the Indigenous fishing sector.

NSW dominant region for respondents

The most popular State for both male and females respondents to live in was NSW. This was followed by Queensland in 2nd spot for females. 2nd place for males was WA, closely followed by Queensland in third place. NSW and Queensland were the most popular States location for both rural (NSW 38% and Qld 18%) and urban (NSW 34% and QLD 21%) setting. NSW and Queensland were well represented in each of the 4 fishing & aquaculture sectors. The recreational sector was also well represented with people in WA.

The majority of Government and Conservation respondents were from NSW, whilst the highest number of Science/Research respondents was from Queensland. Each of the three selections (science/Government/Conservation) had respondents disbursed right across Australia.

Two-thirds Urban, one-third Rural

A very high 70% of females and 60% of male respondents were urban based. Approximately a third of respondents were from rural areas, and two third were from urban areas. The exception was the under 20s groups, with 79% of 18-20year olds in urban areas, and 91% of 17 and under from urban areas.
Urbanites were slightly younger with the 30-39years group recording 24% of the responses. 25% of rural respondents were 40-49, which was the most popular age bracket.

There was a fairly even split between urban and rural residents for the Aquaculture, Commercial, Fishing and Indigenous Fishing sectors. The recreational fishing sector however, showed a greater percentage of respondents living in urban areas. The ACT had no rural respondents, NT has a slight 12%, all other States and the Offshore Territories had approx. a third of their respondents form rural locations, with the exception of TAS (42%) and SA (43%). The majority of Science/Government and Conservation selected were urban based. With Science/Researchers living in a rural location were particularly low at 19%.

Conservation identified as a popular activity/sectors for respondents

Conservation, Swimming, Science or Research and Coastal Resident were all popular activities or sectors with females, whilst Conservation, Recreational Fishing, Commercial Fishing, Science or Research, Coastal Resident were all popular activities/sectors for males. Conservation featured highly in all age groups apart from the 17 and under. Recreational Fishing was a key activity for all groups over 29. Swimming was a key activity for the 17 and under, and was of moderate to high activity for all others apart from the over 60. Science/Research and Coastal Resident was identified in the top three activities for 20-29, 30-39 and the 40-49 groups.

Conservation was the top 1st, 2nd and 3rd selection for urban survey respondents. Other activities of note for urbanites were swimming, science and research, and coastal resident. Conservation and Commercial Fishing were the top activities as first choice from rural respondents, top 2nd choice activities were again conservation and also recreational fishing, with coastal resident featuring highly as the top third choice.

From the 720 survey respondents 108 identified with the commercial fishing sectors, with 12 identified with the Indigenous fishing sector and 79 with the aquaculture sector and a further 194 with the recreational sector. Other than identifying with the four fishing & aquaculture sectors (Commercial, Recreational, Aquaculture and Indigenous Fishing), the other interest of respondents appear to focus on conservation and science/research. They were also coastal residents.

By region, the ACT were predominantly identified as Government or Science/Research sectors, Northern Territory, Victoria and Queensland respondents were highly conservation aligned, whilst NSW were Conservation and Coastal Resident dominated. South Australia was heavily Conservation and Science/Research, with WA was Conservation and Recreational Fishing aligned. Tasmania was a predominantly a mix of Conservation, Science/Research and Coastal Resident.

Stakeholders *walking the walk*

72% of females strongly agreed that environmental best-practice was a high priority for their marine activities compared to only 57% of males. Overall 90% of females and 87% of males agreed or strongly agreed with the statement. Each age group rated agreement with the statement. All groups, bar the 17 and under, indicated 60%+ strong agreement.

Urban and rural responses were strikingly similar at 65% and 62% strongly agreeing with the best-practice statement. Most respondents agreed or strongly agreed with the statement (between 72% in the indigenous sector and 89% in the Recreational sector).

All States and the Territories recorded a high agreement rating with the statement, with the Australian Offshore Territories recording the highest.

Science/Research and Conservation selected showed a similar response profile, with over 78% and 75% respectively strongly agreeing with the statement. Government selected was also in agreement, but with only 51% strongly in agreement.

Respondents understanding of NRM

From the three given statements both males and females overwhelmingly agreed that Statement 2 “An NRM group works with stakeholders and community to improve stewardship of land and marine natural resources”, best reflected the role of an NRM organisation.

The 17 and under age group did not produce a consensus on the statements, with approximately a quarter agreeing to each. All other Age groups believed statement two best reflected the role of an NRM organisation.

Statement 2 drew 80% of urban, and 75% of rural responses as the one which best reflected the role of an NRM organisation (Statement 2 – An NRM group works with stakeholders and community to improve stewardship of land and marine natural resources).

Between 82% and 73% of respondents across the four fishing & aquaculture sectors correctly identified the role of an NRM group as working with stakeholders and community to improve stewardship of land and marine natural resources.

Awareness of NRM Plans and Marine topics

Both males and females reported good awareness levels at 57% (males) and 65% (females). Awareness of NRM regions with marine topics rose with age, with the 17 and under, and the 18-20year olds having the least awareness at 59% and 57%. The Indigenous fishing sector was the least aware of NRM plans including marine topics with only 46% aware. Next came recreational fishing with 51% aware, then Aquaculture with 58% aware. The commercial fishing sector was the most aware with 66%.

The South Australian respondents were the most aware of NRMs with marine topics at 86%. The least aware were the NSW respondents with only 52% aware of marine topics, followed by the Western Australians at 54%, and Victorians at 56%.

A higher proportion of the Science/Research selected (80%) than Government selected (76%) was aware of NRM having marine topics. Less of the Conservation respondents were aware with only 65% answering Yes.

Are Stakeholders taking part in NRM Planning?

Only 43% of females and 39% of males who responded to the survey has contributed to regional NRM planning. Not surprisingly the young were the least likely to have participated in NRM planning with only 6% of 17 and under having participated. 18-20 year olds had a 29% participation rate and all other groups had between 55% and 60% participation rates.

Less than half survey respondents involved in NRM planning

More rural respondents (66%) were aware of NRM plans with marine topics, compare to 59% of urban respondents, and 49% of rural respondents had contributed to regional NRM planning, compared to just 38% of urban respondents.

The majority of respondents had not contributed to regional NRM planning (commercial fishing 54%, Indigenous fishing 64%, aquaculture 66% and recreational fishing 71%)

Over half of Tasmanian, South Australian and Queensland respondent has contributed to NRM planning. But over half of NT, ACT, Victoria, Western Australia and New South Wales had not contributed to regional NRM planning. The profiles of the Science /Research and Conservation selected were very similar. Approximately 54-56% of each of the three selected had contributed to Regional NRM Planning.

Reasons for lack of participation in NRM

For the majority of females the reason for not participating in the NRM planning process was a lack of awareness of the process for input, whilst for the majority of males the reason was their lack of awareness of the NRM organisation in their region.

Overall, the under 30s did not participate due to a lack of awareness of the NRM region. Over 30s were split, with a low level of awareness of the process for participation of significance. The 51% of rural respondents not having input into regional NRM was due to a lack of awareness of the regional NRM organisation. The reasons for not having input into regional NRM planning for urban respondents was more diverse with an even split between not aware or the regional NRM organisation, or not engaged with the Regional NRM organisation, or not aware of the process for input into regional NRM plan.

The four fishing & aquaculture sector groups were similar to urban respondents as most were either unaware of the NRM regional organisation, not engaged with the NRM organisation, or not aware of the process for input into the regional NRM plan.

Responses indicated that the predominant reason South Australians and Victorians did not get involved in NRM planning was due to a lack of awareness of the process for input into the regional NRM plan. Responses indicated that the predominant reason Tasmanian, Northern Territorians and residences of the ACT did not get involved was because they were not engaged with the regional NRM organisation. Responses indicated that the predominant reason Queenslanders, and Western Australians, and New South Wales residences did not get involved was because they were not aware of the regional NRM organisation. The majority of Science /Research and Conservation selected respondents indicated that they were not aware of the process for input into regional NRM planning, whilst the majority Government selected response was that they were not engaged with the Regional NRM organisation.

The survey results revealed that interested stakeholder were not being engaged.

8 out of 10 Marine NRM stakeholders believed an NRM group's role was to work with stakeholders and community to improve stewardship of land and marine natural resources. This indicated a high level of understanding of the role of an NRM group amongst the Marine NRM stakeholder.

The commercial fishing sector had the highest awareness of NRM plans and Marine topics, whilst the Indigenous fishing and aquaculture sector had the lowest.

The NRM engagement in planning message is failing to reach the broader community even though the 9 out of ten respondents believe the NRM plan is important to them.

Survey respondents were active environmental participants

Overall when asked about their participation in environmental activities participation the top response from females was *newsletter subscription* with an environmental focus at 88%, and for males *environmental improvements to their home, land or vessel* at 76%. *Meeting, conference, forum or workshop* with an environmental focus was also a feature by both males and females.

The 17 and under age group recorded *clean-ups*, *environmental improvements to their home, land or vessel* and *donating to environmental "care" group (cash or in-kind)* as their top three activities. The over 60s also recorded *donations to environmental "care" group* as well as *environmental improvements to your home, land or vessel* and *attendance at meeting, conference, forum or workshop* with an environmental focus. The other groups recorded fairly similar activities, with the 18-20s also having *training with an environmental focus* as a popular activity.

For rural respondents the top three selections were *environmental improvements to your home, land or vessel* in first position, followed by *attendance at meeting, conference, forum or workshop with an environmental focus*, and thirdly *participation in community clean-ups*. The picture was different from urban respondents. Their top three activities were attendance at *meeting, conference, forum or workshop with an environmental focus* in first position, followed by *donated to environmental "care" group (cash or in-kind)* in second position, and thirdly was having *newsletter subscription with an environmental focus*.

Across all four fishing & aquaculture sectors, the most common action was for respondents to undertake *environmental improvements to home, land or vessel*. A high percentage of respondents from the commercial fishing and aquaculture also attended *meetings/conferences with an environmental focus*. The recreational sector was more engaged through newsletter subscriptions. Compared to other activities, all four fishing & aquaculture sectors were not very engaged through membership of environmental 'care' groups.

The most popular activity for Western Australian and South Australian was *environmental improvements to your home, land or vessel*. Respondents from the ACT, and Victoria recorded the most popular activity was attending *meetings, conference, forum or workshop with an environmental focus*. For NSW, Qld, NT and TAS the most popular responses were a mix of the two. *Meeting, conference, forum or workshop with an environmental focus* all rated highest by Science, Government and Conservation selected groups.

Clean water, abundant marine life and a source for food - the key values of a healthy marine environment

Both males and females rated *clean water* and *abundant marine life* as their top two values. *Clean water* and *abundant marine life* were the top two answers across all age groups.

The top three selections in the absolutely critical classification from both urban and rural respondents were the same - c*lean water*, *abundant marine life*, and *a source of food* all were considered of absolutely critical value.

The top three aspects identified by the commercial fishing, aquaculture and recreational fishing sectors were also the same; *clean water*, *abundant marine life* and *a source of food*. This differs from the Indigenous sector where *a source of food* was deemed less important than *connecting people to nature*.

Indigenous cultural values were rated lowest by the commercial, aquaculture and recreational fishing sectors.

By region, *Clean water* and *abundant marine life* were the aspects selected by Victorians, Western Australians, NSW, Tasmanians, and Queenslanders as absolutely critical values of a healthy marine environment. The ACT respondents placed *a source for food* and *abundant marine life* as their priorities. The NT had *a source for food*, *abundant marine life* and *clean water* as their selection.

Stakeholder values align, even though perspectives differ.

Overall, the marine values respondents held in high regard and believed to contribute to a healthy marine environment showed great alignment. Three of the four fishing & aquaculture sectors (fishing -commercial and recreational, and aquaculture) selected: *clean water*, *abundant marine life* and *a source for food* as key values. In addition the majority of government respondents concurred with these values. The fourth sector - Indigenous fishing & aquaculture varied slightly to the others three sectors, with the majority of their respondents agreeing on *clean water* and *abundant marine life*, but also recognising *connecting people to nature* as being of significant value. The majority of Conservation respondents agreed with the Indigenous sector that *clean water* and *connecting people to nature* were the key values, but also believed that *natural beauty* was also a vital key value.

Overall, *clean water* was selected by the majority of each sector as key values.

Threats to a clean water and fish habitat viewed as most significant for a healthy marine environment

The *loss of fish habitat* was the clear leading threat to the marine environment for males, along with the *loss of fish habitat. Climate change*, *Mining,oil & gas,* and *litter and marine debris* were all leading threats for females.

Loss of fish habitat was the clear leading threat to the

marine environment for males

The top three threats to the health of the marine environment classified as very high by rural respondents were; *the loss of fish habitat*, the *impact of marine pests and diseases*, and the impact from *Mining,oil & gas*. The top three threats to the health of the marine environment classified as very high by urban respondents were slightly different with the *loss of fish habitat*, *climate change*, and the *impact of marine pests and diseases*.

Each of the four fishing & aquaculture sectors identified on-water impacts as having the lowest threat to the marine environment, and terrestrial impacts as featuring highly across all sectors, namely *loss of fish habitat*, *run-off (rural and urban)*, *litter and marine debris,* as well as *mining,oil and gas* and *marine pests and diseases*.

NSW, Victoria and South Australia respondents rated the *loss of fish habitat* as the highest threat to the health of the marine environment. ACT and the Northern Territory respondents rated *dumping of industrial waste* as the highest threat to the health of the marine environment, whilst Queensland rated *coastal development* as the highest threat to the health of the marine environment.

For Western Australians, *litter and marine debris* was rated the highest of threats to the health of the marine environment. Tasmanian responses indicated that *climate change* and *marine pests and diseases* joint highest rated threats.

The top three very high threats from the Conservation selected respondents included *loss of fish habitat*, *climate change*, and *litter and marine debris*.

The top three very high threats from the Science/Research selected respondents and the Government selected respondents were *loss of fish habitat*, *climate change* and *Mining,oil and gas*.

Effective marine stewardship today was desired above future rehabilitation of a degraded marine environment tomorrow

Most males (71%) and females (83%) strongly agreed with Statement 1;(Statement 1 – Effective stewardship of our marine environment is a better option than having to rehabilitate a degraded environment). This statement also had strong support across all age groups and by both rural and urban respondents in strong support. Most people from the four fishing & aquaculture sectors also agreed that effective stewardship of the marine environment today was a better option than having to rehabilitate a degraded environment in the future.

In addition, the majority of respondents from all States and Territories agreed or strongly agreed with Statement 1 and strong support was shown by Science/Research, Government and Conservation selected respondents.

Encouraging Marine Stewardship

Most females (72%) and over half (58%) strongly agreed with Statement 2 (Statement 2 – Supporting Australians to be better marine stewards should be a high priority for marine NRM). Statement 2 had strong support across all age groups. The second statement was also well supported by both rural and urban respondents with 92% of rural and 96% of urban respondents agreeing or in strong agreement. The majority of respondents from the four fishing & aquaculture sectors agreed that supporting Australians to be better marine stewards should be a high priority for Marine NRM.

In addition, the majority of respondents from all States and Territories agreed or strongly agreed with Statements 2. In particular, the ACT respondents were 100% behind statement 2.

Strong support for statement 2 was shown by science/Research, Government and Conservation selected respondents.

Marine NRM delivery not a role for Government

Statement 3 did not draw consensus amongst males or females, with 35% of males disagreeing with the statement, and 34% of females disagreeing with the statement (Statement 3 – Looking after the marine environment is a role for government, not individuals).

Statement 3 was not supported, with the majority of respondents across all the age groups disagreeing with the statement. In addition, analysis across the urban/rural divide was also not supportive of the Marine NRM Government role. In fact, 61% or rural respondents disagreed or strongly disagreed with the statement, whilst 62% of urban respondents disagreed or strongly disagreed. In addition, 23% or rural and 24% or urban respondents were ambivalent, recording the neither agree nor disagree selection.

Most people from the four fishing & aquaculture sectors disagreed that looking after the marine environment was a role for government not individuals. Also, there was no agreement on this statement from any of the States or Territories.

Of particular interest - Statement three had a much more robust response from the Government selected respondents, with 44% disagreeing and 28% strongly disagreeing.

Encouragement of stewardship and improved awareness and better practice on land and on water is vital.

There was agreement between the genders on the top three activities. Males recorded the need to improve land management practices to *reduce run-off and pollution* as critical actions for 51%, the need to *improve community understanding of human impacts* as critical actions for 42% and 39% believing it was absolutely critical to encourage community stewardship. Similarly females recorded the need to improve land management practices to *reduce run-off and pollution* as critical actions for 65%, the need to *improve community understanding of human impacts* as critical actions for 60% and 52% believing it was absolutely critical to *encourage community stewardship*

Age groups from 20-29 right through to the 60+ agreed that improving land management practices to *reduce run-off and pollution* was important. The 17 and under age group believed that *litter and marine debris clean-ups* were the most important, whilst the 18-20 age group believed that *Improving community understanding of human impacts* was the most important activity in conserving the marine environment.

Key activities that both rural and urban respondents agreed and considered absolutely critical to conserve the marine environment was the *Improvement of land management practices to reduce run-off and pollution*, the *improvement of*

community understanding of human impacts and the *Encouragement of community stewardship*.

Improving land management practices to *improve run-off and pollution* was ranked the highest activity to conserve the marine environment across the four fishing & aquaculture sectors. Litter and marine debris clean-ups were conversely ranked the lowest across all four fishing and aquaculture sectors. All four sectors ranked all activities as being very important.

Science/Research and Conservation respondents selected the improvement of land management practices to *reduce run-off and pollution* as being of critical importance in conserving marine environments, whilst Government selected respondents identified that *improving community understanding* of human impacts was of the most critical action in conserving the marine environment.

OceanWatch Australia vision resonates with stakeholders

Both males and females recorded 48% support for the vision, with a further 33% of females and 33% of males strongly supporting with the statement. There was strong support from all age groups for the vision of OWA as appropriate for the Marine NRM.

There was widespread agreement that the OceanWatch vision was appropriate as a vision for Australia's Marine NRM organisation with 81% of urban respondent's agreeing or strongly agreeing and 80% of rural respondents agreeing or strongly agreeing. Across all four sectors, the consensus was that they agreed with the vision.

Tasmanians, Qld, NT, ACT, NSW and SAs were very supportive of the statement, with Victorians and Western Australians less so.

Government selected respondents agreed with the vision with 19% strongly agreeing. Science/Research selected respondents also agreed with the vision with a further 42% strongly agreeing, and Conservation selected respondents agreed with the vision with a 30% strongly agreeing.

Key Outcomes:

- Survey respondents were not being engaged by NRM regions in their planning process

- Marine NRM stakeholder had a high level of understanding of the role of an NRM group

- The commercial fishing sector respondents had the highest awareness of NRM plans and marine topics, whilst the Indigenous fishing and aquaculture sector had the lowest.

- Over half of Tasmanian, South Australian and Queensland respondents had contributed to NRM planning. Less than half of NT, ACT, Victoria, Western Australia and New South Wales had contributed to regional NRM planning.

- The four fishing & aquaculture sectors agreed on clean water and abundant marine life as vital marine values for a healthy marine environment.

- Effective marine stewardship today was desired above future rehabilitation of a degraded marine environment tomorrow

- Encouragement of stewardship and improved awareness and better practice on land and on water is vital.

- OceanWatch vision to develop a balanced approach to marine environment use resonates with respondents

- Key activities that both rural and urban respondents agreed was the further need to improve land management practices to reduce run-off and pollution

- Fishing & aquaculture sectors respondents unlikely to be members of environmental 'care' groups.

6. Further Considerations

National Marine NRM Fishing & Aquaculture Forum 2014

In 2014, twenty-two seafood community influencers participated in the first national fishing & aquaculture forum on Marine Natural Resource Management. Occurring in late June in Sydney, the participants undertook a full day workshop of surveys and engagement activities to establish a baseline of the seafood community's understanding, perceptions and expectation of stewardship through Marine NRM

To provide efficient engagement whilst maximising input on a tight NRM budget, each participant was invited based on their breadth of knowledge across multiple fishing and aquaculture perspectives. The OceanWatch Australia Marine NRM gathering aimed to establish the values, benefits and key opportunities for Marine NRM now and into the future. Workshop participant's personal knowledge regarding current Natural Resource Management was generally rated as poor to average, but the participants were familiar with the concepts of marine stewardship and the importance of environmental best practice.

The forum activities allowed for a broader discussion on values than a national survey can allow. Forum participants explored the topics of benefits to the individual and the collective from the marine environment, as well as opportunities and threats faced by the marine environment from human activities. Key values associated with Marine and Marine NRM included; trust, finding the balance, stewardship, innovation, transparency, wellbeing, responsibility, prosperity, food, life, enjoyment, holistic solutions.

There were clearly linkages with the national survey outcomes in the need for a balanced approach to Marine NRM, in the promotion of stewardship and that the values of food production requiring good water quality, abundant marine life and available fish habitat.

Issues raised by forum participants were able to be grouped into the following categories; barriers to tidal flow, marine debris, TEP species, habitat, biosecurity, climate change, water quality and quantity, pollution. Of interest were the number of non-physical issues identified by the participants, including regulation and legislation, relationships, equity, information. Issues around equity included resource sharing between marine stakeholders, as well as equity between stakeholders within the wider NRM delivery process.

In terms of perceived threats to the health of the marine environment, clear links are evident between survey respondents and forum participants, Participants were asked to prioritise from their collated list of issues previously identified within the workshop. They identified fish habitat, pollution and biosecurity as the key focus

areas for the Marine NRM's focus. The survey respondents indicated water quality, fish habitat were the key issues with marine pests and diseases (biosecurity) also being important.

Comparison with the findings of the NSW Marine Estate Community Survey

The NSW Government's Marine Estate Management Authority recently announced the results of the Marine Estate Community Survey. The survey was conducted to understand the NSW community's views on the NSW marine estate.

Key findings which were considered similar to the OceanWatch survey included the health of the marine environment was considered to be a core value, and the marine environment was viewed as integral to the NSW community's social and cultural well-being.

The diversity and abundance of marine life and natural beauty of the marine estate were considered key economic values for nature-based and regional tourism and pollution of the marine estate, from littering, spills and land-based runoff, was perceived as the major threat.

It was interesting to note that less than one in five people considered overfishing a priority threat.

Key management opportunities that were identified included addressing pollution, greater public involvement in decision-making, more on-ground environmental action support programs, improved public education and actions to rehabilitate coastal habitats and address coastal inundation and erosion.

However, the marine environment as a source of food is missing from the Marine Estate Management Authority's survey findings, which is surprising given that so many coastal communities are also fishing (recreational and commercial) communities.

It is evident from both surveys results that respondents identify very similar threats (pollution, run-off), values (abundance and diversity of marine life) and desires for future action through greater community involvement and stewardship.

Appendix 1

OceanWatch Australia 2015 Saltwater Questionnaire

Question 1: Are you male or Female

Question 2: What is your age?

Question 3: Which State or Territory do you live in?

Question 4: Do you consider yourself to live in an urban or a rural environment?

Question 5: Which activity/sector do you most identify with?

- Conservation
- Recreational Fishing
- Tourism
- Recreational Boating
- Sailing
- Commercial Fishing
- Aquaculture
- Surfing
- Swimming
- Indigenous Fishing
- Diving
- Government
- Education
- Science or Research
- Coastal Resident
- Shipping or Transport
- Land-based Farming

Question 6: Please rate your level of agreement with the statement "Environmental best-practice is a high-priority for my marine activities"?

Question 7: From these statements please indicate which best reflects the role of a natural resource management organisation.

- Statement 1 – An NRM group creates the rules by which land and marine natural resources are managed.
- Statement 2 – An NRM group works with stakeholders and community to improve stewardship of land and marine natural resources.
- Statement 3 – An NRM group works to provide areas which conserve our land and marine natural resources.

Question 8: There are 56 NRM regions, 38 or which have marine boundaries. Are you aware that these NRM organisations have plans that include marine topics?

Question 9: Have you contributed to regional NRM planning?

Question 10: If you have not provided input into regional NRM planning, what was the reason?

Question 11: Have you participated in any of the following activities in the following 12 months?

- Training with an environmental focus
- New environmental practice/Community clean-up
- Meeting, conference, forum or workshop with an environmental focus
- Membership of environmental "care" group
- Newsletter subscription with an environmental focus
- Donated to environmental "care" group (cash or in-kind)
- Environmental improvements to your home, land or vessel

Question 12: Please rate the value you place on the following aspects of a healthy marine environment.

- Clean water
- natural beauty
- Protected cultural heritage
- Economic benefits – tourism, fishing, etc.
- Connecting people to nature
- Indigenous cultural values
- A place for recreation – fishing, surfing, boating, diving, etc.
- Abundant marine life
- A source for food
- Accessible for all Australians
- A source of scientific discovery
- A place to socialise with family and friends

Question 13: Please rate the following threats and their impacts on the health of the marine environment.

- Run-off from urban areas
- Run-off from rural areas
- Sewage
- Loss of fish habitat
- Coastal development
- Dumping of industrial waste
- Climate change
- Commercial fishing
- Shipping
- Erosion Recreational fishing
- Marine pests and diseases
- Litter and marine debris
- Mining, oil and gas
- Aquaculture
- Environmental vandalism

Question 14: Please rate your level of agreement with the following statements:

- Statement 1 – Effective stewardship of our marine environment is a better option than having to rehabilitate a degraded environment.
- Statement 2 – Supporting Australians to be better marine stewards should be a high priority for marine NRM.

- Statement 3 – Looking after the marine environment is a role for government, not individuals.

Question 15: In your opinion how important are the following activities in conserving the marine environment?

- On-ground works to rehabilitate coastal wetlands and habitats
- Litter and marine debris clean-ups
- Improve land management practices to reduce run-off and pollution
- Improve community understanding of human impacts
- Promoting best practice to on-water users
- Encourage community stewardship.

Question 16: The vision of OceanWatch is: Australia's marine ecosystems are healthy, productive, valued; and used in a responsible way. Is this an appropriate vision for Australia's marine NRM organisation?