

## APPENDIX 1: Further Explanation on Quantitative Research Methodology

## Evaluation Framework

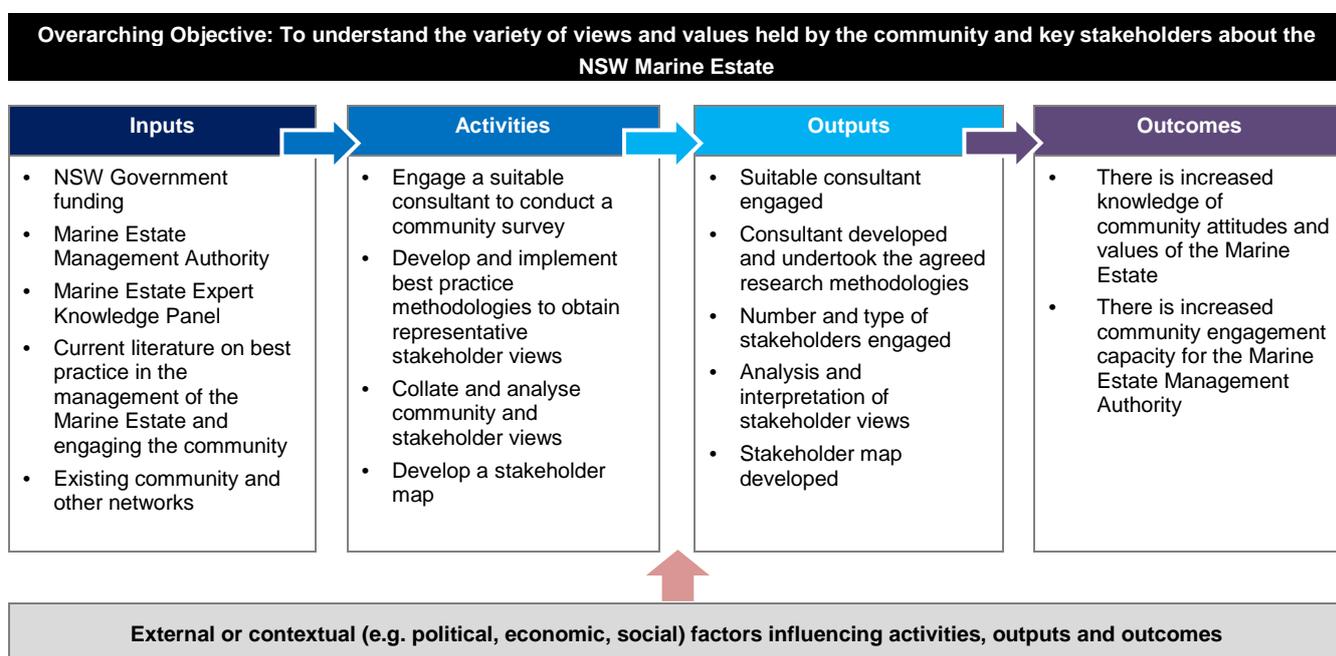
A program logic approach was used to develop an evaluation framework for assessing the outcomes of the project.

### Program Logic Approach

A program logic approach to evaluation seeks to make explicit the underlying assumptions (i.e. the rationale or 'logic') about how a program, project or initiative will achieve its intended outcomes. It typically involves developing a program logic model, which has four basic components...

1. **Inputs:** resources (e.g. financial, human, infrastructure) available to the program
2. **Processes:** activities undertaken using available resources to produce outputs
3. **Outputs:** products obtained through the execution of activities
4. **Outcomes:** changes observed from the outputs produced (changes may occur at the system, organisation, community and individual levels).

A program logic model was developed based on a review of existing documentation and in consultation with MEMA (see below)...



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## **Evaluation Framework**

Based on the agreed program logic model, an evaluation framework was developed in consultation with MEMA (see Table 8). The evaluation framework specifies the intended outcomes of the program (as identified in the program logic model), the key evaluation questions for ascertaining the achievement of each intended outcome, and the data indicators, data sources and collection methods for answering each evaluation question.

It is important to note that, while the evaluation framework identifies a range of data indicators, the community survey does not, and was not intended to, cover all data indicators. Some data indicators require drawing on additional data sources, which are beyond the scope of this research project, but may be included in future research (e.g. choice modelling).

**Table 1: Evaluation Framework**

Intended Outcomes	Evaluation Questions	Data Indicators	Data Sources/Collection Method
<p><b>1. There is increased knowledge of community attitudes and values of the Marine Estate</b></p>	<p>To what extent is there increased knowledge of community attitudes and values of the Marine Estate?</p> <p>Specifically, to what extent is there increased knowledge of:</p> <ul style="list-style-type: none"> <li>Stakeholder and community vision of the Marine Estate?</li> <li>Perceived short- and long-term economic, social and ecological values/benefits of the Marine Estate?</li> <li>Perceived current and future threats to the Marine Estate?</li> <li>Perceived opportunities (potential directions for development) for the Marine Estate?</li> </ul>	<p>Self-reported:</p> <ul style="list-style-type: none"> <li>Vision of the Marine Estate</li> <li>Short- and long-term economic, social and ecological values/benefits of the Marine Estate</li> <li>Current and future threats to the Marine Estate</li> <li>Opportunities (potential directions for development) for the Marine Estate</li> </ul>	<ul style="list-style-type: none"> <li>Community survey</li> </ul>
	<p>To what extent are survey responses representative of the community?</p>	<p>Representativeness of survey sample</p>	<ul style="list-style-type: none"> <li>Community Survey sample characteristics</li> <li>Quality control checks</li> </ul>
	<p>What are the remaining gaps, if any, in knowledge of community attitudes and values of the Marine Estate?</p> <p>How can these knowledge gaps be filled or addressed?</p>	<p>Self-reported knowledge gaps by the community, team members and MEMA</p>	<ul style="list-style-type: none"> <li>Review by team members</li> <li>Consultations with the community and MEMA</li> <li>Web-based summary and survey to identify gaps</li> </ul>
<p><b>2. There is increased community engagement capacity for the Marine Estate Management Authority</b></p>	<p>To what extent is there increased community engagement capacity for the Marine Estate Management Authority?</p>	<p>Number and type of stakeholders/community members:</p> <ul style="list-style-type: none"> <li>Engaged with the Marine Estate</li> <li>Desiring ongoing contact regarding the Marine Estate</li> </ul>	<ul style="list-style-type: none"> <li>Community Survey</li> <li>Contact list developed from the Community Survey</li> <li>Stakeholder map</li> </ul>
		<p>Well-documented Community Survey engagement processes</p>	<p>Methodologies used in the Community Survey documented (e.g. discussion guides, survey design, questions, analysis)</p>
		<p>Increased confidence in scoping similar future work (e.g. repeat surveys)</p>	<ul style="list-style-type: none"> <li>Team involvement in methodologies, question development</li> </ul>

## Random-Stratified Sampling Breakdown

The table below shows the target quotas for the online sampling. Please note these were target, not the final sample...

HARD QUOTAS							
	Sydney Region	Southern Region	South West Region	Western Region	Northern Region	Hunter Region (incl. Newcastle / Central Coast)	TOTAL
<b>Age</b>							
<b>18-24</b>	69	11	4	9	9	15	117
<b>25-34</b>	105	16	7	14	13	23	177
<b>35-44</b>	108	16	7	14	13	24	183
<b>45-54</b>	106	16	7	14	13	23	179
<b>55-64</b>	90	14	6	12	11	20	152
<b>65-74</b>	60	9	4	8	8	13	102
<b>75+</b>	53	8	3	7	7	12	90
<b>Gender</b>							
<b>Female</b>	296	45	19	39	37	65	500
<b>Male</b>	295	45	19	39	37	65	500
<b>TOTAL</b>	<b>591</b>	<b>90</b>	<b>38</b>	<b>78</b>	<b>74</b>	<b>130</b>	<b>1000</b>
<b>Other Criteria</b>							
<ul style="list-style-type: none"> <li>Must be a NSW resident</li> </ul>							

### Hard Quotas

The hard quotas noted above represent standard industry practice regarding RSS. Age, gender and location are generally considered the most appropriate way to stratify a population into representative sub-groups. While the stratum were broadly representative in size, some sections of the population were bolstered to ensure that robust samples were achieved for each demographic subsection that would be used in the eventual analysis.

### **Soft Quotas**

Along with the hard RSS quotas noted above, the research team also included soft quotas for a minimum of n=30 Visitors in certain regional areas of interest. These regions were: Batemans Bay, Sydney, Port Stephens, Coffs Harbour, Cape Byron, Jervis Bay, Newcastle and Eden. The soft quotas were designed in consultation with MEMA and MEEKP. The intention was to ensure that a sample was achieved that was interactive with the Marine Estate from a tourism perspective as well as simply residential. While the majority of these soft quotas were met, none of the respondents that completed the survey had visited Port Stephens in the last 12 months. While this result is not ideal, we do not believe that it has any significant impact on the outcomes or representativeness of this research.

## Additional Details for the Online Sample

The following table shows some additional details for the online sample...

Sample criteria	n=	Weighted population
<b>Working status</b>		
Working full time (35 hours/week or more)	350	355
Working part time (less than 35 hours/week)	212	199
Currently looking for work	30	32
Retired	227	234
Tertiary student (e.g. university, TAFE)	58	71
Non-worker (i.e. currently not working and not looking for work)	31	27
Home duties	95	85
<b>Highest education level</b>		
Year 10	149	145
Year 12	130	136
TAFE certificate	248	236
Trade qualified (e.g. licensed plumber)	79	80
University undergraduate - still active	47	55
Bachelors degree (or degree with honours)	237	241
Post graduate qualification	103	100
PhD or doctorate of some other kind	10	10
Refused	0	0
<b>Household income</b>		
Under \$65,000	511	502
\$65,000 or more	492	501

A total of n=16 respondents identified themselves as Indigenous or Torres Strait Islander in the online sample. n=768 indicated that they were born in Australia, a further n=68 were born in the United Kingdom. Following this, respondent's countries of birth were well spread.

## Intercept Quotas Breakdown

The table below shows the target quotas for the intercept sampling. Please note these were targets, not the final sample...

Interviewing Locations		Visitors	Residents	TOTAL	Males	Females	Age <30	Age 30-49	Age 50+
<b>Bateman's Bay</b>	Batemens Bay Surf side beach area/Perry St Stockland Mall	50	50	100	Min, n=30	Min, n=30	Min, n=20	Min, n=20	Min, n=20
<b>Ballina</b>	Ballina central shopping centre/ Lighthouse or Shelley Beach	50	50	100	Min, n=30	Min, n=30	Min, n=20	Min, n=20	Min, n=20
<b>Coffs Harbour</b>	Park Beach Plaza/Coffs Harbour Jetty	50	50	100	Min, n=30	Min, n=30	Min, n=20	Min, n=20	Min, n=20
<b>Newcastle</b>	Charles Town Square/Bar beach	50	50	100	Min, n=30	Min, n=30	Min, n=20	Min, n=20	Min, n=20
<b>Eden</b>	IGA Supermarket/ Newsagent/ Wharf area in Imlay St, Eden	50	50	100	Min, n=30	Min, n=30	Min, n=20	Min, n=20	Min, n=20
<b>Sydney</b>	Circular Quay	50	50	100	Min, n=30	Min, n=30	Min, n=20	Min, n=20	Min, n=20
<b>Pittwater</b>	Pittwater shopping centre	50	50	100	Min, n=30	Min, n=30	Min, n=20	Min, n=20	Min, n=20
<b>TOTAL</b>	<b>N/A</b>	<b>350</b>	<b>350</b>	<b>700</b>	<b>Min, n=210</b>	<b>Min, n=210</b>	<b>Min, n=140</b>	<b>Min, n=140</b>	<b>Min, n=140</b>

## Additional Details for the Intercept Sample

The following table shows some additional details for the intercept sample...

Sample criteria	n=	Weighted population
<b>Working status</b>		
Working full time (35 hours/week or more)	287	282
Working part time (less than 35 hours/week)	147	148
Currently looking for work	36	38
Retired	160	131
Tertiary student (e.g. university, TAFE)	31	31
Non-worker (i.e. currently not working and not looking for work)	36	41
Home duties	29	29
<b>Highest education level</b>		
Year 10	119	112
Year 12	122	124
TAFE certificate	106	99
Trade qualified (e.g. licensed plumber)	69	70
University undergraduate - still active	64	64
Bachelors degree (or degree with honours)	140	137
Post graduate qualification	82	73
PhD or doctorate of some other kind	16	13
Refused	9	8
<b>Household income</b>		
Under \$65,000	315	300
\$65,000 or more	348	339
Refused	64	61

A total of n=27 intercept respondents identified themselves as Indigenous or Torres Strait Islander. Along with this, n=513 intercept respondents also indicated that they were born in Australia and a further n=75 indicated that they were born in the United Kingdom, the remaining respondents were born in various other locations.

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## Details on the Weighting Process

Weighting was conducted on both data sets so that a more representative analysis could be undertaken. Weighting involves increasing or decreasing the 'weight' of certain respondents in an analysis. For example, to obtain a representative overview of the NSW general population we required a gender breakdown of 49%/51% (male/female). Given that our final sample breakdown for gender was: n=444 males and n=559 females (i.e. 44%/56), a representative analysis could not be undertaken on the raw data. With that in mind, the data was weighted so that males accounted for 49% of the sample.

The term 'weighted population' refers to the new value allocated to a sample once it has been weighted. For example while we have achieved a raw sample of n=444 males, once the weighting process has been completed the weighted population of males is n=493. Alternatively, the weighted population of females is n=510.

It is important to note that no respondents are removed from the data set during the weighting process. It is only the case that the value of certain responses is increased or decreased relative to other respondents in the sample.

## Additional Details on Data Cleaning

Data cleaning involves going through a completed data set and ensuring that all of the answers provided are of a high quality. It can sometimes be the case that a few respondents complete an online survey quicker than what is reasonable given the length of the questionnaire. This will generally result in the respondent's answers being unusable. It is standard industry and academic practice to 'clean' data by removing these respondents from the data set.

In the case of the Marine Estate online survey data set, any respondents that had completed the survey in less than four and a half minutes were removed from the data set (this cut-off was decided based on pilot test results, the average completion time of the final questionnaire and the general quality of the answers provided by people that completed the survey in under 4:30). As well as removing people that completed the survey too quickly, respondents were also removed where they had provided poor responses throughout the survey, e.g. a respondent might have typed "asdfghj" for all of their open-ended responses. As a result, 27 respondents were removed from the data set in total. Of the n=744 intercept surveys completed, 17 were removed from the data set leaving a final sample of n=727 tablet completes.

As well as being standard industry and academic practice, Sweeney Research is also required to conduct data cleaning under their ISO and AMSRS qualifications.

## Interpreting Results

The quantitative results are presented in several different ways. Before going through these results in detail an explanation of how to interpret the charts is provided below.

### Online Respondents versus Intercept Respondents

Throughout the results section, the results for both the online survey and intercept survey are shown. Unless specifically stated in the text, these results should not be compared directly. Instead they should be used as indicative findings of the broader NSW population as well as the targeted findings of Coastal Residents and Visitors across 7 coastal locations sampled.

### Significance Testing

Throughout these results, a large amount of commentary has been provided for each table. Where a proportion or finding is mentioned, and the subgroup does not appear in the table or chart to which it relates, this finding is significant. Detailed breakdowns for all key subgroups (e.g. regions, gender, age, etc.) may be found in the tables included in Appendix 2.

### Instructions for Interpreting Charts

On the following pages, we provide detailed instructions on reading and interpreting the tables, charts and figures shown throughout...

### Multiple Response Charts

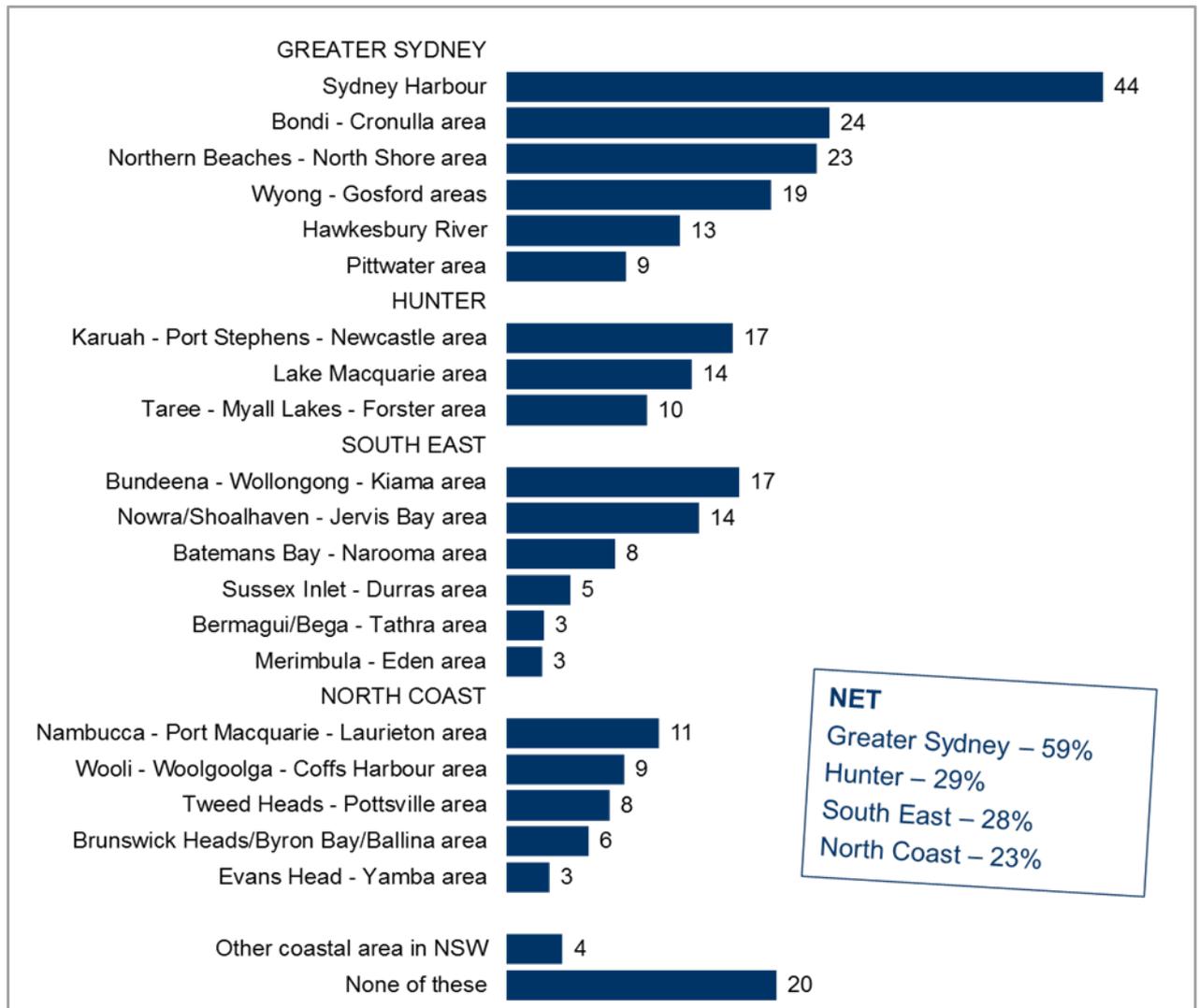
These types of charts are utilised when respondents were asked to identify an unlimited number of options. The chart below is for S5 of the online questionnaire. In this question, respondents were asked to indicate all of the places they had visited in the preceding 12 months. In the chart, each option (e.g. Sydney Harbour) could have a maximum score of 100%.

Please note that a “NET” score refers to the total proportion of respondents that indicated one of a number of scores. For example, 59% of respondents have visited either Sydney Harbour, Bondi – Cronulla area, Northern Beaches – North Shore area, Wyong – Gosford areas, Hawkesbury River or Pittwater area.

To interpret these charts, we look at the most common scores. An example of how we could interpret this chart is as follows...

*“The most visited area of the Marine Estate is the Greater Sydney region with 59% of NSW general population having visited it in the last 12 months. Following this, just under a third had visited the Hunter area (29%),*

while 28% had been to the South East region of the Marine Estate in the last 12 months. While just under a quarter (23%) had visited the North Coast areas.”



NSW general population (online) respondents, n=1,003

S5. Which, if any, of the following NSW locations have you visited in the last 12 months?

All values shown in percentages; Weighted data

## Tables

Throughout the report, a number of tables are presented. These tables are used to compare the results of particular questions across key subgroups (e.g. regions, gender, etc.). The first row in each table indicates the number of respondents in each sub group (n=). For example, in the table below we can see that the total sample consists of n=1,003 respondents while the Sydney region has n=568 respondents. Similarly, the first column in a table shows the total score for all respondents. For example, 8% of all respondents have visited the Tweed Heads – Pottsville area.

For all tables, we have also highlighted those scores which are significantly higher than the total score. Where a number has been highlighted red, this indicates that it is significantly lower than the total score for all respondents; where a number has been highlighted blue, this indicates that it is significantly higher than the total score for all respondents. An example of how we could interpret the tables is as follows...

*“While 23% of respondents have visited the North Coast, respondents from Sydney (18%) were significantly less likely to have visited. Alternatively, those who live on the North Coast are significantly more likely to visit the Marine Estate at other locations on the North Coast (82%)”.*

Column %	TOTAL	Sydney region	Hunter	South East	North East	West
n=	1003	568	150	106	74	105
<b>NET: NORTH COAST</b>	23	<b>18</b>	18	<b>13</b>	<b>82</b>	17
Tweed Heads - Pottsville area	8	6	6	3	<b>29</b>	5
Brunswick Heads/Byron Bay/Ballina area	6	5	6	2	<b>20</b>	4
Evans Head - Yamba area	3	<b>2</b>	6	1	<b>11</b>	2
Woolli - Woolgoolga - Coffs Harbour area	9	7	8	8	<b>28</b>	5
Nambucca-Port Macquarie - Laurieton area	11	9	12	<b>3</b>	<b>36</b>	9

Online respondents, n=shown above

S5. Which of the following areas have you visited in the last 12 months?

All values shown in percentages

Weighted data

**Blue indicates significantly higher than other regions**

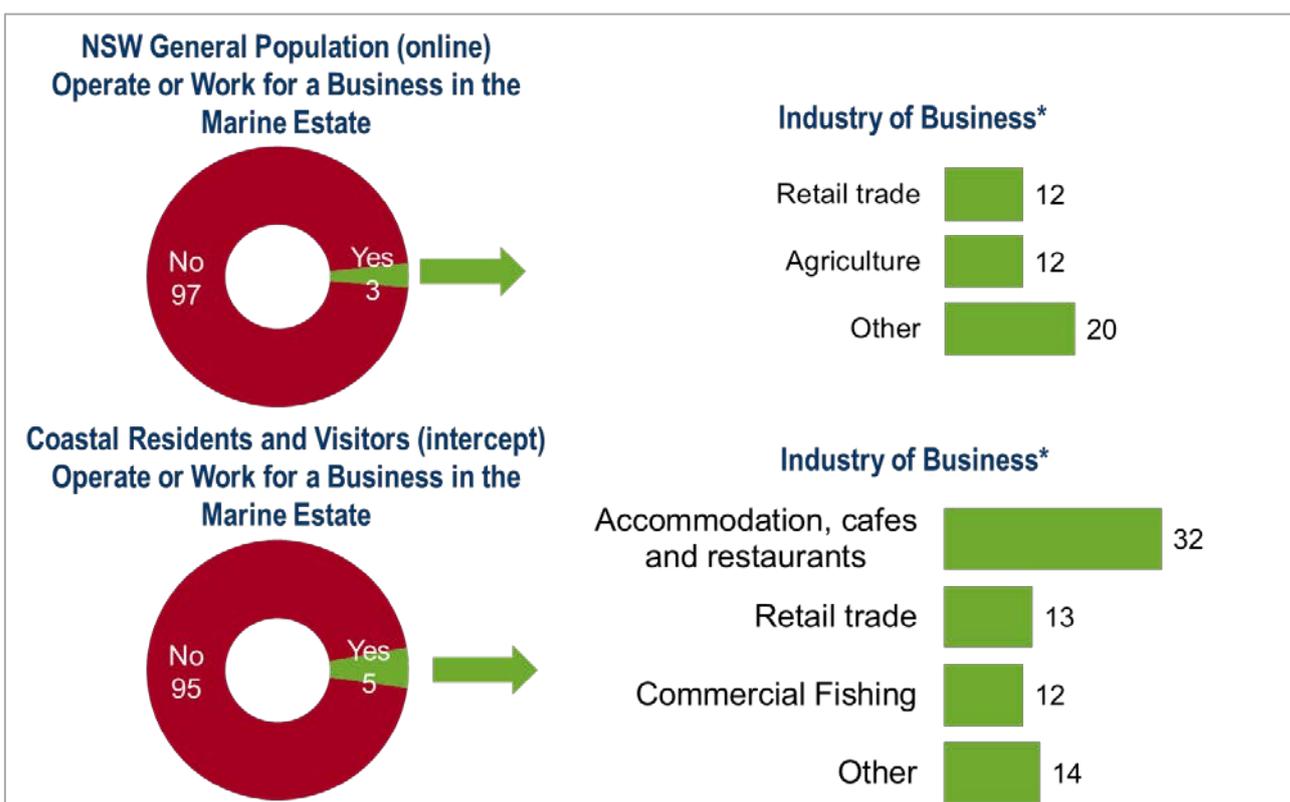
**Red indicates significantly lower than other regions**

## Flow-through Charts

Some charts may have several stages of data. In the chart below we begin by asking respondents if they have ever operated, worked for a business in the Marine Estate. These percentages are based out of all respondents (online results are shown in the top chart and the intercept results are shown in the bottom chart) and the score of each chart may only add up to 100%, this is because respondents were given the option of selecting only one response.

Following this question, respondents that indicated “yes” were asked what industry they worked in. These results are based out of the total number that indicated “yes” in the previous question. An example of how we could interpret the charts below is as follows...

*Three percent of online respondents indicated that they had operated or worked for a business that relied on the Marine Estate. Of these people approximately 12% had worked in the retail trade and agriculture sectors.*

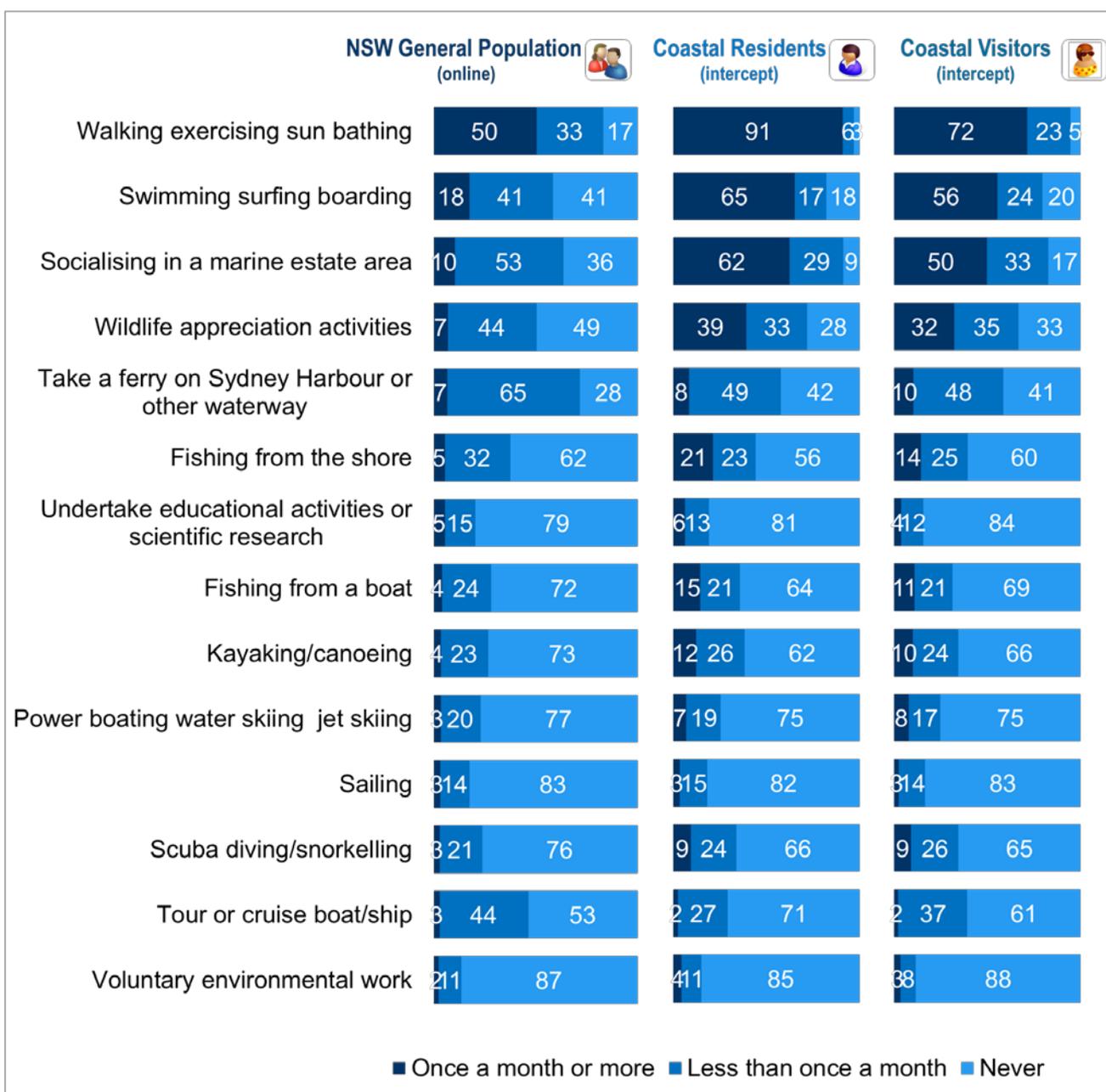


NSW general population (online) respondents, n=1,003; Coastal Residents and Visitors (intercept) respondents, n=727; NSW general population and work for a business, n=31; Intercept and work for a business, n=36  
 Q1. Do you own or operate a business, or work for a business that, that relies on the Marine Estate?  
 All values shown in percentages; Weighted data \*Values below 10% not shown

## **Sum Total Charts**

Sum total charts have each option with multiple possible responses, all adding to a total of 100%. For example, the table below shows the frequency with which respondents do certain activities. For example, in the top row 50% of online respondents indicated that they go walking, exercising and/or sunbathing once a month or more, 33% indicate they do these activities less than once a month while 17% never do these activities; note that these values sum to 100%.

In some tables, we have used the results of a single category (e.g. “once a month or more”) to draw comparisons across key sub-groups. Please note that where this is the case, the total value for each item should not be 100%, an example of this can be seen in the results for Q3 in the Appendix.



NSW general population (online), n=1,003; Coastal Residents (intercepts), n=375; Coastal Visitors (intercepts), n=352  
 Q3. How often, if at all, do you do each of the following activities?  
 All values shown in percentages; Weighted data

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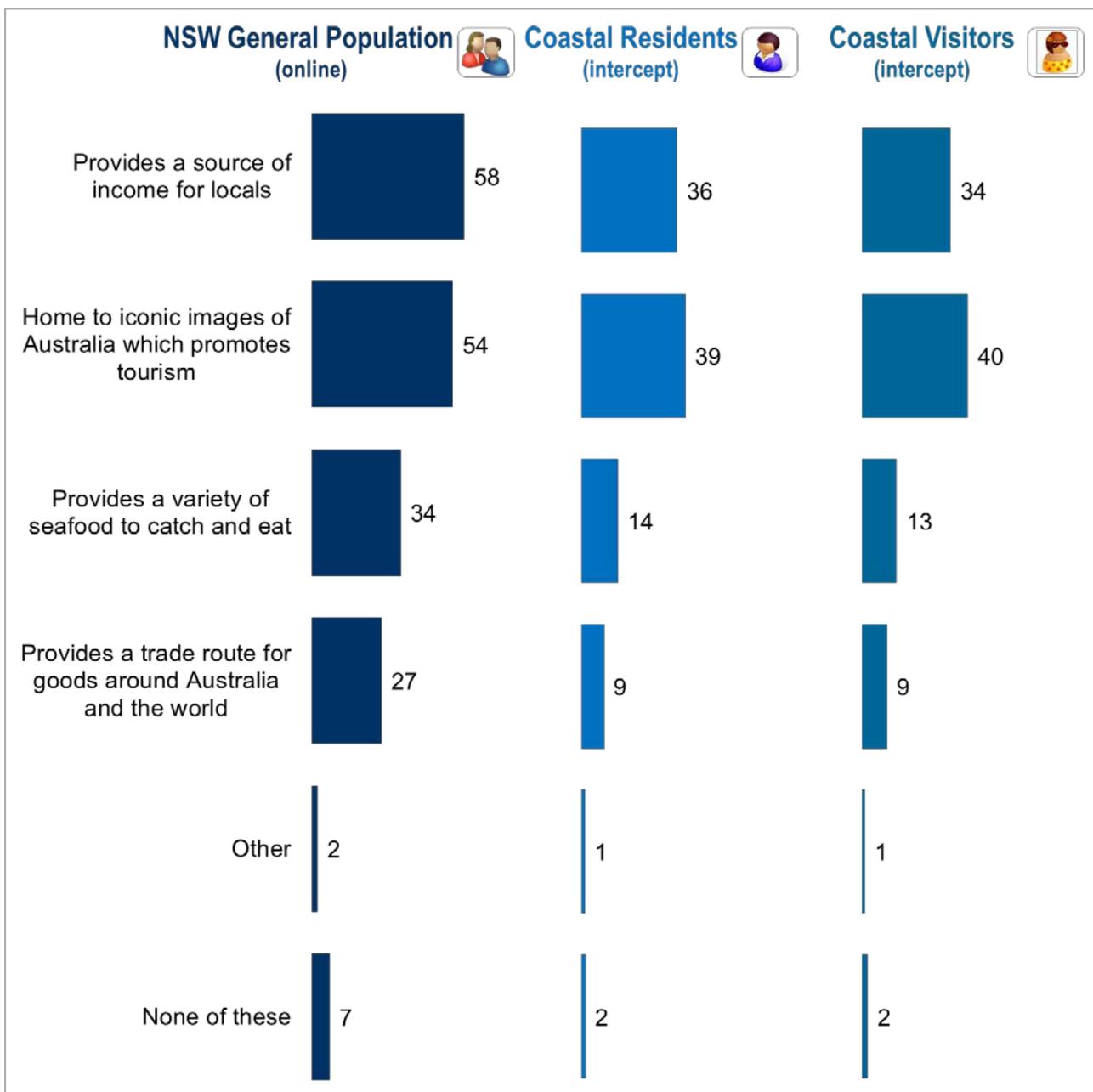
## Discreet Options Charts

In discreet options charts, the total number of options that a respondent could have been selected was limited to less than the total number available. For example in the chart below, online respondents were shown four economic benefits of the Marine Estate (with an additional “other” option). They were then asked to select their top two. Where a discreet number of options have been asked for, it is noted in the question wording (found below the chart).

In discreet options charts, the results are shown in percentages (e.g. 58% of online say it provides a source of income for Coastal Residents while 54% say that it is home to iconic images of Australia). The sum total of these percentages can add up to a maximum of 100 multiplied by the number of responses asked for. For example, because they were asked for two options, the online results may add up to a maximum of 200%. Alternatively, intercept respondents were asked to provide a single response, which mean that the sum total of their responses can add up to a maximum of 100%. An example of how we could interpret the charts below is as follows...

*Fifty-eight percent of online respondents indicated that “providing a source of income” was one of the two most important economic benefits of the Marine Estate. Similarly, 36% of Coastal Residents and 34% of Visitors indicated that “Provides a source of income” was the most important economic benefit of the Marine Estate.*

Please note: where online respondents were asked to select more options than those completing the intercept survey (such as in the chart below), these results are not directly comparable (i.e. 36% of Coastal Residents and 34% of Visitors is not necessarily less than the 58% of online respondents that selected the same option).



NSW general population (online), n=1,003; Coastal Residents (intercepts), n=375; Coastal Visitors (intercepts), n=352  
 Q5 online. What do you think are the two most important ECONOMIC benefits of the NSW Marine Estate?  
 Q5 intercept. What do you think is the most important ECONOMIC benefit of the NSW Marine Estate?  
 All values shown in percentages; Weighted data

## Wordclouds

Word clouds are a statistical technique which looks at the relative number of times a word is mentioned in an open-ended/extended response question. For example, in the figure below, we can see that the word “pollution” covers approximately three to four times the area of over-fishing, indicating that it was mentioned approximately three to four times as often.

Wordclouds offer a brief overview of the key terms used when discussing a topic. They should not be interpreted as a qualitative thematic analysis. An example of how we could interpret this wordcloud may be...

*When asked to list the greatest threats to the Marine Estate, respondents were most likely to mention pollution which dominated their responses. This topic was clearly top of mind with the next most commonly mentioned threat: “Overfishing”, being mentioned substantially less.*



NSW general population (online), n=1,003  
 Q9. What do you think are the greatest threats to the Marine Estate today?  
 All values shown in percentages, Weighted data