South East Water
Triangulation Research

Final Report
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ABBREVIATIONS

CBA	Cost benefit analysis
CCG	Customer challenge group
PpP	Phone-post/email-phone
PR14	Price Review 2014
SEG	Socio-economic grade
SEW	South East Water
UKWIR	UK Water Industry Research
WTP	Willingness to pay

The research was undertaken in compliance with the market research standard ISO 20252:2006

1 EXECUTIVE SUMMARY

1.1 Introduction

South East Water (SEW), in conjunction with its customer challenge group (CCG), has asked Accent to design and conduct a study to obtain measures of customers' preferences with respect to service level options, and their willingness to pay for them. The motivation for this study lay in the desire of the CCG to test, and "triangulate", findings from the primary "Willingness to Pay" (WTP) research study, also conducted by Accent for SEW, which are being used as the principal source of evidence on the benefits of proposed expenditures in SEW's business plan for 2015-20.

Accent has designed a survey instrument pursuant to the above objectives following discussions with SEW and with Kathryn Rathouse (independent CCG member).

Two phases of pre-testing of the survey instrument were carried out with SEW customers prior to the main fieldwork. The first phase consisted of 8 cognitive, face-to-face (in-home) interviews. The second phase consisted of a pilot of 78 hall test interviews with household customers. These were conducted in two sessions on the 13 June (Tunbridge Wells) and 15 June (Uckfield) 2013.

The main survey was conducted via a series of hall tests. A total of 451 hall test interviews were conducted with household customers in Faversham, Bracknell, Canterbury, Alton, Aldershot, Wokingham, Maidstone, Eastbourne and Tonbridge.

The questionnaires and show cards that were used in the main survey are contained in Appendix A.

1.2 Key Findings and Recommendations

The core findings from this triangulation survey are as follows.

- For discoloured water, the preference of the majority (58%) was for the maintenance of base service.
- Likewise, for water supply interruptions, the preference of the (weak) majority (52%) was for the maintenance of base service.
- In the case of hosepipe bans, the preference of the majority (63%) is for a deterioration to base service.
- For low pressure, the deterioration level was the most commonly chosen, but if respondents who chose either improvement level would have preferred the maintenance of base service to a deterioration in service – an assumption which seems to us to be highly likely - the results indicate that maintaining base service level is the preferred option overall.

These findings are fully consistent with the primary WTP survey results for discoloured water, interruptions and low pressure, in the sense that the preference of the majority in the triangulation survey corresponds to the option that would have been chosen on the basis of a cost-benefit analysis using WTP numbers from the primary WTP survey. By

contrast, in the case of hosepipe bans the preference of the majority in the triangulation survey was for a deterioration to base service, while the primary WTP survey results, and also results from a separate water resources WTP survey conducted by Accent for SEW, predicted that improvement to service levels would have been preferred. The discrepancy may be due to a difference in sample composition, survey timing, or due to the bi-modal nature of the WTP distribution for this service measure, with the majority of customers not caring very much about hosepipe bans, but a proportion of the population being willing to pay a great deal to avoid them.

In respect of sample composition and timing, there is supporting evidence in the results that triangulation survey respondents cared less about hosepipe bans than primary WTP survey respondents – 46% of the primary WTP sample listed it as their highest priority for improvement versus 28% of the triangulation sample (see Table 16). This is consistent with the fact that more respondents in the triangulation survey (29%) said they had never experienced a hosepipe ban than in the primary WTP survey (12%), despite there having been one in the SEW region only a year previously. Both facts may be related to the fact that both the primary, and water resources, WTP surveys (Jan-Feb 2013) were conducted a few months closer to the end of the last hosepipe ban (Apr-Jul 2012) than the triangulation survey (Jul-Aug 2013).

Choosing a target level of service for hosepipe bans in the light of these results might require making a judgement about the likely cause of the discrepancy, and responding appropriately. Alternatively, further research could be undertaken to test customers' attitudes to hosepipe bans afresh.

With regard to validity, respondents in both surveys displayed similarly good levels of effort and concentration, and felt themselves able to understand each of the levels of service easily. They also gave valid reasons for their choices. There is evidence that respondents showed a greater degree of understanding of what they were being asked to do in the core choice exercises in comparison with the primary WTP survey (section 5.7). Understanding was perfectly adequate for the primary WTP survey however, with 92% of respondents assessed as having understood at least "A great deal". On this basis, the results from both surveys can be considered meaningful expressions of customers' preferences, and as such are suitable for use by SEW in PR14 business planning.

2 INTRODUCTION

2.1 Background

South East Water (SEW), in conjunction with its customer challenge group (CCG), has asked Accent to design and conduct a study to obtain measures of customers' preferences with respect to service level options, and their willingness to pay for them. The motivation for this study lay in the desire of the CCG to test, and "triangulate", findings from the primary "Willingness to Pay" (WTP) research study, also conducted by Accent for SEW, which are being used as the principal source of evidence on the benefits of proposed expenditures in SEW's business plan for 2015-20.

2.2 Objectives

The key aims of the research were to understand:

- customers' priorities for investment, and
- customers' willingness to pay for investment plans.

In addition, the research was to be conducted using a form of questioning and analysis different from the primary WTP research study.

2.3 Overview of Research

Accent designed a survey instrument pursuant to the above objectives following discussions with SEW and with Kathryn Rathouse (independent CCG member).

Two phases of pre-testing of the survey instrument were carried out with SEW household customers. The first phase consisted of 8 cognitive, face-to-face (in-home) interviews. The second phase consisted of a pilot of 78 hall test interviews with household customers. These were conducted in two sessions on the 13 June (Tunbridge Wells) and 15 June (Uckfield) 2013.

The main survey was conducted via a series of hall tests. A total of 451 hall test interviews were conducted with household customers between 18 July and 2 August 2013 in Faversham, Bracknell, Canterbury, Alton, Aldershot, Wokingham, Maidstone, Eastbourne and Tonbridge.

2.4 Structure of Report

In the remainder of this report, section 3 describes the design and development of the survey instrument, section 4 gives details on the survey administration, section 5 presents findings from all the non-core questions in the survey, section 6 presents the core findings from the main choice exercise, and section 7 concludes.

The questionnaires and show cards that were used in the survey are contained in Appendix A.

3 SURVEY DESIGN AND DEVELOPMENT

3.1 Questionnaire Design

The questionnaire for the present "triangulation" study was designed to follow, to a great extent, the primary WTP research survey questionnaire which was itself produced by Accent based upon a script recommended by UKWIR for use in WTP surveys in the water sector [1]. Thus, the same service measures and levels were used in the triangulation survey as in the primary WTP survey, and these were described in the same way. Furthermore, both surveys included the same recruitment questions, background questions, follow-on questions, and demographic questions.

The key difference between the two surveys was in the nature of the main choice questions asked. The primary WTP survey asked respondents to choose between packages of service level changes, with a single cost shown for each package. The levels of each service measure, and the cost, for each option of each choice situation varied in the primary WTP survey according to an experimental design. By contrast, in the triangulation survey respondents were asked to choose their preferred service level for each service measure individually, given the costs associated with them, which were fixed to the actual costs that SEW expects would be incurred to achieve those service levels. The cost of the package as a whole was calculated instantaneously and respondents were free to revisit their choices as many times as they chose until they were happy with their choice.

Figure 1 illustrates the choice exercise that respondents saw on-screen for the triangulation survey. Respondents were encouraged to play around with their choices for each service measure until they were happy with their choice overall. The bill impact associated with their choices was instantaneously updated by the computer as the respondent progressed through the exercise.

[1] UKWIR (2011) Carrying Out Willingness to Pay Surveys, Report 11/RG/07/22

Figure 1: Screenshot of triangulation survey choice exercise

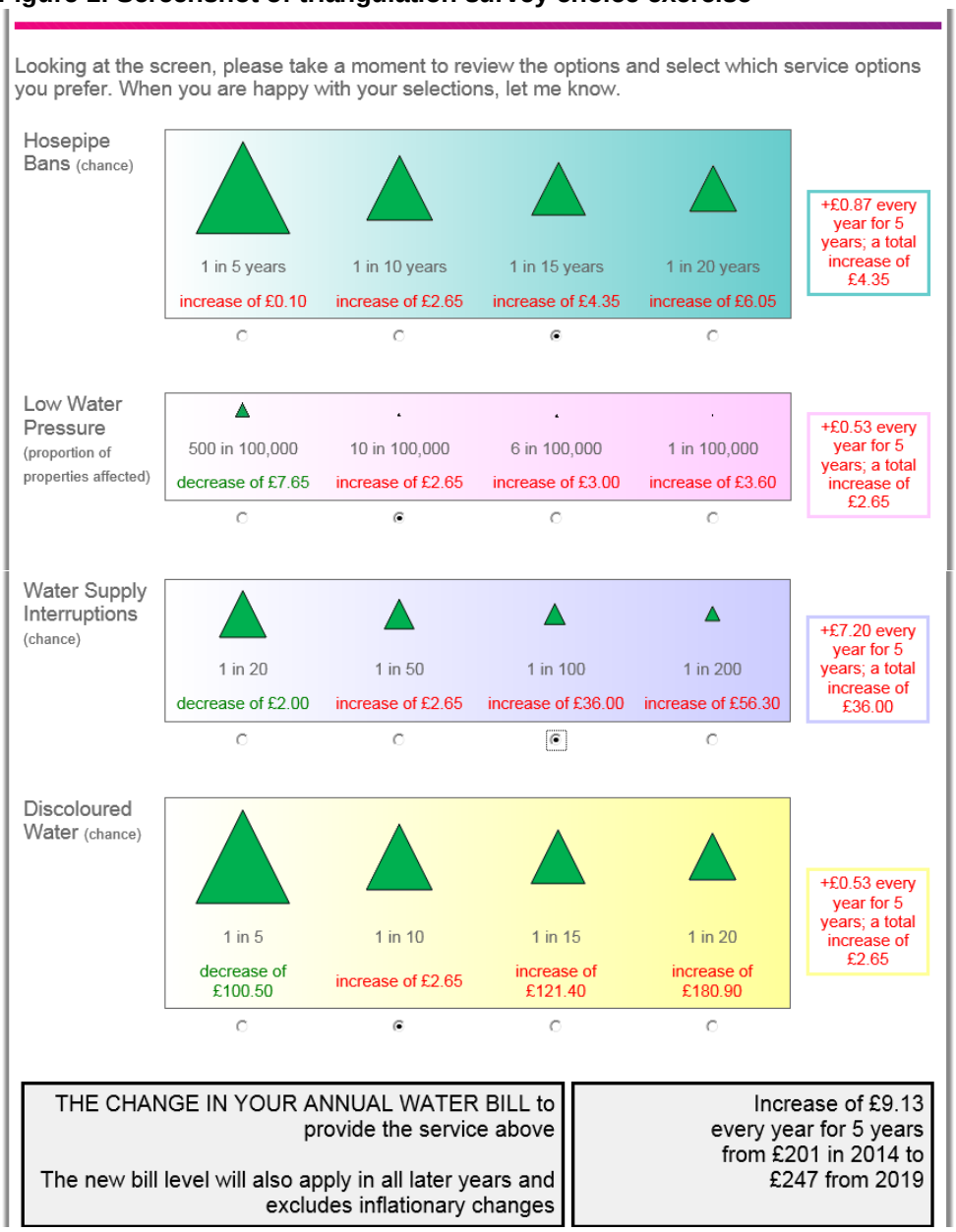


Table 1 below summarises the similarities and differences of the triangulation survey questionnaire with respect to the primary WTP study questionnaire.

Given these similarities and differences, it is important to understand the relative advantages and disadvantages of the two types of survey. These are summarised in Table 2.

Table 1: Similarities and differences with respect to primary WTP study questionnaire

Similarities	Differences
• Both surveys included the same service measures and levels. • Both surveys described the service measures in exactly the same way. • Both surveys included the same recruitment questions, background questions, follow-up questions and demographic questions.	• Primary WTP survey offered choices between packages of service level changes, with a single cost shown for each package. Triangulation survey offered choices between service levels for each service measure individually, with a separate cost shown for each level of each service measure, as well as an overall cost for the package. • Primary WTP survey varied the cost of the packages in a manner not directly related to actual costs. Triangulation survey fixed the costs shown at the true expected costs for each service level. • Primary WTP survey design included eight different sets of choices to enhance the data variation across the sample. Triangulation survey showed the same set of choices to every respondent.

Table 2: Relative advantages of primary WTP versus triangulation survey designs

Pro-triangulation	Pro-primary WTP
• Simple to analyse and understand. Does not require technical econometric modelling to derive results.	• Focussed on benefits distribution, hence allows for estimation of mean WTP, not just the proportions of WTP>cost. Mean WTP is required to know whether or not total benefits exceed costs. • Allows for cost uncertainty. • Derived model is valid for all combinations; triangulation results for each service measure are conditional on preferred choices for all other service measures.

In comparison to the primary WTP survey, the one key advantage of the triangulation survey is that the core results are obtained from it simply and directly without the need for an econometric model to estimate WTP. Instead, one can simply tabulate the proportions choosing each service level change with no further analysis required. To be clear, however, this improved simplicity comes at the analysis stage, not necessarily at the survey stage. We test in this study whether the questions themselves are any simpler for respondents to answer than the package choice questions in the primary WTP survey. (The evidence on this is reported in sections 5.7 and 5.8, which shows essentially that the triangulation survey lead to marginally better understanding levels.)

The primary WTP survey methodology is certainly more complex, at the analysis stage, but this complexity is compensated for by a number of advantages. Firstly, the design is sufficiently rich to allow estimation of the distribution of WTP over customers, rather

than just the proportions willing to pay more/less than the true expected costs. This means that one can estimate the total benefits of a service change, compare them with the total costs, and decide whether the investment is worthwhile on the basis of whether benefits exceed costs. This is the standard decision rule associated with cost-benefit analysis, and it cannot be applied on the basis of the results obtained from the triangulation survey.

A second relative advantage of the primary WTP survey is that it is robust to cost uncertainty at the design stage. True costs play only a minor role in the design of the primary WTP survey, whereas they play a central role in the design of the triangulation survey. Thus if costs change substantially between survey design and use of the results the triangulation survey results will be less directly relevant but the primary WTP survey results will remain so.

Last, but by no means least, the results from the triangulation survey – the proportions choosing each service level - are conditioned, for each service measure, on the service level choices made by the respondent for all the other service measures. Thus, if a respondent chooses Base level for three service measures, and Level +2 for the fourth, each of those service level choices is made individually on the basis that the other three levels are implemented by SEW as the respondent chose. In general, this will only be true occasionally. This is important because the respondent's preferences may have been to want one out of the four improvements only, and if one or more of the first three service measures were being improved, his preference for the fourth in this context would have been for maintaining base service levels rather than improving to Level +2. In analysing the results, however, we would interpret his choice of Level +2 for the fourth as indicating this improvement was preferred even in the context of all the other three service measures being improved. Because of this, the results from the triangulation survey for each service measure should be treated as indicative rather than as firm proportions that hold in all circumstances.

Overall, there are good reasons to prefer the use of the primary WTP survey results over the triangulation survey results where there is a conflict. The triangulation survey results still have an important role to play, however, as a means of challenging and validating the primary WTP survey results by adding to the body of evidence when reviewing what customers want for the PR14 business plan.

The final selection of service measure definitions and descriptions used in the survey is shown in Table 3. Levels of service, and costs, are shown in Table 4.

Table 3: Service measures: definitions and descriptions

Service measure	Description on survey show card
DISCOLOURED WATER at your property for a couple of hours at a time. The chance that this happens in any one year.	Tap water may occasionally be discoloured although running the tap for several minutes will often cause the problem to go away. When it occurs, this problem usually lasts a couple of hours, but occasionally the problem can last for a few days. Although the water is unlikely to be harmful, you may not want to use it in your household.
WATER SUPPLY INTERRUPTIONS lasting an average of 2 and a half hours. The chance that this happens in any one year.	Interruptions to your water supply can happen at any time and at any property. They typically last around 2 and a half hours. The number of water supply interruptions can be reduced by increased maintenance which would reduce bursts.
HOSEPIPE BANS from May to September. The chance that this happens in any one year.	Hosepipe bans are put in place during extended dry spells to help manage demand for water. When they are put in place, they typically last for 5 months beginning in May and ending in September. When a ban is in place, hosepipes cannot be used for domestic gardening, cleaning, or recreational uses such as filling home swimming pools. Exemptions apply for commercial users and activities, and vulnerable customers.
PERSISTENT LOW WATER PRESSURE affects the taps, showers and boilers at some customers' properties. The proportion of properties that are affected.	Low water pressure means it takes longer to fill the bath or a kettle than you would like, and it may affect how well a combi boiler works. Persistent means the property is affected every day, though the problem may come and go during the day. It can be caused by the age and condition of the water company's pipes rather than problems with internal plumbing which the customer is responsible for. Properties at the tops of hills and the end of lines are most at risk . If you don't currently suffer, or have never suffered from persistent low water pressure, then your property is not at risk. Customers that do suffer from this problem regularly are entitled to a rebate of £50 off their annual water bill.

Table 4: Service levels and costs, by service measure

	Service level	Cost
Discoloured water		
-1	1 in 5	-0.5%
Base	1 in 10	1.3%
+1	1 in 15	60.4%
+2	1 in 20	90.0%
Water supply interruptions		
-1	1 in 20	-1.0%
Base	1 in 50	1.3%
+1	1 in 100	17.9%
+2	1 in 200	28.0%
Hosepipe bans		
-1	1 in 5 years	0.0%
Base	1 in 10 years	1.3%
+1	1 in 15 years	2.2%
+2	1 in 20 years	3.0%
Persistent low water pressure		
-1	500 in 100,000	-3.8%
Base	10 in 100,000	1.3%
+1	6 in 100,000	1.5%
+2	1 in 100,000	1.8%

Costs are shown in this table as percentage deviations from respondents' bills as they would be in 2014/15, ie prior to the start of the planning period. They represent the total cumulative change in effect from 2020 onwards, where the change was presented as being phased in gradually over the five year period, ie with 1/5 of the cost being added each year between 2015/16 and 2019/20.

3.2 Cognitive Testing

The survey design was firstly tested via a series of eight face-to-face, in-home interviews where respondents were encouraged to "think aloud" and give feedback on the questionnaires and showcards as they worked their way through them. These interviews were conducted over two days: 3 June (Ashford) and 5 June (Farnborough) 2013.

The survey appeared to perform well with no major problems. As a consequence, no major changes were made following this phase.

The following minor changes were made.

- Some changes were made to the text to improve the clarity and flow of the survey.
- Further information was included in the interviewer briefing notes to aid explanation if required.
- Two extra show cards were included (one to show the exercise so respondents could refer to it whilst it was being described, and a further show card to help with the educational level demographic question).

The pilot survey was implemented immediately once these changes were made.

3.3 Pilot Testing

Following on from the cognitive phase, the questionnaire was pilot tested via face-to-face (hall test) interviews with 78 household customers. This method involves recruiting respondents 'on-street' then taking them to a hired venue to complete the survey.

The pilot survey was conducted in order to test:

- the recruitment process
- the clarity and flow of the questionnaire
- the appropriateness of the language used
- the accuracy of all routings
- ease of use of the show material
- the exercise design
- the interview duration
- the survey hit rate.

Our findings showed the following.

- Interviews assessed respondents as generally showing good levels of understanding, effort and concentration.

- The vast majority of respondents found the service areas easy to understand, and believed that the levels shown were plausible.

- Reasons given by respondents for the choices they made in exercise were valid, in that there were no cases of a significant number of respondents incorporating invalid beliefs or inferences when making their choices.

In light of these findings, the pilot survey instrument was adopted for the main stage of the survey with only one change to the interviewer briefing material.

Prior to the main fieldwork, the cost levels used in the survey were reviewed and revised; (Table 4 shows the final main stage version of these levels). This change meant that it would be invalid to include the pilot data in with the main stage data for this report, and so this report is based only on the main stage data.

4 SURVEY ADMINISTRATION

4.1 Survey Mode

As for the pilot survey, the main survey mode used for the triangulation survey was the "hall test". This method involves recruiting respondents 'on-street' and then taking them into a hired venue to complete a face-to-face survey interview.

In comparison with telephone or mail surveys, the face-to-face method was chosen as it would allow respondents to complete the interview on a laptop computer under the close supervision of the interviewer. This was important for the present triangulation survey because it was desired that respondents should be encouraged to play around with their choices for each service measure until they were happy with their choice overall, with the bill impact associated with their choices being instantaneously updated by the computer as the respondent progressed through the exercise.

Hall tests have the following advantages relative to in-house interviews.

- Interviewers have access to instant support from the resident supervisor. In the alternative household location interviewers are isolated and may repeat their mistakes as they are not picked up immediately.
- The first day briefing in any location can be immediately followed up by 'trial' interviews and then an observed (by the supervisor) first real interview; again important for complex surveys.
- Recruitment leads straight into an interview so is much quicker than door-to-door recruitment which can take several 'call-backs' if undertaken properly.
- Interviews in a hall will provide more geographical dispersion in the local area than a household based survey as recruits to the hall test can have come from any location in the area, whereas a household based survey needs to 'jump off' from a number of specific locations and then work within a fairly tightly subscribed area, for example every fifth house.
- The hall approach allows for access to recruitment of a wide range of people making it easier to fit respondents to particular respondent quota groups.
- The hall provides a focussed environment for the interview to take place, without home distractions of family etc, which will allow the respondents to give careful consideration to the show materials which are a vitally important element of this study.
- There is often less distraction in a hall than in-house, and concentration levels can be higher as a consequence.

In contrast, the primary WTP survey was conducted via the phone-post/email-phone (PpP) mode, which involved recruiting respondents by telephone, then emailing or posting them some tailored show material, and then completing the survey at a later point, also by telephone.

The PpP mode was chosen for the primary WTP survey because of the fact that it is able to capture a more geographically diverse sample of customers than face-to-face

interviews typically do, since face-to-face survey samples are typically clustered in order to avoid them being prohibitively costly.

To minimise the effects of clustering in the triangulation survey, the sample was designed to capture interviews at nine locations across the SEW supply area.

4.2 Sample Design

The triangulation survey sample was split geographically into nine locations across the South East, with around 50 hall test interviews conducted in each location, making up a target sample size of 450. The nine locations were chosen to be representative of the entire South East Water region and to support a sufficient spread of customer types to take part.

By contrast, the primary WTP survey sample (totalling 1103 respondents) was sourced from Accent's preferred list supplier, Sample Answers, who provided 'random digit dialling' (RDD) and 'lifestyle' sample for householders across the South East Water supply area.

- RDD sample is created by selecting a known, existing telephone number and randomising the last couple of digits to generate a new telephone number that may or may not exist. Checks are made to ensure, firstly that the number is valid, and, so far as is possible, that the number is not a business number. The main advantage of RDD is that all households in a given geographical area are given equal opportunity to participate in the research. The main disadvantage is that there is no information known about the person on the other end of the phone before the call.

- Lifestyle sample comes from a database of people based on a questionnaire covering all or some aspects of their lives including age, number of people in household, income, housing, family, education, sports and activities etc. This has the advantage of enabling specific targeting for quotas.

The targets for the research in both triangulation and primary WTP studies were SEW customers with responsibilities for paying bills. Screening questions were used in both cases to ensure that all respondents satisfied these criteria.

Both triangulation survey and primary WTP survey samples were designed, via the use of quotas, to be representative by age and socioeconomic grade (SEG) for the region as a whole. For the triangulation survey, the population target was based on Census 2011 statistics for the South East region; for the primary WTP survey, however, which was designed prior to the release of the relevant Census 2011 statistics, Census 2001 data for the South East region was used as the target. (Note that this region does not exactly match the South East Water supply area.)

For the triangulation survey, quotas were also applied to include households both with and without water meters, except for in Alton and Tonbridge where a compulsory metering programme has already been implemented.

4.3 Survey Implementation

The triangulation survey was implemented between 18 July and 2 August. The total achieved sample was 451 respondents.

The primary WTP survey was implemented between 23 January and 7 February 2013, and the total achieved sample in this case was 1,101 respondents. This included the pilot survey respondents as no major changes were made between pilot and main.

The table below shows the number of interviews completed at each location for the triangulation survey.

Table 5: Locations of interviews

Location	Number of Interviews completed
Faversham	49
Bracknell	48
Canterbury	44
Alton	53
Aldershot	51
Wokingham	48
Maidstone	54
Eastbourne	55
Tonbridge	49

Table 6 shows the breakdown of the triangulation survey household sample by age and social grade (SEG) compared to regional profiles for the South East drawn from the 2011 Census. The table shows that there is a reasonably close match between the sample and the regional profile.

Weighting would not be warranted here given that the South East region does not exactly represent the South East Water customer base. All statistics for the triangulation survey presented in this report are therefore unweighted.

Table 6: Regional and achieved profiles by age and SEG (triangulation survey)

	Achieved Profile %	Regional Profile %
Age		
18-24	7	3
25-34	13	13
35-49	27	30
50-64	31	27
65-74	18	13
75+	5	14
SEG		
A/B	22	28
C1/C2	50	52
D/E	28	20

Base for "Age" achieved profile: all respondents. Base for "SEG" achieved profile: all respondents aged under 65. Source for "Age" regional profile: Census 2011 table DC6101EW, base: all household reference persons aged 16 and over in South East region. Source for "SEG" regional profile: Census 2011 table QS611EW, base: all household reference persons aged 16 to 64 in South East region.

For comparison, the target and achieved interviews for the primary WTP survey are given in Table 7. The achieved interviews for the primary WTP survey broadly matched their population counterparts with regard to age and SEG, and so no weighting was applied in this survey either.

Table 7: Regional and achieved profiles by age and SEG (primary WTP survey)

Demographic	Achieved Profile %	Regional Profile %
AGE		
18-29	4	9
30-44	23	30
45-64	40	35
65-74	19	14
75+	12	12
Refused	1	-
SEG		
AB - Higher and intermediate managerial/ administrative/ professional	26	25
C1 - Supervisory, clerical, junior managerial/ administrative/ professional	31	33
C2 - Skilled manual workers	14	12
D/E - Semi-skilled and unskilled manual workers /On state benefit, unemployed, lowest grade workers	27	29
Refused	2	-

Base for "Age" and "SEG" achieved profiles: all respondents (1,103). Source for "Age" regional profile: Census 2001 table CAS003, base: all household reference persons in South East region. Source for "SEG" regional profile: Census 2001 table CAS067, base: all household reference persons in South East region.

5 SAMPLE CHARACTERISTICS

5.1 Introduction

This section presents frequency tables on household demographics; current bill levels; attitudes towards current bill levels; experiences of water service failures and respondent and interviewer feedback on the survey. For comparison, the tables all show statistics for the primary WTP survey alongside those from the triangulation survey.

5.2 Household Demographics

Almost one half of the triangulation survey respondents (47%) were either in full-time or part-time employment, as shown in Table 8. Around one in five respondents (22%) were retired.

In comparison, a greater proportion (36%) of the primary WTP survey sample was retired. In other respects, the employment status profiles are similar between samples.

Table 8: Employment status of respondents

	Frequency (%)	
	Triangulation Survey	**Primary WTP Survey**
Self employed	10	10
Employed full-time (30+ hours)	30	32
Employed part-time (up to 30 hours)	17	12
Student	1	1
Unemployed - seeking work	7	2
Unemployed - other	2	2
Looking after the home/children full-time	5	4
Retired	22	36
Unable to work due to sickness or disability	4	1
Other	1	1

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

Looking at the respondent profile by household income band (Table 9), this reveals that around one in five (19%) stated that they earn less than £300 per week in both samples. A similar number in both samples (34%, 37%) stated they earned between £300 and £1000 per week. A greater proportion of respondents refused to state their income level in the triangulation survey, however, than in the primary WTP survey, and fewer stated that they earned more than £1000 per week. It is not clear whether the income distribution is different between samples or whether it was the case that only the high earners were more likely to refuse to state their income in the triangulation survey than in the primary WTP survey. On the basis of the SEG profiles of the two samples, however, in which there were 22% of ABs in the triangulation survey and 26% in the primary WTP survey (see Table 6 and Table 7), we would expect there to be correspondingly somewhat fewer respondents in the top income band in the triangulation survey than in the primary WTP survey.

Table 9: Household income of respondents

	Frequency (%)	
	Triangulation Survey	Primary WTP Survey
Less than £300 per week - £15,600 per year	19	19
£301-£1000 per week / £15,601 - £20,800 per year	34	37
More than £1001 per week / £52,001 per year	14	22
Prefer not to say	33	22

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

As shown in Table 10, over three quarters (77%) of the triangulation survey sample had no children aged 0-15; one fifth (20%) had 1 or 2 children aged up to 15 and 4% had 3 or more; two thirds (66%) of households had 1-2 adults aged 16-60 within them whilst 10% had 3 or more adults in this age group; roughly three in ten (31%) had 1-2 adults aged over 60, but none had 3 or more adults in that age bracket.

The primary WTP survey sample contained fewer households with 1 or 2 16-60 year olds, and more households with 1 or 2 61+ year olds, as would be expected given the greater number of retired people in this sample.

Table 10: Household Structure

Age band	Frequency, by number in age band (%)				
	0	1	2	3	4+
Triangulation survey					
0-15	77	12	8	3	1
16-60	23	27	39	6	4
61+	69	17	14	0	0
Primary WTP survey					
0-15	74	12	11	3	1
16-60	35	18	31	9	6
61+	56	23	21	0	0

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

Table 11 shows a breakdown of the educational attainment of respondents. Both samples are quite similar on this measure. The most common educational attainment of respondents in both samples was O levels, CSEs or GCSEs (20%, 24%), and a similar proportion in each sample had no qualifications (15%, 13%) for triangulation survey and primary WTP survey samples respectively.

Table 11: Educational attainment of respondents

	Frequency (%)	
	Triangulation Survey	Primary WTP Survey
O levels / CSEs / GCSEs (any grades)	20	24
A levels / AS level / higher school certificate	8	14
NVQ (Level 1 and 2). Foundation / Intermediate / Advanced GNVQ / HNC / HND	13	9
Other qualifications (e.g. City and Guilds, RSA/OCR, BTEC/Edexcel))	12	6
First degree (e.g. BA, BSc)	16	20
Higher degree (e.g. MA, PhD, PGCE, post graduate certificates and diplomas)	8	9
Professional qualifications (teacher, doctor, dentist, architect, engineer, lawyer, etc.)	9	5
No qualifications	15	13

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

Household respondents were also asked in both surveys whether they were a member of any of the organisations shown in Table 12.

Both samples are again quite similar on this measure. The majority (66%, 60%) were not a member of any of the listed organisations, with highest membership demonstrated for the National Trust (15%, 23%) and local community or volunteer groups (11%, 10%).

Table 12: Environmental memberships held by respondents

Organisation	Frequency (%)	
	Triangulation Survey	Primary WTP Survey
Local community or volunteer group	11	10
RSPB (Royal Society for Protection of Birds)	5	7
Canoeing/Boating/ Windsurfing Club or similar	2	2
Angling Club	3	2
Ramblers Association	3	2
Friends of the Earth/Greenpeace	1	2
National Trust	15	23
Local Wildlife Trust or Environmental Organisation	3	6
Other national or international environmental organisation	3	3
Other	8	5
Not a member of any similar organisations	66	60

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

5.3 Current Bill Size

Table 13 shows an interesting discrepancy between the triangulation survey and primary WTP survey samples, which is that much fewer of the triangulation survey respondents said "don't know" when asked their bill. This could potentially be due to the difference in timing of the surveys, with the triangulation survey conducted closer to receiving the annual bill than the primary WTP survey.

Furthermore, there seems to be a lower proportion of higher bill respondents in the triangulation survey than in the primary WTP survey sample. It is difficult to draw clear comparisons, however, due to the large proportion of "don't knows" in both samples.

Table 13: Respondent bill size

	Frequency (%)	
	Triangulation Survey	Primary WTP Survey
0 to £100	8	4
£101 - £200	29	13
£201 - £300	31	19
£301 - £400	5	9
£401 - £500	1	6
£500+	2	4
Don't know	33	46

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

5.4 Attitudes to Current Bill Levels

In both samples, the majority (62%, 70%) felt their current water bill to be "About right", as shown in Table 14. However, in the triangulation survey sample, despite bills seeming to be lower than in the primary WTP survey sample (see Table 13), a greater proportion (17% versus 9%) felt their bill to be "Far too much".

These findings suggest that we might expect WTP for improvements to be lower in the triangulation survey than in the primary WTP survey due to differences in latent attitudes towards the bill, irrespective of differences in survey design. This is because analysis of the primary WTP survey data found that respondents saying their current bill was "Too much" or "Far too much" were willing to pay significantly less for improvements than other respondents.

Table 14: Bill size perception

	Frequency (%)	
	Triangulation Survey	**Primary WTP Survey**
Too little	1	1
About right	62	70
Slightly too much	21	20
Far too much	17	9

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

5.5 Experience of Water Service Problems

Respondents were asked if they had experienced any of the following problems in the past year or more than a year ago:

- discoloured water
- water supply interruptions
- hosepipe bans
- persistent low water pressure in the home.

Table 15 shows respondent experiences of these service problems.

Experiences of discoloured water, water supply interruptions and persistent low water pressure in the home are fairly similar across the two samples. In respect of hosepipe bans, however, there is a marked difference across samples.

To a degree, the discrepancy in experiences with respect to hosepipe bans is consistent with the fact that the last hosepipe ban in the area lasted from April 2012 to July 2012. However, the proportion claiming never to have experienced a hosepipe ban is 29% in the triangulation survey sample versus 12% in the primary WTP survey sample. This discrepancy suggests either that the triangulation survey sample is particularly itinerant, or more likely, that respondents unaffected by hosepipe bans often answer that they have never experienced one. In either case, we should expect to see a lower willingness to pay for hosepipe ban risk reductions in the triangulation sample than in the primary WTP sample, irrespective of differences in survey design.

Table 15: Respondent experience of service problems

	Frequency having experienced service problem (%)			
	Discoloured Water	Water Supply Interruptions	Hosepipe Bans	Persistent Low Water Pressure
Triangulation Survey				
Within the past year	15	12	43	18
More than a year ago	8	14	26	4
Never	77	74	29	77
Don't know	0	1	2	1
Primary WTP Survey				
Within the past year	15	16	81	13
More than a year ago	14	12	6	2
Never	71	72	12	84
Don't know	0	0	1	1

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

5.6 Priorities for Water Service Improvements

After learning about the different service measures and the current levels of service, but before moving into the first choice exercise, respondents were asked: "*Which of these service failures on the card, if any, would you most like to see improved in the future?*". Respondents could give multiple responses if they chose to, or could say "None" if they would rather not see any improvements.

Table 16 shows that the most common response was "None" for the triangulation survey (29%), which was somewhat higher than the corresponding proportion from the primary WTP survey (23%).

The biggest discrepancies between triangulation survey and primary WTP survey priorities were in respect of hosepipe bans, where fewer respondents in the triangulation survey cited it as a priority than in the primary WTP survey (28% versus 46% respectively), and in respect of persistent low water pressure, where more respondents in the triangulation survey cited it as a priority than in the primary WTP survey (23% versus 12% respectively).

The lesser priority given to hosepipe bans in the triangulation survey is consistent with the fact that more respondents in this survey said they had never experienced a hosepipe ban than in the primary WTP survey, despite there having been one in the SEW region only a year previously. (See 5.5 for details on this finding.) Again, the finding indicates that we should expect to see a lower willingness to pay for hosepipe ban risk reductions in the triangulation sample than in the primary WTP sample, irrespective of differences in survey design.

Likewise, the findings here indicate that we might expect to see greater WTP in relation to low water pressure in the triangulation survey than was found in the primary WTP survey. These simple priorities do not factor in the extent of any improvement, however, nor the cost of that improvement, nor the context in which the improvement is to be applied with respect to the overall package composition and cost. All of these factors are accounted for when applying CBA.

Table 16: Service failures respondents would most like to see improved in the future

	Frequency (%)	
	Triangulation Survey	Primary WTP Survey
None	29	23
Hosepipe bans	28	46
Discoloured water	25	21
Persistent low water pressure	23	12
Water supply interruptions	16	13

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

5.7 Interviewer Feedback

Table 17 shows results from three feedback questions completed by interviewers immediately following completion of each survey: on respondents understanding, effort and concentration. Results are shown for the primary WTP survey as well as the triangulation survey, for comparison.

The findings suggest that respondents understood what they were being asked to do in the triangulation questions somewhat better in the primary WTP survey questions, as indicated by the greater proportion having "Understood completely" (78% versus 67%). Comparing the top two categories together, however, yields similar result (97% versus 92%). Overall, the levels are very good in each case and suggest no cause for concern.

Table 17: Interviewer feedback from triangulation survey and primary WTP survey

		Frequency (%)	
		Triangulation survey	Primary WTP survey
Q26	**In your judgement, did the respondent understand what he/she was being asked to do in the questions?**		
	Understood completely	78%	67%
	Understood a great deal	19%	25%
	Understood a little	3%	7%
	Did not understand very much	0%	2%
	Did not understand at all	0%	0%
Q27	**Which of the following best describes the amount of thought the respondent put into making their choices?**		
	Gave the questions very careful consideration	73%	69%
	Gave the questions careful consideration	21%	23%
	Gave the questions some consideration	5%	7%
	Gave the questions little consideration	1%	1%
	Gave the questions no consideration	0%	0%
Q28	**Which of the following best describes the degree of fatigue shown by the respondent when doing the choice experiments?**		
	Easily maintained concentration	81%	76%
	Maintained concentration with some effort	15%	20%
	Maintained concentration with a good deal of effort	3%	4%
	Lessened concentration in the later stages	1%	1%
	Lost concentration in the later stages	0%	0%

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

5.8 Respondent Feedback

Table 18 shows results from two respondent feedback questions. This shows that the vast majority of respondents in both surveys found the levels of service to be easy to understand. A notable proportion of customers (25%), however, found the service levels unrealistic in the triangulation survey. This is higher than the figure obtained from the primary WTP survey in response to the same question (12%), despite the service levels being the same in both cases and only cost levels differing between surveys.

Table 19 presents responses to a follow-on question, which asked "Which levels did you feel were unrealistic?", (shown only for the triangulation survey). This table shows that the greatest number were concerned about cost; 41 respondents felt that the cost increase for discoloured water was too high whilst an additional 32 respondents considered the cost increases to be too expensive for the increase in service.

The results from this analysis should be treated as indicative. There is no suggestion that any of the responses are invalidated on account of these findings.

Table 18: Respondent feedback

Question		Frequency (%)	
		Triangulation survey	Primary WTP survey
Q13	**Did you find each of the levels of service we described easy to understand?**		
	Yes	96	95
	No	4	5
Q15	**Were any of the service levels so low or so high that they were unrealistic?**		
	No	75	88
	Yes	25	12

Triangulation survey base: all respondents – 451. Primary WTP survey base: all respondents – 1,101.

Table 19: Which levels did you feel were unrealistic?

Response	Frequency
Discoloured water – price increases too high	41
Too expensive for increase in service level	29
Hosepipe bans occur more frequently	13
Other	10
Supply interruptions price increase too high	10
SEW should provide/pay for service improvement	6
Difference in cost too great across option(s)	5
Discoloured water (not specified)	5
Hosepipe bans dependent on weather/climate	4
All of them	4
Low water pressure – inaccurate/more frequent	2
Discoloured water occurs more frequently	1
TOTAL	**130**

Base: those respondents who felt that service levels were unrealistic – 112. Multicode question

6 FINDINGS

6.1 Introduction

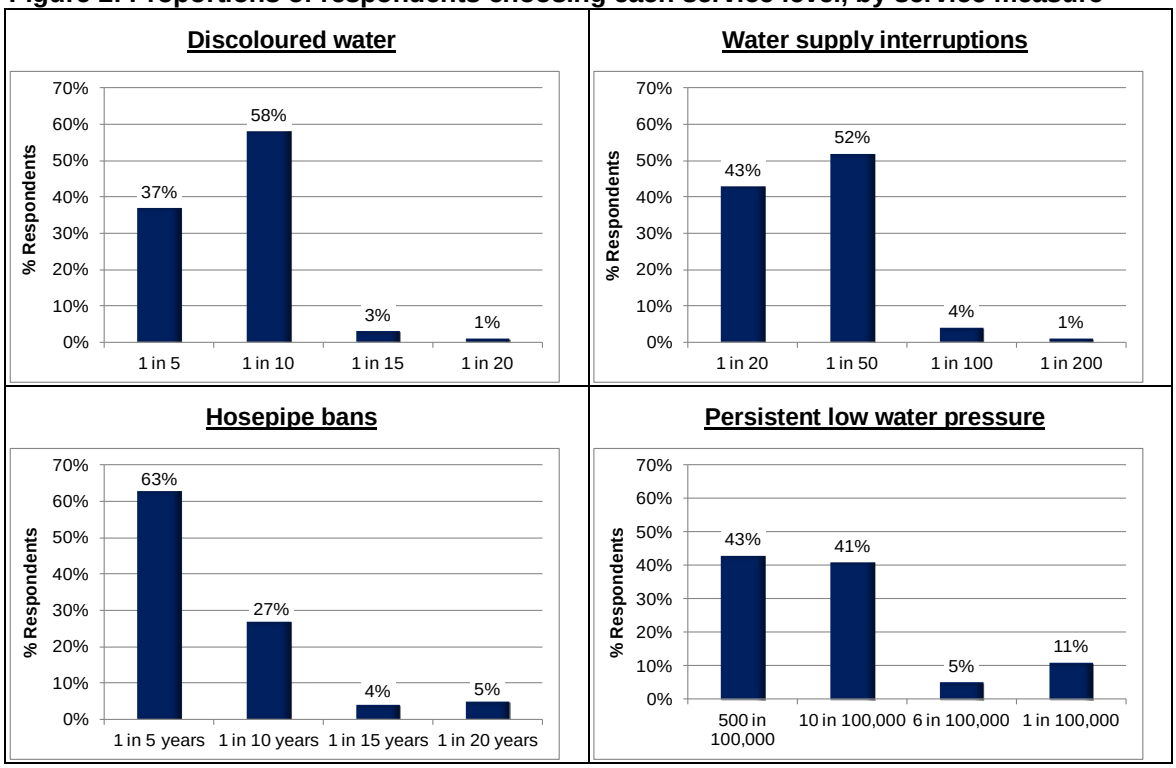
This section presents our main findings on respondents' choices of service levels. We also compare these choices against what would have been predicted given the primary WTP survey results. The final part of this section examines the reasons that triangulation survey respondents gave for their choices.

6.2 Core Results

The following figure shows the core results obtained on the proportions choosing each service level, by service measure. The majority of respondents chose one of the lower two levels, and only a minority choosing the improvement options.

- For discoloured water, the preference of the majority (58%) was for the maintenance of base service. The 95% confidence interval was (53%, 63%).
- Likewise, for water supply interruptions, the preference of the (weak) majority (52%) was for the maintenance of base service. The 95% confidence interval was (47%, 57%).
- In the case of hosepipe bans, the preference of the majority (63%) was for a deterioration to base service. The 95% confidence interval was (59%, 67%).
- For low pressure, the deterioration level was the most commonly chosen, but if respondents who chose either improvement level would have preferred the maintenance of base service to a deterioration in service – an assumption which seems to us to be highly likely - the results indicate that maintaining base service level is the preferred option overall.

Figure 2: Proportions of respondents choosing each service level, by service measure



Base: all respondents – 451

The results can be usefully compared against those that would be expected from this survey given the primary WTP survey results. To draw this comparison requires calculating the "consumer surplus" of each service level option, which is the difference between WTP and cost. We expect that the higher consumer surplus is, on average, the more respondents will choose a particular option, and that the ranking of choice and consumer surplus should be the same, or very similar.

Table 20 below shows the calculation of the predicted rank of each service level for each service measure, and compares this with the ranking observed in the triangulation survey. The "WTP" column shows WTP values for service level changes from Base to -1, +1 and +2, which have been drawn directly from the primary WTP survey report (*2464 SEW Main report_v2.docx*, Table 2). The "Base" row is omitted for the WTP column because the values are in relation to this service level as the default. The negative value on the "-1" service level indicates that this service level is valued negatively, ie a deterioration is worse for customers than the base service level. The other two values for each service measure are positive, indicating that they are preferred to the "Base" service level.

The next column to the right of "WTP" shows the cost, measured in monetary terms, of implementing each service level option in relation to what bills would be if the "Base" option were implemented. Hence the "Base" row is again omitted for this column. The cost values are calibrated to the average annual household bill.

"Consumer surplus" is then calculated as simply "WTP" minus "Cost". This is a standard measure used in economics to measure the welfare of an option, with the higher consumer surplus value indicating a preferred option.

"Predicted rank" is based on the ordering of the consumer surplus. (The "Base" row for each service measure has a consumer surplus of zero.)

Finally, the table shows the "observed rank", which can be seen from the charts in Figure 2. For example, for discoloured water, more respondents chose the Base "1 in 10" service level than any of the other service levels, and so in Table 20 the observed rank is 1 for the "Base" level. The next highest proportion chose Level -1 "1 in 5" for this service measure and so in Table 20 the observed rank is 2 for the "-1" level.

Table 20: Comparison of triangulation survey results with primary WTP study predictions

	Service level	WTP[(1)]	Cost (£)[(2)]	Consumer surplus[(3)]	Predicted rank[(4)]	Observed rank[(5)]
Discoloured water						
-1	1 in 5	-12.56	-3.67	-8.89	2	2
Base	1 in 10				1	1
1	1 in 15	4.19	120.56	-116.37	3	3
2	1 in 20	6.28	181.76	-175.48	4	4
Water supply interruptions						
-1	1 in 20	-12.48	-4.69	-7.79	2	2
Base	1 in 50				1	1
1	1 in 100	4.16	33.86	-29.70	3	3
2	1 in 200	6.24	54.47	-48.23	4	4
Hosepipe bans						
-1	1 in 5 years	-10.83	-2.65	-8.18	4	1
Base	1 in 10 years				3	2
1	1 in 15 years	3.61	1.84	1.77	2	4
2	1 in 20 years	5.41	3.47	1.94	1	3
Persistent low water pressure						
-1	500 in 100,000	-6.9	-10.40	3.50	1	1
Base	10 in 100,000				2	2
1	6 in 100,000	0.06	0.41	-0.35	3	4
2	1 in 100,000	0.13	1.02	-0.89	4	3

*(1) These amounts are drawn directly from the primary WTP survey report (*2464 SEW Main report_v2.docx, *Table 2). (2) These cost amounts represent the average bill changes in excess of the base cost associated with each service level. They have been derived by multiplying the percentage costs from Table 4 by the average SEW household bill, and deducting the base cost increase. (3) Equal to WTP-cost. (4) Based on the order of consumer surplus. Options with the highest consumer surplus are expected to be chosen the most frequently. (5) Order of choosing observed in the triangulation survey.*

The results in Table 20 show a very good degree of consistency between the observed and predicted rankings. The rankings are identical in the case of discoloured water and water supply interruptions, and almost the same in the case of persistent low pressure.

The one notable exception where the rankings differ is in the case of hosepipe bans. For this service measure we find a clear preference in the triangulation survey for a deterioration in service level to "1 in 5", whereas the prediction from the primary WTP survey results is for an improvement to be more popular amongst customers.

In a separate research study conducted by Accent for SEW, which was focused on customers' preferences amongst potential water resources measures such as leakage reduction, reservoir development, etc, we also obtained a WTP value per avoided hosepipe ban, and in this case the value was approximately half that obtained from the primary WTP survey (£50.93 from the water resources survey; £108.25 from the primary WTP survey). The predicted ranking of options based on the water resources survey

value for hosepipe ban frequency options was identical, however, to the ranking based on the primary WTP survey results shown in Table 20. Thus both the primary WTP survey and water resources WTP survey obtained the same rankings, and both indicated customer support for improvements to hosepipe ban frequency. The triangulation survey results show a clear preference, however, for a deterioration in service level to "1 in 5",

The discrepancy here may be explained by the findings in sections 5.5 and 5.6, which showed that there was a discrepancy between the two samples, irrespective of differences in the main choice exercise designs, such that the primary WTP survey sample felt that hosepipe bans were a higher priority than the triangulation survey sample. This difference may be partly due to a difference in the timings of the two surveys, with more time having elapsed since the last hosepipe ban when the triangulation survey was implemented.

A further potential explanation for the discrepancy in results with respect to hosepipe bans is that there is likely to be a bimodal distribution for this service measure, with the majority of customers not caring very much about hosepipe bans, but a proportion of the population being willing to pay a great deal to avoid them. This type of distribution could cause mean WTP to be higher than the cost of the improvements, even though the majority may prefer a deterioration. Choosing the level of service here might require making a difficult decision as to how much weight should be given to those who care a lot about avoiding hosepipe bans, vs the majority who aren't concerned. Alternatively, further research could be undertaken to test customers' attitudes to hosepipe bans afresh.

6.3 Reasons for Choices

Table 21 presents the reasons respondents gave for their choices in the triangulation survey. The table shows that the reasons given are almost all consistent with the idea that respondents gave considered, valid answers, and that they should as such be considered meaningful and reflective of their preferences.

Table 21: Reasons given by respondents for their choices

Reason	Proportion
Not affected by hosepipe bans	21%
Not affected by low water pressure	20%
Better for low water pressure/fewer properties affected	18%
Current chance of water supply interruptions acceptable	18%
Not affected by discoloured water	18%
Not affected by supply interruptions	18%
Hosepipe bans not important/not a priority	17%
Better for discoloured water	16%
Current chance of discoloured water acceptable	15%
Current service levels acceptable	14%
Better for hosepipe bans	13%
Willing to pay more for increased service levels	12%
Current chance of low water pressure acceptable	11%
Discoloured water not important/not a priority	11%
Don't want to pay any more	11%
Better for water supply interruptions	10%
Low water pressure not important/not a priority	9%
Not affected by these issues	9%
Water supply interruptions not important/not a priority	9%
Current chance of hosepipe ban acceptable	8%
Would like decrease in bill	7%
Price increase too high for service improvement	6%
Choice dependent on cost	3%
Improved water management required – storage, reduced leaks etc	3%
Interruptions acceptable if notification given	3%
SEW should invest in service/focus less on profits	3%
Should have hosepipe bans – hosepipes waste water	3%
Best option overall	1%
Other	1%
Paying more will not improve service	1%

Base: all respondents – 451

7 CONCLUSIONS AND RECOMMENDATIONS

The core findings from this triangulation survey are as follows.

- For discoloured water, the preference of the majority (58%) was for the maintenance of base service.
- Likewise, for water supply interruptions, the preference of the majority (52%) was for the maintenance of base service.
- In the case of hosepipe bans, the preference of the majority (63%) is for a deterioration to base service.
- For low pressure, the deterioration level was the most commonly chosen, but if respondents who chose either improvement level would have preferred the maintenance of base service to a deterioration in service, the results indicate that maintaining base service level is the preferred option overall.

These findings are fully consistent with the primary WTP survey results for discoloured water, interruptions and low pressure, in the sense that the preference of the majority in the triangulation survey corresponds to the option that would have been chosen on the basis of a cost-benefit analysis using WTP numbers from the primary WTP survey. By contrast, in the case of hosepipe bans the preference of the majority in the triangulation survey was for a deterioration to base service, while the primary WTP survey results, and the water resources WTP survey results, predicted that improvement to service levels would have been preferred. The discrepancy may be due to a difference in sample composition, survey timing, or due to the bi-modal nature of the WTP distribution for this service measure, with the majority of customers not caring very much about hosepipe bans, but a proportion of the population being willing to pay a great deal to avoid them. Choosing a target level of service for hosepipe bans might require making a judgement about the likely cause of the discrepancy, and responding appropriately.

With regard to validity, respondents in both surveys displayed similarly good levels of effort and concentration, and felt themselves able to understand each of the levels of service easily. They also gave valid reasons for their choices. There is some evidence that respondents showed a greater degree of understanding of what they were being asked to do in the core choice exercises in comparison with the primary WTP survey (section 5.7). Understanding was perfectly adequate for the primary WTP survey however, with 92% of respondents assessed as having understood at least “A great deal”. On this basis, the results from both surveys can be considered meaningful expressions of customers’ preferences, and as such are suitable for use by SEW in PR14 business planning.

APPENDIX A

Questionnaire and Showcards

Interviewer name: _____ **Date:** __ __ __ __ **Time:** __ __ __ __

Introduction to Main Survey

Thank you for agreeing to take part in this survey. As my colleague said previously, we are conducting research for South East Water looking at what is important for customers in the coming years.

The questionnaire will take 15-20 minutes. You do not have to answer questions you do not wish to and you can terminate the interview at any point. First of all, I just need to input a few responses you have already given to my colleague.

Background Questions

Q0 Input exact location

Bracknell
Aldershot
Alton
Wokingham

Faversham
Canterbury
Maidstone
Tonbridge
Eastbourne

Q1. REMOVED

Q1A DO NOT READ OUT Insert SEG CODE from RQ

What are/were his/her/your qualifications/responsibilities? **PROBE**

WRITE IN AND CODE SEG .....

1. A
2. B
3. C1
4. C2
5. DE
6. Not stated

Q1B Which of the following age groups do you fall into? **RECORD AGE IF POSSIBLE** _____

1. 18 to 24
2. 25 to 34
3. 35 to 49
4. 50 to 64
5. 65 to 74
6. 75+
6. Refused

Q1C DO NOT READ OUT Insert if has meter or not from RQ

1. Yes
2. No
3. Don't Know

Q2. DO NOT READ OUT: **Annual** Bill size [INPUT **ANNUAL BILL** FROM RQ]

£_____

Q3. DO NOT READ OUT: SEPTIC TANK OR NOT [INPUT FROM RQ]

Yes, household has a septic tank
No, household does not have a septic tank
Don't know

READ OUT: As you may know, South East Water only supplies drinking water and other companies provide waste water sewerage.

IF BILL RQ = DON'T KNOW: The average annual household water bill in your area is £201 **Skip to Q4**

ELSE: Previously you told me that your annual bill from South East Water is **[INPUT FROM Q2].**

IF Q3=1 Skip to Q4
IF 0=1 That includes both water and waste services, and of that amount, [**VALUE FROM £Q2*0.59**] goes to South East Water for water services.
ELSE IF 0=2 That covers water services, and you pay another company separately for sewerage services **END IF**

END IF

Q4. How do you feel about the amount that you pay for water services? Is it**:**

1. Far too little
2. Too little
3. About right
4. Slightly too much
5. Far too much

Choice Experiment Intro

You are now going to be shown information about service levels that you could experience from South East Water.

Choice Experiment: Water Service Failures

Please now look at Showcard W1 (Water Service Failures). **[INTERVIEWER CHECK THAT RESPONDENT HAS SHOWCARD W1 IN FRONT OF THEM]**

This is about 4 things that can go wrong with your water service.

The first thing on Showcard W1 is "**Discoloured water"**.

- Tap water may occasionally be discoloured although running the tap for several minutes will often cause the problem to go away. When it occurs, this problem usually lasts a couple of hours, but occasionally the problem can last for a few days.
- Although the water is unlikely to be harmful, you may not want to use it in your household.

Please now read the rest of Showcard W1 yourself.

[INTERVIEWER WAIT A FEW MOMENTS, THEN ASK:]
Would you like more time? **[IF YES, ALLOW MORE TIME. IF NO, CONTINUE]**

Q5. **FOR COGNITIVE TESTING ASK:** Was any of the information shown on this card unclear to you, or difficult to understand? What was unclear or difficult to understand?

RECORD VERBATIM

Q6. To your knowledge, have you – or any of your relatives or close friends– experienced, noticed or been aware of any of the following service failures in the past year, or more than a year ago?

		Within past year	More than a year ago	Never	DK
A	Discoloured water				
B	Water supply interruptions				
C	Hosepipe bans				
D	Persistent low water pressure				

Please now look at Showcard W2 (Current chance of water service failures). **[INTERVIEWER CHECK THAT RESPONDENT HAS SHOWCARD W2 IN FRONT OF THEM.]**

This card shows the current chance of experiencing different water service failures.

Some types of failure, such as a hosepipe ban, occur once every few years but when they occur they affect a wide area. Other types of failure, such as a water supply interruption, happen more frequently, but affect only a small number of properties at a time.

The chances shown on this card reflect both the chance of the failure itself, and the number of households affected.

The green triangles are shown to compare the relative chances of each failure. The triangles are drawn to scale with the largest triangle at the top representing a 100% chance per year of a failure happening at your property.

The first row beneath the large green triangle at the top shows that the current chance of a hosepipe ban is 1 in 10 years. This means that in 1 out of every 10 years there is likely to be a hosepipe ban at your property.

Q7. **FOR COGNITIVE TESTING ASK:** Is there anything you find difficult to understand about this Showcard, or about the explanation I have just given? What was difficult to understand? **PROBE.**

Q8. **FOR COGNITIVE TESTING ASK:** Do you find any of the chances shown on this card to be significantly higher or lower than you would have expected? Which ones? Why? **PROBE.**

Q9. Which of these service failures on the card, if any, would you most like to see improved in the future? **IF REQUIRED: PROMPT TO LOOK AT SHOW CARD W2.**

Hosepipe bans
Discoloured water

Water supply interruptions
Persistent low water pressure
None
Don't know/not sure

Q10. **FOR COGNITIVE TESTING ASK:** Why did you say that?

RECORD VERBATIM

Please leave Showcard W2 aside for now.

These next questions will each ask you to choose between options of service levels for the areas you have just read about. In each case, service levels are defined in terms of the chances of your home experiencing each type of failure. An improvement means that there is a lower chance of you experiencing a service failure like this. The triangles are drawn to scale, as shown before, to help you compare the chances of these things happening. You can refer back to the show cards at any time.

The aim of this exercise is to encourage you to consider your preferences and associated change to your bill carefully and decide which service levels are best for you overall.

Take a look at Showcard W3 - This shows an example of the exercise you will do in a minute.

You will see four different service areas, with options for different levels of service. Going from left to right, selecting the first button would mean a decrease in the service you would receive, the second is the current level of service, the next two are increasing levels of service. The bill decrease or increase related to that choice is shown above the button.
Depending on what level of service you choose, the impact on your annual water bill from South East Water from 2014 to 2019 for providing this service level will change. Each of the four impacts is shown on the right hand side. The overall change to your annual water bill from South East Water from 2014-2019 is shown at the bottom.

Red text means a bill increase, green text a bill decrease.

Select which service options you prefer for each of the service areas. Do change your mind if you want to. Perhaps click on a number of options along each row so you can see the difference to the bill impact.

IF 0=1 (IE THAMES) The amounts shown refer to the water part of your bill only, the amount that goes to South East Water and covers the services they provide **END IF**

When making your choices between the different service packages please bear in mind the following:

- that your bill would also changes by the rate of inflation each year;
- that any extra money you decide to pay for better service levels here will not be available for you to spend on other things;
- how your income may change in the next few years; and
- that the new bill level will gradually adjust over five years and stay the same after that. Your South East Water bill will not drop back to the level it was prior to changes in service levels.

IF Q3=1, SKIP TO *CHOICE CARD INTRO
Your sewerage company is also making plans for its services for the next few years, and this may lead to a change in the amount you pay for this.

PROGRAMMING NOTE: IF SOUTHERN CUSTOMER, RANDOMLY ASSIGN TO SEWERAGE VALUE £0 OR £40; IF THAMES CUSTOMER, RANDOMLY ASSIGN TO SEWERAGE VALUE £0, £40, £80 OR £120.

[IF SOUTHERN CUSTOMER (0=2 OR 3), AND VALUE = £0]
We have made an assumption, however, that your sewerage bill from Southern Water will stay the same as it is now, except for increases in line with the general rate of inflation.

[IF SOUTHERN CUSTOMER (0=2 OR 3), AND VALUE = £40]
We have made an assumption that your sewerage bill will need to increase by £8 each year for five years, from 2014 to 2019, a total change of £40 from 2019 onwards, on top of further increases in line with the general rate of inflation, to pay for expected investments by Southern Water.

IF THAMES CUSTOMER (0=1)
One possible feature of Thames Water's plans may be a major new sewer, to be called the Thames Tideway Tunnel. This sewer will capture tens of millions of tonnes of untreated sewage that currently overflows in to the tidal River Thames from London's Victorian sewers after as little as 2mm of rain. You may have received a leaflet in the post from Thames Water about this.

IF THAMES CUSTOMER (0=1) AND VALUE = £0
We have made an assumption, however, that your sewerage bill from Thames Water will stay the same as it is now, except for increases in line with the general rate of inflation. This estimate is made on the basis that the Thames Tideway Tunnel is not built, and that no additional expenditures are planned which would cause sewerage bills to rise.

IF THAMES CUSTOMER (0=1) AND VALUE = £40
We have made an assumption that your sewerage bill from Thames Water will need to increase by £8 each year for five years, from 2014 to 2019, a total change of £40 from 2019 onwards, on top of further increases in line with the general rate of inflation. This estimate is made on the basis that the Thames Tideway Tunnel is **not** built, but that additional expenditures planned for other purposes will cause sewerage bills to rise.

IF THAMES CUSTOMER (0=1) AND VALUE = £80
We have made an assumption that your sewerage bill from Thames Water will need to increase by £16 each year for five years, from 2014 to 2019, a total change of £80 from 2019 onwards, on top of further increases in line with the general rate of inflation. This estimate is made on the basis that the Thames Tideway Tunnel is built, but that no additional expenditures are planned which would cause sewerage bills to rise further.

IF THAMES CUSTOMER (0=1) AND VALUE = £120
We have made an assumption that your sewerage bill from Thames Water will need to increase by £24 each year for five years, from 2014 to 2019, a total change of £120 from 2019 onwards, on top of further increases in line with the general rate of inflation. This estimate is made on the basis that the Thames Tideway Tunnel is built, and that additional expenditures planned for other purposes will cause sewerage bills to rise still further.

Q11. Looking at the screen, please take a moment to review the options and select which service options you prefer? When you are happy with your selections, let me know.

DISPLAY EXERCISE

IF Q1=1 or 2 and Q2=DK then the average bill is used

BUT IF Q1=1 (ie Thames) then it needs to be Bill * 0.59 (ie only the water element)
BUT IF Q1=2 (ie Southern) then it is the full amount of the bill they told us

ROTATE POSITION OF EACH SERVICE AREA

DISPLAY ACTUAL 5 YEAR BILL IMPACT ABOVE RADIAL BUTTON IN RED FOR INCREASE and GREEN FOR DECREASE

SIZE THE EXERCISE TO AVOID/MINIMISE SCROLLING REQUIRED IN THE EXERCISE

Q12. Why did you choose the options you did? (Probe for each option: water supply interruptions; low water pressure; discoloured water; hosepipe bans)

RECORD VERBATIM

Follow-up Questions

I would now like to ask you a few questions about the choices you have just made.

Q13. Did you find each of the levels of service we described easy to understand?

1. Yes **GO TO Q15**
2. No

Q14. Which levels did you feel were not easy to understand?
RECORD VERBATIM

Q15. Were any of the service levels so low or so high that they were unrealistic?

1. Yes
2. No **GO TO Q17**

Q16. Which levels did you feel were unrealistic?
RECORD VERBATIM

Demographics

Q17. Which of these statements best describes your current employment status?

Self employed	1
Employed full-time (30+ hrs)	2
Employed part-time (up to 30 hrs)	3
Student	4
Unemployed – seeking work	5
Unemployed – other	6
Looking after the home/children full-time	7
Retired	8
Unable to work due to sickness or disability	9
Other (please specify)……	10

Q18. At what level did you complete your education? If still studying, which level best describes the highest level of education you have obtained until now? Take a look at show card Z1 to help.

A O levels / CSEs / GCSEs (any grades)
B A levels / AS level / higher school certificate
C NVQ (Level 1 and 2). Foundation / Intermediate / Advanced GNVQ / HNC / HND
D Other qualifications (e.g. City and Guilds, RSA/OCR, BTEC/Edexcel))
E First degree (e.g. BA, BSc)
F Higher degree (e.g. MA, PhD, PGCE, post graduate certificates and diplomas)
G Professional qualifications (teacher, doctor, dentist, architect, engineer, lawyer, etc.)
H No qualifications

Q19. Thinking about all the people in your household, including yourself, please indicate how many people there are in each of these age groups:

Up to 15 years..... 0 ..... 1 ..... 2 ..... 3 ..... 4 ..... 5+
16 to 60 years ..... 0 ..... 1 ..... 2 ..... 3 ..... 4 ..... 5+
61+ ..... 0 ..... 1 ..... 2 ..... 3 ..... 4 ..... 5+

Q20. To help us analyse your responses can you tell me which band on showcard Z2 best describes the **total** annual income for the **whole** household, before tax and other deductions? [PROGRAMMER: Please show the letters of each band on screen]

	Per Week	Per Year
A	Up to £100	Under £5,200
B	£101-£200	£5,201-£10,400
C	£201-£300	£10,401 – £15,600
D	£301-£400	£15,601 - £20,800
E	£401-£500	£20,801,-£26,000
F	£501-£600	£26,001-£31,200
G	£601-£800	£31,201-£41,600
H	£801-£1000	£41,601 - £52,000
I	£1001-£1200	£52,001 - £62,400
J	£1201-£1400	£62,401 - £72,800
K	£1401-£1600	£72,801 - £83,200
L	£1601+	£83,201+
M	Prefer not to say	

Q21. Are you a member of any of the organisations shown on showcard Z3?

Yes
No

Local community or volunteer group
RSPB (Royal Society for Protection of Birds)
Surfers Against Sewage/Marine Protection Society
Canoeing/Boating/ Windsurfing Club or similar
Angling Club
Ramblers Association
Friends of the Earth/Greenpeace
National Trust
Local Wildlife Trust or Environmental Organisation
Other national or international environmental organisation
Other SPECIFY
Not a member of any similar organisations

Q22. **DO NOT READ OUT** Record respondent gender

Male

Female

Q23. As we mentioned, there is a £5 incentive as a thank you for your time in taking part. **INTERVIEWER TO CONFIRM PARTICIPANT HAS RECEIVED THE VOUCHER.**

Yes
No

Q24. That was the last question. Thank you very much for your help in this research. Please can I take a note of your name and telephone number for quality control purposes?

Respondent name: .....

Telephone: home: .....

Q25. We really appreciate the time that you have given us today. Would you be willing to be contacted again for clarification purposes or be invited to take part in other research for South East Water?

Yes, for both clarification and further research
Yes, for clarification only
Yes, for further research only
No

Thank you

I confirm that this interview was conducted under the terms of the MRS code of conduct and is completely confidential

Interviewer's signature: .....

Debriefing Questions – to be completed by the interviewer when interview is over

Q26. In your judgement, did the respondent understand what he/she was being asked to do in the questions?

Understood completely
Understood a great deal
Understood a little
Did not understand very much
Did not understand at all

Q27. Which of the following best describes the amount of thought the respondent put into making their choices?

Gave the questions very careful consideration
Gave the questions careful consideration
Gave the questions some consideration
Gave the questions little consideration
Gave the questions no consideration

Q28. Which of the following best describes the degree of fatigue shown by the respondent when doing the choice experiments?

Easily maintained concentration throughout the survey
Maintained concentration with some effort throughout the survey
Maintained concentration with a good deal of effort throughout the survey
Lessened concentration in the later stages
Lost concentration in the later stages

SHOWCARD W1 WATER SERVICE FAILURES

1. DISCOLOURED WATER

- Tap water may occasionally be discoloured although running the tap for several minutes will often cause the problem to go away. When it occurs, this problem usually lasts a couple of hours, but occasionally the problem can last for a few days.
- Although the water is unlikely to be harmful, you may not want to use it in your household.

clear

discoloured

2. WATER SUPPLY INTERRUPTIONS

- Interruptions to your water supply can happen at any time and at any property. They typically last around 2 and a half hours.
- The number of water supply interruptions can be reduced by increased maintenance which would reduce bursts .

3. HOSEPIPE BANS

- Hosepipe bans are put in place during extended dry spells to help manage demand for water. When they are put in place, they typically last for 5 months beginning in May and ending in September.
- When a ban is in place, hosepipes cannot be used for domestic gardening, cleaning, or recreational uses such as filling home swimming pools. Exemptions apply for commercial users and activities, and vulnerable customers.

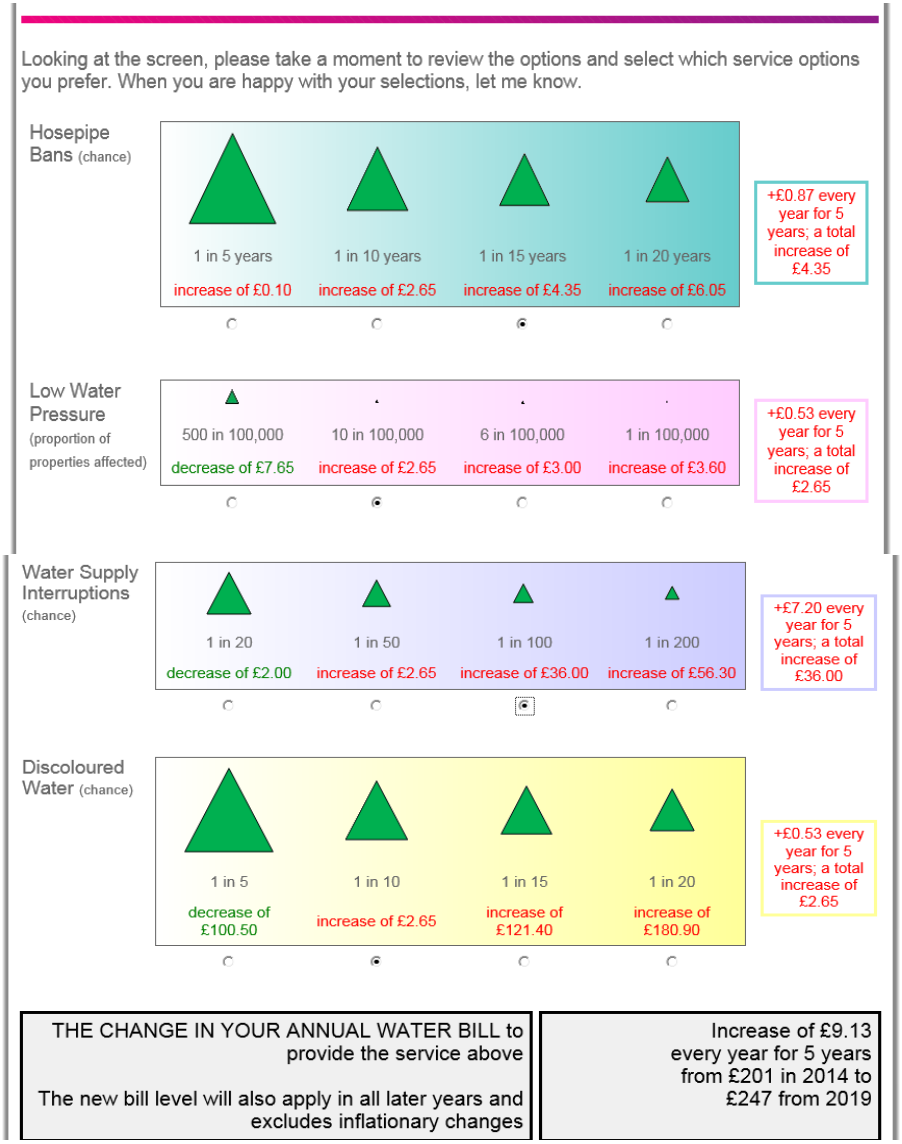
4. PERSISTENT LOW WATER PRESSURE

- Low water pressure means it takes longer to fill the bath or a kettle than you would like, and it may affect how well a combi boiler works. Persistent means the property is affected every day, though the problem may come and go during the day. It can be caused by the age and condition of the water company's pipes rather than problems with internal plumbing which the customer is responsible for.
- Properties at the tops of hills and the end of lines are most at risk . If you don't currently suffer, or have never suffered from persistent low water pressure, then your property is not at risk.
- Customers that do suffer from this problem regularly are entitled to a rebate of £50 off their annual water bill.

SHOWCARD W2 CURRENT CHANCE OF WATER SERVICE FAILURES

SERVICE AREA	CURRENT CHANCE OF OCCURRING	
Hosepipe bans	**1 in 10**	The chance of a hosepipe ban is 1 in 10, meaning that on average there will be a hosepipe ban one year in every 10.
Discoloured water.	**1 in 10**	The chance of you experiencing discoloured water at your property in any year is 1 in 10, meaning that on average one property out of every 10 will experience discoloured water in any one year.
Water supply interruptions.	**1 in 50**	The chance of you experiencing an interruption at your property in any year is 1 in 50, meaning that on average one property out of every 50 will experience an interruption in any one year.
Persistent low water pressure	**10 in 100,000**	The number of customers affected by persistent low water pressure is 10 in 100,000, meaning that ten properties out of every 100,000 experience persistent low water pressure.

SHOWCARD W3 EXAMPLE EXERCISE



SHOWCARD Z1

A	O levels / CSEs / GCSEs (any grades)
B	A levels / AS level / higher school certificate
C	NVQ (Level 1 and 2). Foundation / Intermediate / Advanced GNVQ / HNC / HND
D	Other qualifications (e.g. City and Guilds, RSA/OCR, BTEC/Edexcel))
E	First degree (e.g. BA, BSc)
F	Higher degree (e.g. MA, PhD, PGCE, post graduate certificates and diplomas)
G	Professional qualifications (teacher, doctor, dentist, architect, engineer, lawyer, etc.)
H	No qualifications

SHOWCARD Z2

	Per Week	**Per Year**
A	Up to £100	Under £5,200
B	£101-£200	£5,201-£10,400
C	£201-£300	£10,401 – £15,600
D	£301-£400	£15,601 - £20,800
E	£401-£500	£20,801,-£26,000
F	£501-£600	£26,001-£31,200
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J	£1201-£1400	£62,401 - £72,800
K	£1401-£1600	£72,801 - £83,200
L	£1601+	£83,201+

SHOWCARD Z3

A	Local community or volunteer group
B	RSPB (Royal Society for Protection of Birds)
C	Surfers Against Sewage/Marine Conservation Society
D	Canoeing/Boating/ Windsurfing club or similar
E	Angling club
F	Ramblers Association
G	Friends of the Earth/Greenpeace
H	National Trust
I	Local Wildlife Trust or environmental organisation
J	Other national or international environmental organisation