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# Radiological Habits Survey: Capenhurst, 2008

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Environment Report RL 03/09

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<b>SUMMARY</b>	<b>7</b>
<b>1. INTRODUCTION</b>	<b>11</b>
1.1 Regulatory framework	11
1.2 Radiological protection framework	12
<b>2. THE SURVEY</b>	<b>14</b>
2.1 Site activity	14
2.2 Survey objectives	15
2.3 Survey areas	15
2.4 Conduct of the survey	16
<b>3. METHODS FOR DATA ANALYSIS</b>	<b>20</b>
3.1 Data recording and presentation	20
3.2 Data analysis	22
<b>4. AQUATIC RADIATION PATHWAYS</b>	<b>25</b>
4.1 Aquatic survey area	25
4.2 Commercial fisheries	28
4.3 Angling	28
4.4 Food consumption	28
4.5 Occupancy over aquatic substrates	29
4.6 Handling fishing gear and sediment,	30
4.7 Water based activities	30
<b>5. TERRESTRIAL RADIATION PATHWAYS</b>	<b>32</b>
5.1 Terrestrial survey area	32
5.2 Wholesalers and retailers	34
5.3 The transfer of contamination off-site by wildlife	34
5.4 Food consumption data	35
<b>6. DIRECT RADIATION PATHWAYS</b>	<b>38</b>
6.1 Direct radiation survey area	38
6.2 Residential activities	38
6.3 Leisure activities	39
6.4 Business activities	39
6.5 Educational activities	40
6.6 Occupancy rates	40
6.7 Gamma dose rate measurements	41
<b>7. COMBINED PATHWAYS</b>	<b>43</b>
7.1 Use of the data for total dose assessment	44
7.2 Use of the data for foetal dose assessment	44
<b>8. CONCLUSIONS AND SUGGESTIONS</b>	<b>45</b>
8.1 Survey findings	45
8.2 Comparisons with previous surveys	48
<i>Table A. Comparison between 1997 and 2008 mean consumption rates for the adult high-rate groups for terrestrial food groups at Capenhurst (kg y<sup>-1</sup> or l y<sup>-1</sup>)</i>	48
<i>Table B. Comparison between 2000 and 2008 direct radiation occupancy rates in the 0 – 0.25 km zone at Capenhurst (h y<sup>-1</sup>)</i>	50
<i>Table C. Comparison between 2000 and 2008 direct radiation occupancy rates in the &gt;0.25 – 0.5 km zone at Capenhurst (h y<sup>-1</sup>)</i>	50
<i>Table D. Comparison between 2000 and 2008 direct radiation occupancy rates in the &gt;0.5 – 1.0 km zone at Capenhurst (h y<sup>-1</sup>)</i>	50
<i>Table E. Comparison between 2000 and 2008 gamma dose rates at Capenhurst (µGy h<sup>-1</sup>)</i>	51
8.3 Summary of current environmental monitoring programmes	51
8.4 Suggestions for changes to the monitoring programmes	52

<b>9.</b>	<b>ACKNOWLEDGEMENTS</b>	<b>54</b>
<b>10.</b>	<b>REFERENCES</b>	<b>55</b>

## FIGURES

Figure 1	The Capenhurst aquatic survey area
Figure 2	The Capenhurst terrestrial (outer ring) and direct radiation (inner ring) survey areas

## TABLES

Table 1	Survey coverage
Table 2	Typical food groups used in habits surveys
Table 3	Adults' occupancy rates over aquatic substrates ( $\text{h y}^{-1}$ )
Table 4	Children's occupancy rates over aquatic substrates ( $\text{h y}^{-1}$ )
Table 5	Gamma dose rate measurements over aquatic substrates ( $\mu\text{Gy h}^{-1}$ )
Table 6	Children's occupancy rates on water ( $\text{h y}^{-1}$ )
Table 7	Adults' consumption rates of green vegetables in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 8	Adults' consumption rates of other vegetables in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 9	Adults' consumption rates of root vegetables in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 10	Adults' consumption rates of potato in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 11	Adults' consumption rates of domestic fruit in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 12	Adults' consumption rates of milk in the Capenhurst area ( $\text{l y}^{-1}$ )
Table 13	Adults' consumption rates of cattle meat in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 14	Adults' consumption rates of sheep meat in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 15	Adults' consumption rates of poultry in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 16	Adults' consumption rates of eggs in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 17	Adults' consumption rates of wild/free foods in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 18	Adults' consumption rates of rabbits/hares in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 19	Adults' consumption rates of honey in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 20	Adults' consumption rates of wild fungi in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 21	Adults' consumption rates of freshwater plants in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 22	Children's consumption rates of green vegetables in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 23	Children's consumption rates of other vegetables in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 24	Children's consumption rates of root vegetables in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 25	Children's consumption rates of potato in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 26	Children's consumption rates of domestic fruit in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 27	Children's consumption rates of milk in the Capenhurst area ( $\text{l y}^{-1}$ )
Table 28	Children's consumption rates of cattle meat in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 29	Children's consumption rates of sheep meat in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 30	Children's consumption rates of eggs in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 31	Children's consumption rates of wild/free foods in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 32	Children's consumption rates of rabbits/hares in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 33	Children's consumption rates of honey in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 34	Children's consumption rates of wild fungi in the Capenhurst area ( $\text{kg y}^{-1}$ )
Table 35	Summary of adults' consumption rates in the Capenhurst area ( $\text{kg y}^{-1}$ or $\text{l y}^{-1}$ )
Table 36	Summary of 15-year-old children's consumption rates in the Capenhurst area ( $\text{kg y}^{-1}$ or $\text{l y}^{-1}$ )
Table 37	Summary of 10-year-old children's consumption rates in the Capenhurst area ( $\text{kg y}^{-1}$ or $\text{l y}^{-1}$ )
Table 38	Summary of 5-year-old children's consumption rates in the Capenhurst area ( $\text{kg y}^{-1}$ or $\text{l y}^{-1}$ )

Table 39	Percentage contribution each food type makes to its terrestrial food group for adults
Table 40	Occupancy rates in the Capenhurst direct radiation survey area for adults and children ( $\text{h y}^{-1}$ )
Table 41	Analysis of occupancy rates in the Capenhurst direct radiation survey area
Table 42	Gamma dose rate measurements for the Capenhurst direct radiation survey ( $\mu\text{Gy h}^{-1}$ )
Table 43	Combinations of adult pathways for use in dose assessments in the Capenhurst area

## **ANNEXES**

Annex 1	Adults' consumption rates ( $\text{kg y}^{-1}$ or $\text{l y}^{-1}$ ) and occupancy rates ( $\text{h y}^{-1}$ ) in the Capenhurst area
Annex 2	Children's consumption rates ( $\text{kg y}^{-1}$ or $\text{l y}^{-1}$ ) and occupancy rates ( $\text{h y}^{-1}$ ) in the Capenhurst area
Annex 3	Qualitative and estimated data for use in dose assessment
Annex 4	Ratios for determining consumption and occupancy rates for children
Annex 5	Summary of adults' profiled consumption data ( $\text{kg y}^{-1}$ or $\text{l y}^{-1}$ ) and occupancy data ( $\text{h y}^{-1}$ ) in the Capenhurst area
Annex 6	Female consumption rates ( $\text{kg y}^{-1}$ and $\text{l y}^{-1}$ ) and occupancy rates ( $\text{h y}^{-1}$ ) in the Capenhurst area, for use in foetal dose assessments



## SUMMARY

This report presents the results of a survey conducted in 2008 to determine the habits and consumption patterns of people living, working and pursuing recreational activities in the vicinity of the Capenhurst nuclear site in Cheshire. There were two parts to the Capenhurst site. One part of the site was operated by Urenco UK Ltd and involved the enrichment of uranium. The other part was operated by Sellafield Ltd and involved the dismantling and decommissioning of redundant facilities. The companies held separate site licences and both were authorised to discharge gaseous radioactive waste via stacks to the atmosphere. Sellafield Ltd was also authorised to discharge liquid radioactive waste via an outfall into the Rivacre Brook. Both parts of the site contain sources of direct radiation.

The following potential exposure pathways related to the site were investigated during the survey:

- The consumption of food from the aquatic survey area
- Activities and occupancy over substrates in the aquatic survey area
- The handling of fishing gear and sediment
- Activities and occupancy in and on water
- The consumption of food from the terrestrial survey area
- The production, use and destination of local produce
- The consumption and use of groundwater and surface water in the terrestrial survey area
- The transfer of contamination off-site by wildlife
- Occupancy within 1 km of the licensed site boundary
- New or unusual exposure pathways

Interviews were conducted with members of the public and data collected for 838 individuals are presented and discussed. High rates of consumption and of occupancy over aquatic substrates are identified by using the 'cut off' method and 97.5<sup>th</sup> percentiles. These rates can be used in dose assessments. Additionally, profiles of integrated habits data are presented specifically for use in total dose assessments.

In the aquatic survey area, internal and external exposure pathways were investigated because of the potential effects from liquid discharges. The aquatic survey area extended from the Capenhurst site discharge outfall to where the Rivacre Brook meets the Mersey Estuary. This included the discharge ditch, from the site outfall to its confluence with the Rivacre Brook; and the Rivacre Brook, downstream from this confluence to where it meets the Mersey Estuary. The consumption of aquatic foods was not identified. The drainage ditch and the brook were narrow and shallow and no commercial fishing or angling was identified. One adult was identified dog walking over sand and stones in the Rivacre Brook with an occupancy rate of  $1 \text{ h y}^{-1}$ . Children in the 15-year-old age group and 10-year-old age group were playing in the brook over sand and stones both with a mean occupancy rate of  $400 \text{ h y}^{-1}$ ; and children in the 5-year-old age group were playing over sand and stones with a mean occupancy rate of  $12 \text{ h y}^{-1}$ . Gamma dose rate measurements were taken at locations where activities were identified or considered likely to occur. The handling of fishing gear and sediment was not identified, although it is possible that children handle sediment while playing. No adults were identified undertaking water-based activities. Children were undertaking water-based activities such as playing and paddling in the brook with a maximum rate of  $24 \text{ h y}^{-1}$ . No access for livestock to the drainage ditch or the Rivacre Brook was identified.

The terrestrial survey covered an area up to 5 km from the site centre. In this area, internal pathways were investigated because of the potential effects from gaseous discharges. Twenty-eight farms (including dairy, beef, lamb, chickens, chicken eggs and arable), one smallholding, one market garden, seven allotment sites and several private gardens were identified in the area. Four beekeepers were identified who produced honey. Foods from the terrestrial area were consumed from the following food groups: green vegetables, other vegetables, root vegetables, potato, domestic fruit, milk, cattle meat, sheep meat, poultry, eggs, wild/free foods, rabbits/hares, honey, wild fungi and freshwater plants. The mean consumption rate for the high-rate group exceeded the respective generic 97.5<sup>th</sup> percentile rate only for milk. No human consumption of groundwater was identified. Livestock were identified consuming borehole water at two farms.

The transfer of contamination off-site by wildlife was investigated as radionuclides could enter the food chain or contaminate the environment through this pathway. Representatives from the Urenco and Sellafield parts of the site were asked about wildlife observed on the site. It was reported that numbers of rabbits on site were considered to be high and numbers of pigeons were low. Urenco UK Ltd culled rabbits and these were not analysed. Sellafield Ltd culled pigeons and have analysed them in the past. Members of the public who lived in the terrestrial survey area were consuming pigeons and rabbits that were shot within 5 km of the Capenhurst site.

The direct radiation survey covered an area out to 1 km from the external licensed site boundary. Although there were two separate licensed parts of the site, they were adjoining, and there was a continuous external licensed site boundary. In the direct radiation area, external pathways were investigated because of potential effects from ionising radiation emanating directly from the site and from exposure to gases discharged to the atmosphere from the site. Occupancy rates were obtained for residents, employees, children and staff at a pre-school and a primary school, and students and staff at a college. The highest outdoor occupancy rate was for a farmer in the >0.25 – 0.5 km zone who lived and worked in the area. The highest indoor and total occupancy rates were for a resident and 10 nursing home residents, both in the 0 – 0.25 km zone. Gamma dose measurements were taken both indoors and outdoors at properties where interviews were conducted in the direct radiation survey area. Background readings were taken at distances beyond 5 km of the Capenhurst site centre.

Comparisons were made with the results from the previous terrestrial survey conducted in 1997 and the previous direct radiation survey conducted in 2000. No aquatic surveys have previously been carried out by Cefas so comparisons were not possible.

In the terrestrial survey, there were significant changes in some of the adult mean consumption rates compared to the results of the previous survey of 1997. Significant decreases were identified in the following food groups in 2008: potato, from 97 kg y<sup>-1</sup> to 47 kg y<sup>-1</sup>; cattle meat,

from 69 kg y<sup>-1</sup> to 14 kg y<sup>-1</sup>; pig meat, from 100 kg y<sup>-1</sup> to nil; sheep meat, from 14 kg y<sup>-1</sup> to 2.9 kg y<sup>-1</sup>; rabbits/hares, from 7.5 kg y<sup>-1</sup> to 2.3 kg y<sup>-1</sup>; and wild fungi, from 6.7 kg y<sup>-1</sup> to 1.6 kg y<sup>-1</sup>. Significant increases were identified in the following food groups in 2008: honey, from 0.50 kg y<sup>-1</sup> to 5.4 kg y<sup>-1</sup>; and freshwater plants (watercress), from nil to 0.91 kg y<sup>-1</sup>.

In the direct radiation area, there were no significant changes to the total occupancy rates in 2008 compared with the total occupancy rates in 2000. In the 0 - 0.25 km zone, in both surveys, the maximum rate was 8760 h y<sup>-1</sup>. In the >0.25 - 0.5 km zone, there was a small increase in 2008 from 8600 h y<sup>-1</sup> to 8700 h y<sup>-1</sup>. In the >0.5 – 1.0 km zone, there was a decrease from in 2008 from 8760 h y<sup>-1</sup> to 8300 h y<sup>-1</sup>.

Suggestions are provided for changes to the current terrestrial environmental monitoring programme on the basis of the information collected during the survey. These include replacing a sample of gooseberries with apples, adding annual samples of rabbits and wild mushrooms, and adding one-off samples of foods from other food groups that were consumed but that are not currently monitored.

## **1 INTRODUCTION**

The public may be exposed to radiation as a result of the operations of the Capenhurst site, either from discharges of liquid or gaseous radioactive wastes into the local environment, or from radiation emanating directly from the site. This report provides information about activities carried out by members of the public under everyday circumstances, which may influence their radiation exposure. The study has been funded by the Environment Agency, the Food Standards Agency and the Health and Safety Executive in order to support their respective roles in protecting the public from the effects of radiation.

UK policy on the control of radiation exposure has long been based on the recommendations of the International Commission on Radiological Protection (ICRP), which embody the principles of justification of practices, optimisation of protection and dose limitation. Radiological protection of the public is based on the concept of a 'representative person'. This individual is defined as being representative of the more highly exposed members of the population. It follows that, if the dose to the representative person is acceptable when compared to relevant dose limits and constraints, other members of the public will receive lower doses, and overall protection to the public is provided from the effects of radiation. The term 'representative person' is equivalent to, and replaces, the term 'average member of the critical group' as recommended by ICRP (ICRP 2006).

### **1.1 Regulatory framework**

The Environment Agency regulates discharges of waste under the Radioactive Substances Act 1993 (RSA 93) (UK Parliament, 1993) as amended by: the Environment Act 1995 (EA 95) (UK Parliament, 1995a); by legislation implementing the European Union (EU) Basic Safety Standards (BSS) Directive 96/29/Euratom (CEC, 1996); and by the Energy Act 2004 (EA 04) (UK Parliament, 2004). The Directive takes into account the recommendations of the ICRP, particularly ICRP 60 (ICRP, 1991). Authorisations under RSA 93 are issued by the Environment Agency after wide-ranging consultations that include the Food Standards

Agency. As well as being a Statutory Consultee, the Food Standards Agency has responsibilities for ensuring that any radioactivity present in food does not compromise food safety and that authorised discharges of radioactivity do not result in unacceptable doses to consumers via the food chain. The Food Standards Agency also ensures that public radiation exposure via the food chain is within EU accepted limits. Consultation papers on Statutory Guidance to the Environment Agency on the regulation of radioactive waste discharges were issued by the Department of the Environment, Transport and the Regions (DETR) (now part of the Department for Environment, Food and Rural Affairs (Defra)) in 2000 (DETR, 2000a) and the Welsh Assembly in 2002 (The Welsh Assembly Government, 2002). These documents state that the protection of the most highly exposed individuals in the population is the appropriate radiological protection methodology to use.

Installation and operation of certain prescribed activities can only occur on sites if they are licensed under the Nuclear Installations Act 1965 (as amended) (NIA 65) (UK Parliament, 1965). The Nuclear Installations Inspectorate of the Health and Safety Executive implements this legislation and is also responsible for regulating, under the Ionising Radiations Regulations (IRR 99) (UK Parliament, 1999), the restriction of exposure of the public to direct radiation from operations occurring on these sites.

## **1.2 Radiological protection framework**

Dose standards for the public are embodied in national policy (UK Parliament, 1995b), in guidance from the International Atomic Energy Agency (IAEA), in the Basic Safety Standards for Radiation Protection (IAEA, 1996) and in European Community legislation in the EU BSS Directive 96/29/Euratom. The public dose standards were incorporated into UK law in IRR 99. In order to implement the Directive in England and Wales, the Environment Agency was issued with a direction by the DETR in 2000 (DETR, 2000b). This included the requirements that the Environment Agency ensure, wherever applicable:

- All public radiation exposures from radioactive waste disposal are kept As Low As Reasonably Achievable (ALARA)

- The sum of such exposures does not exceed the dose limit of 1 mSv a year

The principal limit of 1 mSv per year to the public is also the recommendation made by the ICRP.

The Environment Agency shall have regard for maximum doses to individuals for use at the planning stage:

- 0.3 mSv a year from any source
- 0.5 mSv a year from the discharges from any single site

The Environment Agency is also required to ensure that the dose estimates are as realistic as possible for the population as a whole and for reference groups of the population. It is required to take all necessary steps to identify the reference groups of the population taking into account the effective pathways of transmission of radioactive substances. Guidance on the principles underlying prospective radiological assessment (i.e. assessments of potential future doses) has been provided by a group of UK Government Bodies (EA, SEPA, DoENI, NRPB and FSA, 2002). The National Dose Assessment Working Group (NDAWG) has also published principles underlying retrospective radiological assessment (i.e. assessment of doses already received from past discharges) (Allott, 2005) and possible methods of carrying out these assessments using data from combined habits surveys (Camplin *et al.*, 2005). NDAWG agreed that the optimal method for performing retrospective dose assessments would be to use habits profiles (profiling method). This approach is being adopted in Radioactivity in Food and the Environment (RIFE) publications, (e.g. EA, FSA, NIEA and SEPA, 2008), as combined habits surveys are completed.

## **2 THE SURVEY**

### **2.1 Site activity**

The Capenhurst site is located in Cheshire, approximately 8 km north-west of Chester (see Figure 1).

There are two parts to the Capenhurst site. One part of the site was owned and operated by Urenco UK Ltd. The other part of the site was owned by the Nuclear Decommissioning Authority (NDA) and was managed and operated by Sellafield Ltd on behalf of the NDA.

The main operation on the Urenco part of the site was the enrichment of uranium using centrifuge technology. The Sellafield part of the site involved the dismantling and decommissioning of redundant facilities, including a former uranium enrichment facility which ceased operations in 1982.

Urenco UK Ltd and Sellafield Ltd held separate site licences, which allowed the installation and operation of certain activities. Since the two parts of the site were adjoining, there was a continuous external licensed site boundary. Both companies were authorised, under the Radioactive Substances Act 93 (RSA 93), to discharge gaseous radioactive waste via stacks to the atmosphere. The main component of these gaseous discharges was uranium from the Urenco UK Ltd site with small amounts of tritium and other radionuclides present in discharges from the Sellafield Ltd site. Sellafield Ltd was also authorised, under RSA 93, to discharge liquid radioactive waste into the Rivacre Brook via a discharge ditch. Details of the amounts of gaseous and liquid radioactive waste discharged in 2007 have been published (EA, FSA, NIEA and SEPA, 2008). Both parts of the site contained sources of direct radiation.

## **2.2 Survey objectives**

The Centre for Environment, Fisheries & Aquaculture Science (Cefas) undertook the survey in 2008 on behalf of the Environment Agency, the Food Standards Agency, and the Health and Safety Executive. The aim of the survey was to obtain comprehensive information on the habits of the public that might lead to their exposure to gaseous discharges, liquid discharges and direct radiation from the Capenhurst nuclear site.

Specifically, investigations were conducted into the following:

- The consumption of food from the aquatic survey area
- Activities and occupancy over substrates in the aquatic survey area
- The handling of fishing gear and sediment
- Activities and occupancy in and on water
- The consumption of food from the terrestrial survey area
- The production, use and destination of local produce
- The consumption and use of groundwater and surface water in the terrestrial survey area
- The transfer of contamination off-site by wildlife
- Occupancy within 1 km of the licensed site boundary
- New or unusual exposure pathways

## **2.3 Survey areas**

Three survey areas were defined to encompass the main areas potentially affected by the discharges from the site and sources of radioactivity. These were an aquatic area relating to liquid discharges, a terrestrial area relating to the deposition of gaseous discharges, and a direct radiation area relating to ionising radiation emanating directly from the site.

The aquatic survey area, shown in Figure 1, extended from the Capenhurst site discharge outfall to where the Rivacre Brook meets the Mersey Estuary. This included the discharge ditch, from the site outfall to its confluence with the Rivacre Brook; and the Rivacre Brook,

downstream from this confluence to where it meets the Mersey Estuary. This section of the brook was approximately 5 km in length. The source of the brook was in Capenhurst village and the section of the brook from the source to the confluence of the discharge ditch was not included in the aquatic survey area. This was the first aquatic habits survey to be undertaken by Cefas in the Capenhurst area.

The terrestrial survey area, shown in Figure 2, was defined as the circle to a radius of 5 km from the Capenhurst site centre (NGR SJ 365 745) to encompass the main areas of potential deposition from gaseous discharges. Ponds and small lakes potentially containing contamination only from washout of gaseous discharges are discussed in the terrestrial section of this report. The survey area was the same as that used in the last terrestrial habits survey conducted by Cefas in the Capenhurst area, which was in 1997 (Tipple and Winpenny, 2000).

The direct radiation survey area, shown in Figure 2, was defined as the area within 1 km of the external licensed site boundary. Although there were two separate licensed parts of the site, they were adjoining, and there was a continuous external licensed site boundary. It was the same survey area as that used for the 2000 survey (Smedley and Allison, 2000), although the 2000 direct radiation survey area did not have a defined outer limit. Due to the high number of properties within the direct radiation survey area, it was not possible to interview all the occupants. Interviews were conducted at properties that were located in various directions from the site and concentrated at the closest properties in each direction.

## **2.4 Conduct of the survey**

As part of the pre-survey preparation, the Environment Agency, the Food Standards Agency and the Health and Safety Executive were contacted to identify any additional site-specific requirements. Information relating to the activities of people in the aquatic, terrestrial and direct radiation survey areas was obtained from Internet searches, Ordnance Survey maps and from previous habits surveys undertaken at Capenhurst. People with a local knowledge

of the survey area were contacted for local information relevant to the various exposure pathways. These included a representative from Urenco, beekeeping associations, local councils and the Environment Agency. These people provided information on beekeepers, allotment sites, and the Rivacre Brook.

A proposed fieldwork programme was sent to the Environment Agency, the Food Standards Agency, and the Health and Safety Executive before the fieldwork commenced, for their comment.

The fieldwork was carried out from 15<sup>th</sup> – 25<sup>th</sup> September 2008 by a survey team of four people, according to techniques described by Leonard *et al.* (1982). At the start of the fieldwork, a meeting was held between the survey team and two representatives from Urenco UK Ltd. These discussions provided details about current site activities, local information, potential pathways and activities in the area, and the transfer of contamination off-site by wildlife. Details of the Sellafield Ltd site operations were gained by correspondence after the fieldwork.

The following information was obtained from Urenco and Sellafield representatives:

- The main operations at Urenco UK Ltd involved the enrichment of uranium and the main operations at Sellafield Ltd involved the dismantling and decommissioning of redundant facilities.
- Urenco were planning to build a de-conversion plant near the site entrance and the plant was expected to be operational in 2013. The plant's function will be to convert hex gas into uranium oxide powder, which is a more stable form for storage.
- Pigeons and rabbits were observed on site. The numbers of rabbits observed on site were considered to be high and numbers of pigeons on site were considered to be low. Urenco UK Ltd culled rabbits and these are not analysed. Sellafield Ltd culled pigeons and have analysed them in the past but no elevated levels were detected.

Interviews were conducted with individuals who were identified in the pre-survey preparation and others that were identified during the fieldwork. These included, for example, farmers, allotment holders, gardeners, beekeepers and people living and working close to the site. Interviews were used to establish individuals' consumption, occupancy and handling rates relevant to the aquatic, terrestrial and direct radiation areas. Any other information of possible use to the survey was also obtained. Gamma dose rates were taken over substrates in the aquatic area, and indoors and outdoors of most properties in the direct radiation area where interviews were conducted. Background gamma dose rates were taken at a distance beyond 5 km from the Capenhurst site centre.

Four Cefas personnel spent nine days each investigating the survey areas and interviewing individuals who were relevant to the survey. Observations for 838 individuals were recorded.

The survey did not involve the whole population in the vicinity of Capenhurst, but targeted subsets or groups, chosen in order to identify those individuals potentially most exposed to radiation pathways. However, it is possible that even within a subset or group there may be people not interviewed at the time of the survey. Therefore, to aid interpretation, the number of people for whom data were obtained in each group as a percentage of the estimated complete coverage for that group has been calculated. The results are summarised in Table 1. The 'groups' are described and quantified, and the numbers of people for whom data were obtained are given as percentages of the totals. It should be noted that for certain groups, such as children playing in the Rivacre Brook, it can be virtually impossible to calculate the total number who undertake the activity in the survey area. Overall, although the number of potential interviewees in the terrestrial survey area was estimated to be around 66000, information was obtained for a significantly smaller number than this. In particular, it should be noted that the survey did not include the activities of the employees of Urenco UK Ltd, Sellafield Ltd or contractors while they were at work on the site. This is because dose criteria applicable to these people whilst at work and the dose assessment methods are different to those for members of the public. However, any consumption data, and activities and

occupancy rates for these employees while outside work, are included in the results if employees were encountered during the survey.

People were initially questioned about their habits relating to the survey area that their first identified activity occurred in and, where possible, they were also asked about their habits relating to the other two survey areas. For example, people in the terrestrial survey were initially questioned because it was known that they grew or produced significant quantities of terrestrial foodstuffs. However, they were also asked about habits that might lead to exposure to liquid discharges or direct radiation. During interviews with representatives from large organisations such as schools and local businesses, it was not possible to collect data for all pathways (such as consumption of local foods) for each individual. In these cases, the data were limited to those relating to the primary reason for the interview (e.g. in the case of businesses in the 1 km direct radiation area, for occupancy rates). In Annexes 1 and 2, such individuals only have data for the pathways of primary interest.

### 3 METHODS FOR DATA ANALYSIS

#### 3.1 Data recording and presentation

Data collected during the fieldwork were recorded in logbooks. On return to the laboratory, the data were examined and any notably high rates were double-checked, where possible, by way of a follow-up phone call. In rare cases where follow-up phone calls were not possible (e.g. interviewees who wished to remain anonymous), the data were accepted at face value. The raw data were entered into a habits survey database where each individual for whom information was obtained was given a unique identifier (the observation number) to assist in maintaining data quality.

During the interviews, people could not always provide consumption rates in kilograms per year for food or litres per year for milk. In these cases, interviewees were asked to provide the information in a different format. For example, some estimated the size and number of items (e.g. eggs) consumed per year, whereas others gave the number of plants in a crop or the length and number of rows in which the crop was grown that year. The database converted these data into consumption rates ( $\text{kg y}^{-1}$  for food and  $\text{l y}^{-1}$  for milk) using a variety of conversion factors. These factors included produce weights (Hessayon, 1990 and 1997; Good Housekeeping, 1994) and information supplied by the Meat and Livestock Commission.

The consumption and occupancy data in the text of this report are rounded to two significant figures, except for values less than 1.0, which are rounded to one decimal place. This method of presentation reflects the authors' judgement on the accuracy of the methods used. In the tables and annexes, the consumption rate data are usually presented to one decimal place. Occasionally, this rounding process causes the computed values (row totals, mean rates and 97.5<sup>th</sup> percentiles), which are based on un-rounded data, to appear slightly erroneous. Consumption rates less than  $0.05 \text{ kg y}^{-1}$  are presented to two decimal places in order to avoid the value of  $0.0 \text{ kg y}^{-1}$ . External exposure data are quoted as integers.

To ensure the quality of the data collected during the survey fieldwork and presented in the report, the following procedures have been employed:

- Experienced scientific staff were used for the fieldwork and data assessment. They had been trained in the techniques of interviewing and obtaining data for all pathways that were relevant to the survey being conducted. Where individuals offered information during interview that was considered unusual, they were questioned further in order to double-check the validity of their claims.
- Where possible, interviewees were contacted again to confirm the results of the initial interview if, when final consumption or occupancy rates were calculated, observations were found to be high in relation to our experience of other surveys. Local factors were taken into account in these cases.
- The data were manipulated in a purpose built database using a consistent set of conversion factors.
- The data were stored in a purpose built database in order to minimise transcription and other errors.
- Draft reports were reviewed by the Environment Agency, the Food Standards Agency and the Health and Safety Executive, and by a senior Cefas radiological scientist.
- Final reports were only issued when the Environment Agency, the Food Standards Agency and the Health and Safety Executive were entirely satisfied with the format and content of the draft.

For the purpose of data analysis, foodstuffs were aggregated into food groups as identified in Table 2. Specific food types relevant to this survey are presented in the subsequent tables. The data are structured into groups when it is reasonable to assume that consistent concentrations or dose rates would apply within the group. For example, when considering terrestrial food consumption, all types of root vegetables are grouped together in a food group called 'root vegetables'. For external exposure over aquatic substrates, occupancy over a common substrate (e.g. sand and stones) is chosen.

In addition, data are structured into age groups because different dose coefficients (i.e. the factors which convert intakes of radioactivity into dose) can apply to different ages. The age groups and their relevant age ranges are based on the recommendations in ICRP 72 (ICRP, 1996), and are listed below:

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<b>Age group</b>	<b>Age range in group</b>
3-month-old	Under 1-year-old
1-year-old	1-year-old
5-year-old	2-year-old to 6-year-old
10-year-old	7-year-old to 11-year-old
15-year-old	12-year-old to 16-year-old
Adult	17-year-old and over

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For direct radiation pathways, the data are grouped into distance zones from the site perimeter as a coarse indication of the potential dose rate distribution due to this source of exposure. The bands used were: 0 – 0.25 km, >0.25 – 0.5 km and >0.5 – 1 km. These distance bands are also useful when assessing exposure to gaseous discharges.

### **3.2 Data analysis**

The results of the survey are the individuals' consumption, occupancy and handling rates given in Annexes 1 and 2. These can be used in radiological assessments of the effects of the operations at the Capenhurst site.

Where quantifiable data cannot be obtained from interviews but pathways are known to exist, it is sometimes necessary to provide quantitative or estimated habits data for use in dose assessments. In this series of habits survey reports such data is usually presented in Annex 3. It was not necessary to estimate data for the Capenhurst survey, but Annex 3 is included in this report to maintain consistency of presentation through the series of reports.

The habits data have been analysed to indicate high rates of consumption and occupancy, prior to a formal assessment being undertaken. Three approaches have been used:

Firstly, the 'cut-off' method described by Hunt *et al.* (1982) was used. With the 'cut-off' method, the appropriate high rate was calculated by taking the arithmetic mean of the values between the maximum observed rate and one third of the maximum observed rate. In this report, the term 'high-rate group' is used to represent the individuals derived by the 'cut-off' method. The mean of the high-rate group was calculated for each food group, intertidal substrate and handling pathways identified in the survey. In certain cases, using the 'cut-off' method resulted in only one person being in the high-rate group. In these cases, expert judgement was used to decide whether the high-rate group should remain as one individual or whether others should be included. If others were included, the second highest rate was divided by three to give a new cut-off value and all observations above this were included in the high-rate group.

Secondly, 97.5<sup>th</sup> percentile rates were calculated using the Excel mathematical function for calculating percentiles. This method accords with precedents used in risk assessment of the safety of food consumption.

Thirdly, profiles have been produced that give a complete view of the habits of the individual that might lead to exposure to all the discharges and radiation from the site. The profiles are based on values calculated by the 'cut off' method. The profiled data can be used to assess total dose, integrated across all pathways of exposure.

Mean and 97.5<sup>th</sup> percentile rates based on national statistics have been derived by the Ministry of Agriculture, Fisheries and Food (MAFF) (now part of Defra) and the Food Standards Agency (Byrom *et al.*, 1995 and FSA, 2002), and these are referred to as generic rates in this report. The generic rates are used as a baseline for comparison with the observed rates.

For ingestion and aquatic occupancy pathways, mean rates for the high-rate groups for children have been calculated from the survey data. However, because few child observations were identified, the rates should be viewed with caution. For assessments purposes, an alternative approach may be taken which involves scaling the mean rates for the adult high-rate groups by ratios. These ratios are given in Annex 4 and have been calculated using generic 97.5<sup>th</sup> percentile consumption rates.

For use in assessments of foetal dose, consumption and occupancy rates are provided in Annex 6 for women of childbearing age. The age range used in this report for women of childbearing age is 15 – 44 years old, which is based on the classification used by the Office of National Statistics ([www.statistics.gov.uk](http://www.statistics.gov.uk)).

For the direct radiation pathway, mean occupancy rates and 97.5<sup>th</sup> percentile rates have not been calculated. Such an analysis is of limited value without a detailed knowledge of the spatial extent of dose rates due to direct radiation.

## **4 AQUATIC RADIATION PATHWAYS**

### **4.1 Aquatic survey area**

The aquatic survey area extended from the Capenhurst site discharge outfall to where the Rivacre Brook meets the Mersey Estuary (Figure 1). This included the discharge ditch between the site outfall and the confluence of the Rivacre Brook, and the Rivacre Brook from this confluence to point where it meets the Mersey Estuary. The source of the brook was in Capenhurst village and the section of the brook between the source and the confluence of the discharge ditch was not included in the aquatic survey area.

#### **Overview of survey area**

The discharge ditch extended from the site outfall to the confluence with the Rivacre Brook and was approximately 1 km in length. The discharge ditch was narrow and steep sided. It cut through farm fields and was largely inaccessible due to dense vegetation on the banks of the ditch. The section of the brook between the confluence of the discharge ditch and the Mersey Estuary was estimated to be approximately 4.5 km in length. The brook was wider than the discharge ditch and the banks of the brook varied in steepness. The brook flowed through the residential area of Great Sutton, through the Rivacre Valley Country Park, an industrial estate and into the Mersey Estuary. The brook was accessible at several locations in Great Sutton, and for most of the length of the brook through the country park. At some of these places, children were observed playing on the banks and paddling in the brook.

#### **The discharge ditch**

##### *Site outfall to A41*

The Capenhurst site discharge outfall was located on the eastern boundary of the site. The outfall emerged from under a railway track and an access road adjacent to the east side of the site, and emptied into a man-made discharge ditch. The discharge ditch was steep sided

and cut through farm fields to Swan Close in the Sutton Green residential area. The fields adjacent to the ditch were used by dog-walkers from Swan Close and other neighbouring areas. The ditch was mainly obscured by a large hedge which restricted access for most of the length of the ditch, although there were occasional places where the overgrowth was worn and access was possible. The ditch was then diverted into an underground pipe.

The ditch emerged beside a path in Sutton Green and extended for a short distance through a wooded area to the A41 road where it was diverted underground. In this area, the banks were low and the ditch was accessible, but there was no evidence of children playing in the area at the time of the survey.

#### *A41 to Baker Drive*

The ditch emerged to the north-east of the A41 at Ascot Drive. At this location the ditch was stone-lined with steep sides that flowed into an inaccessible area behind private gardens, where it joined the Rivacre Brook.

### **The Rivacre Brook**

#### *Baker Drive to B5132*

At Baker Drive, the Rivacre Brook flowed between a school and a grassy recreational area. This area was well used by walkers, dog walkers and children playing. The banks of the brook were low and there were several areas where the brook could be accessed. Although no one was observed on the banks of the brook, there were patches of worn vegetation and exposed sediment. The brook flowed under a bridge and parallel with the front gardens of properties in Regal Close.

The brook flowed through an underground pipe and it emerged to cross an open grassy area. The banks of the brook here were inaccessible since they were overgrown with nettles and brambles.

#### *B5132 to the Rivacre Valley Country Park*

The brook passed under the B5132 road, flowed through an inaccessible area of woodland and emerged adjacent to a large recreation ground in Great Sutton. The banks of the brook were for the most part inaccessible due to brambles and nettles except for an area of approximately 500 m. In this area there were two rope swings across the brook, and numerous children's toys in the brook, suggesting that children regularly used this area. On two separate visits, children were playing on the banks of the brook at this location. The brook then flowed into a tunnel under a railway embankment.

After emerging from under the railway embankment, the brook flowed through an area of wasteland before reaching the B5463. In this area, there was a fence along the brook, although part of the fence had been knocked down and children were observed playing in the brook.

#### *Rivacre Valley Country Park*

The brook flowed through the Rivacre Valley Country Park, which covered an area of 400 acres and was a Local Nature Reserve. Activities known to take place within the park include dog walking, bird watching and orienteering. Footpaths ran parallel to the brook on both sides, generally within 5 to 20 m of the bank. The height of the banks varied between 0.5 m to 1.5 m in the middle of the park and 2 m to 5 m at the edges of the park. The brook was accessible in numerous places within the park, particularly around the footbridges that cross it. During the survey period, the brook was shallow and there were areas of exposed sand and stones in the bed of the brook. During periods of high flow, some low-lying banks could become flooded. There were several 'beach' areas, one of which was approximately 20 m long and children were observed playing.

#### *M53 to the Mersey Estuary*

From the country park, the brook flowed under the M53 into an industrial area. Access to this industrial estate was prevented by fencing and a locked gate. After passing under another road and a disused railway track, the brook entered an area formerly used as a landfill site.

Public access to this area was also restricted, except for occasional use for off-road activities. After passing under the Manchester Ship Canal, the brook discharged into the Mersey Estuary.

#### **4.2 Commercial fisheries**

No commercial fisheries were identified in the aquatic survey area. The discharge ditch and the brook were narrow and shallow and commercially viable species were not present in the area.

#### **4.3 Angling**

No anglers were observed fishing in the aquatic survey area. Due to the nature of the discharge ditch and the brook, it was considered highly unlikely that serious anglers would fish in this area. It is possible that children may fish occasionally.

#### **4.4 Food consumption**

The consumption of aquatic foods was not identified from the discharge ditch or the brook. It was considered highly unlikely that there were commonly eaten species inhabiting the aquatic area, although it was possible that European eels (*Anguilla anguilla*) might be found in the brook.

## **4.5 Occupancy over aquatic substrates**

Intertidal occupancy rates for adults and children are presented in Table 3 and Table 4, respectively. Activities over sand and stones were identified.

### **Adults' occupancy rates**

Only one adult occupancy rate was recorded. This was for a dog walker spending 1 h y<sup>-1</sup> over sand and stones in the brook.

### **Children's occupancy rates**

#### **15-year-old age group**

Three children had identical occupancy rates of 400 h y<sup>-1</sup> playing over sand and stones in the brook. No other children were identified over sand and stones, so the mean occupancy rate for this group is 400 h y<sup>-1</sup>.

#### **10-year-old age group**

The maximum occupancy rate recorded over sand and stones was 400 h y<sup>-1</sup> for six children who were playing in the brook. No other individuals had occupancy rates within a factor of three of this, so the occupancy rate for this group is 400 h y<sup>-1</sup>.

#### **5-year-old age group**

The maximum occupancy rate recorded over sand and stones was 12 h y<sup>-1</sup>. No other individuals had occupancy rates within a factor of three of this, so the occupancy rate for this group is 12 h y<sup>-1</sup>.

### **1-year-old and 3-month-old age groups**

No children in the 1-year-old or 3-month-old age groups were identified with occupancy over aquatic substrates.

### **Gamma dose rate measurements**

Representative gamma dose rate measurements were taken at 1 m above the substrate over the following substrates: mud, sand and stones; and sand and stones. These measurements are presented in Table 5 and ranged from 0.064 to 0.078  $\mu\text{Gy h}^{-1}$  over mud, sand and stones, and 0.069 to 0.076  $\mu\text{Gy h}^{-1}$  over sand and stones. Natural levels of around 0.07  $\mu\text{Gy h}^{-1}$  over mud, 0.05  $\mu\text{Gy h}^{-1}$  over sand and 0.06  $\mu\text{Gy h}^{-1}$  over other substrates are expected.

### **4.6 Handling of fishing gear and sediment**

No handling of fishing gear or sediment was identified in the survey area. Although the handling of sediment was not observed, it is possible that children may handle sediment while playing.

### **4.7 Water based activities**

Activities taking place in or on the water can lead to ingestion of water and/or inhalation of spray. These pathways are generally considered to be minor in comparison with other exposure pathways such as the ingestion of foods produced in the vicinity of a nuclear site. However, relevant data have been collected for consideration in dose assessments. Mean occupancy rates and 97.5<sup>th</sup> percentile rates have not been calculated.

Activities where there is a high likelihood of the individual's face submerging under water have been classified as activities 'in water', as they are more likely to lead to ingestion of water. All other activities have been classified as activities 'on water'.

Occupancy rates for activities taking place on water potentially affected by liquid discharges from Capenhurst are shown in Table 6.

#### **Activities in the water**

This survey did not identify any activities taking place in water by adults or children.

#### **Activities on the water**

Activities taking place on water for children were paddling and playing in the Rivacre Brook. Five observations were recorded and the highest occupancy rate was  $24 \text{ h y}^{-1}$ . No adults were identified undertaking activities on the water.

## 5 TERRESTRIAL RADIATION PATHWAYS

### 5.1 Terrestrial survey area

The terrestrial survey area covered all land and freshwater ponds within 5 km of the Capenhurst site centre (NGR SJ 365 745), as shown in Figure 2.

The town of Ellesmere Port occupied a large proportion of the north-eastern sector of the terrestrial area. In addition, several villages were located elsewhere within the terrestrial survey area. These included Mollington, Saughall, Capenhurst, Ledsham, Burton, Willaston and Hooton. The remainder of the land within the terrestrial survey area was predominantly agricultural.

Twenty-eight working farms were visited in the area during the survey. Of these:

- Fourteen farms produced dairy cattle
- Four farms produced beef cattle
- One farm produced dairy cattle and beef cattle
- One farm produced dairy cattle and lambs
- One farm produced dairy cattle, beef cattle and arable crops
- One farm produced chicken eggs
- One farm produced chickens
- Two farms produced arable crops
- One farm produced suckler cows (for selling on to dairy farms)
- Two farms produced grass for silage

Beef cattle, lambs and calves from the survey area were sold at livestock markets in Beeston, Mould and Crank (Lancashire). A small amount of beef was also sold by one farm through its farm shop located within the terrestrial survey area. Milk was sold to the national chains Arla, First Milk, Robert Wiseman Dairies, Dairy Farmers of Great Britain and other dairies, one in Southport and the other in Anglesey. Chicken eggs were sold directly from the farm and to

supermarkets. Chickens were sold to a processor for national distribution. Arable crops were sold to national distributors for malting, milling and for animal feed. Grass and silage was sold to neighbouring farms for winter livestock feed.

Farmers and their families were consuming beef, lamb, milk, chickens and chicken eggs produced commercially on their own farms.

One smallholding was identified in the survey area. It produced organic beef cattle, duck eggs and chicken eggs. The beef cattle were sold to an abattoir outside the survey area and the duck and chicken eggs were sold from the doorstep of the smallholding. The smallholder's family and friends consumed beef, duck eggs and chicken eggs produced commercially on the smallholding. They also consumed some of the chickens and kept turkeys for their own consumption.

One market garden was identified in the survey area. It produced watercress and a wide variety of vegetables, which were sold to greengrocers and restaurants across the Wirral and further afield. The watercress was grown in mains supply water.

Seven allotment sites were identified and visited during the survey. They were located near Childer Thornton, Little Sutton, Great Sutton and Whitby. These allotment sites contained a total of approximately 240 plots, which were mostly well used and maintained. Many varieties of fruit and vegetables were grown on the allotments. Private gardens and farms with a range of fruit and vegetables were identified in the area. Chickens were kept for egg production at several private residences.

Four beekeepers were interviewed, with a total of 15 hives in the survey area. One hive was located at Capenhurst, two at Willaston, one at Childer Thornton, five at Puddington and six at Ledsham. The production of honey per hive ranged from 6 kg y<sup>-1</sup> to 24 kg y<sup>-1</sup> and the average production per hive was 11 kg y<sup>-1</sup>. The beekeepers consumed some of the honey and the rest was given to family and friends, sold privately or sold through shops.

The consumption of wild foods included blackberries, elderberries, nettles, sloes and mushrooms. These were collected from the lanes around the villages and from fields and farmland in the survey area. Game was shot within the survey area and consumed, which included pheasant, pigeon, rabbit, goose and duck.

No human consumption of groundwater was identified. Two farms were identified where livestock consumed borehole water. There were numerous freshwater ponds in the survey area, although no one was identified angling on the ponds. One individual kept a small number of carp and reported that they would be consumed when they are large enough.

## **5.2 Wholesalers and retailers**

Retailers and wholesalers were interviewed to find out whether they were selling local produce from within the survey area. They included a greengrocer, a smallholding and farm shops. The following sold produce from within the terrestrial survey area: the smallholding sold chicken eggs and duck eggs; one farm shop sold chicken eggs; and one farm sold chicken eggs and a small amount of beef.

## **5.3 The transfer of contamination off-site by wildlife**

The transfer of contamination off-site by wildlife was investigated as radionuclides could enter the food chain or contaminate the environment through this pathway. Representatives from the Urenco and Sellafield parts of the site were asked about wildlife observed on the site. It was reported that numbers of rabbits on site were considered to be high and numbers of pigeons were low. Urenco UK Ltd culled rabbits and these were not analysed. Sellafield Ltd culled pigeons and have analysed them in the past and no elevated levels were detected. Twenty-four individuals were identified consuming rabbits and four people were consuming pigeons that were shot within 5 km of the Capenhurst site.

## 5.4 Food consumption data

Consumption data for locally produced foodstuffs potentially affected by gaseous discharges are presented in Tables 7 to 21 for adults and Tables 22 to 34 for children. These tables include the mean consumption rates for the high-rate groups together with the observed 97.5<sup>th</sup> percentile rates, calculated as described in Section 3.2. For purposes of comparison, the data are summarised in Table 35 for adults and in Tables 36 to 38 for children (15-year-olds, 10-year-olds and 5-year-olds respectively). No children in the 1-year-old and 3-month-old age groups were noted to be consuming foods produced in the terrestrial survey area.

In order to provide information relevant to monitoring and assessments studies, the consumption rate data collected during the survey were analysed to indicate the percentage that each food type contributed to each food group. The data are summarised in Table 39 and the foods sampled as part of the 2007 Food Standards Agency monitoring programme (EA, FSA, NIEA and SEPA, 2008) are identified by emboldened italics in the table.

### Adult's consumption rates

Consumption of locally produced foods was identified in the following 15 food groups: green vegetables, other vegetables, root vegetables, potato, domestic fruit, milk, cattle meat, sheep meat, poultry, eggs, wild/free foods, rabbits/hares, honey, wild fungi and freshwater plants. No consumers of pig meat, venison, freshwater fish or cereals were identified.

The mean consumption rate for the high-rate group was found to be greater than the generic 97.5<sup>th</sup> percentile consumption rate only in the milk food group. The mean consumption rates for the high-rate groups exceeded the generic mean consumption rates in six food groups. These were for green vegetables, other vegetables, root vegetables, domestic fruit, eggs, and honey. Two observed 97.5<sup>th</sup> percentile consumption rates exceeded the generic 97.5<sup>th</sup> percentile consumption rates. These were for root vegetables and milk.

## **Children's consumption rates**

### **15-year-old age group**

Eleven children in this age group were identified consuming locally produced food. Consumption was identified in the following 11 food groups: green vegetables, other vegetables, root vegetables, potato, domestic fruit, milk, cattle meat, eggs, wild/free foods, rabbits/hares, and wild fungi. No consumption was identified for pig meat, sheep meat, poultry, honey, venison, freshwater fish or cereals. The mean consumption rate for the high-rate group did not exceed the generic 97.5<sup>th</sup> percentile consumption rates for any food groups. The mean consumption rate for the high-rate groups exceeded the generic mean consumption rates in two food groups, which were milk and eggs. One observed 97.5<sup>th</sup> percentile consumption rate was greater than the generic 97.5<sup>th</sup> percentile consumption rate, which was for milk.

### **10-year-old age group**

Nine children in this age group were identified consuming locally produced food. Consumption was identified in the following 12 food groups: green vegetables, other vegetables, root vegetables, potato, domestic fruit, milk, cattle meat, sheep meat, eggs, wild/free foods, rabbits/hares and wild fungi. No consumption was identified for pig meat, poultry, honey, venison, freshwater fish or cereals. The mean consumption rate for the high-rate group exceeded the generic 97.5<sup>th</sup> percentile consumption rate in one food group, which was for milk. The mean consumption rate for the high-rate group exceeded the generic mean consumption rate in one food group, which was for eggs. One observed 97.5<sup>th</sup> percentile consumption rate was greater than the generic 97.5<sup>th</sup> percentile consumption rate, which was for milk.

### **5-year-old age group**

Eight children in this age group were identified consuming locally produced food. Consumption was identified in the following 10 food groups: green vegetables, other vegetables, root vegetables, potato, domestic fruit, milk, cattle meat, sheep meat, wild/free foods and honey. No consumption was identified for pig meat, poultry, eggs, rabbits/hares, wild fungi, venison, freshwater fish or cereals. No generic 97.5<sup>th</sup> percentile or generic mean consumption rates have been determined for this age group so no comparisons with the corresponding observed rates are possible.

### **1-year-old age group**

No children in the 1-year-old age groups were identified consuming foods from the terrestrial survey area.

### **3-month-old age group**

No children in the 3-month-old age groups were identified consuming foods from the terrestrial survey area.

## **6 DIRECT RADIATION PATHWAYS**

### **6.1 Direct radiation survey area**

The direct radiation survey area is shown in Figure 2. It covered all land within 1 km of the Capenhurst external licensed site boundary. Although there were two separate licensed parts of the site, they were adjoining, and there was a continuous external licensed site boundary. The occupancy data collected from the direct radiation survey area is also applicable to direct exposure arising from gaseous releases from the site.

The land around the survey area was predominantly agricultural. A railway line bisected the survey area from north-west to the south-east and passed along the eastern boundary of the site. Beyond the railway line, farmland separated the site from the densely populated Sutton Green housing estate. An electricity sub-station and water works were located within this farmland. To the south of the site was the village of Capenhurst and to the south-east near the 1 km survey area limit there were several residences. To the west of the site was the hamlet of Ledsham and to the north-west of the site were several properties including a small group of industrial units.

### **6.2 Residential activities**

The main residential areas were Capenhurst, Ledsham, and Sutton Green. The village of Capenhurst was located to the south of the site and had approximately 50 residential properties and a residential nursing home. The Capenhurst site owned properties on one road in the village close to the site, and as they became vacant these properties were boarded up. The hamlet of Ledsham was located to the west of the site and had 18 residences. The densely populated housing estate of Sutton Green was located to the east of the site. Interviews were conducted at thirty-seven residences, six of which were farms, and one was a residential nursing home. Of these, twenty residences and the residential nursing

home were within the 0 – 0.25 km zone, eleven were in the >0.25 – 0.5 km zone and six were in the >0.5 – 1 km zone.

### **6.3 Leisure activities**

Few leisure activities were observed around the Capenhurst site. Dog walking, walking and jogging, which were undertaken by local residents, were noted in the area at the time of the survey. There was a footpath from the village of Ledsham that skirted the north perimeter fence for approximately 300 m and cut across farm fields to the Sutton estate. The footpath showed little signs of use at the Ledsham end or around the perimeter fence but was popular with dog walkers at the Sutton end, as were other footpaths that crossed the fields between the site and the Sutton estates.

### **6.4 Business activities**

To the east of the site, within the 0 – 0.25 km zone, was an electricity sub-station, which was manned by six staff. To the south-east of the site, there was one business and a railway station within the 0 – 0.25 km zone and two other businesses in the >0.25 – 0.5 km zone. These businesses employed 19 full-time staff and the railway station was unmanned. The Capenhurst Business Park was located to the south of the site and all of the premises on the business park were in the 0 – 0.25 km zone. There were 15 businesses on the park employing approximately 300 staff in total. The businesses ranged in size from small enterprises with two employees to larger organisations with 120 employees. In the village of Capenhurst, a nursing home was located in the 0 – 0.25 km zone, which employed 25 full-time staff. Four of the staff also lived at the nursing home. To the north-west of the site in the >0.5 – 1 km zone there was a group of five industrial units located in converted farm buildings. A large amount of the land in the survey area was agricultural and six working farms were identified.

The activities of Urenco UK Ltd and Sellafield Ltd staff and contractors while at work were not included in the direct radiation survey.

## **6.5 Educational activities**

One primary school and one pre-school were located in Capenhurst village in the 0 – 0.25 km zone. The primary school had two full-time staff, 15 part-time staff and 81 children ranging in age from 4 to 11 years old. The pre-school had five part-time staff and 30 children ranging in age from 2.5 to 5 years old. The children attended the school for varying numbers of days and hours per week. The West Cheshire College was also located inside the 0 – 0.25 km zone. The college had 45 full-time staff, 15 part-time staff, 180 full-time students and 150 part-time students.

## **6.6 Occupancy rates**

Table 40 presents indoor, outdoor and total occupancy data for adults and children. Observations for 621 individuals are presented. In some cases where large numbers of generic occupancy rates were obtained, for example employees of large organisations, a representative number of observations have been included. An analysis of the data by distance zones and occupancy rates is shown in Table 41.

### **0 – 0.25 km from the licensed site boundary**

Occupancy data were collected for 555 individuals in the 0 – 0.25 km zone. In addition to residents, observations were obtained for individuals at a pre-school, a primary school, a college, businesses, a nursing home and farms. Thirty-four individuals, comprising a resident and nursing home residents had the maximum total occupancy rate of 8760 h y<sup>-1</sup>. The resident and ten of the nursing home residents had the highest indoor occupancy rate of 8760 h y<sup>-1</sup>. A farmer who lived and worked on his farm had the highest outdoor occupancy rate of 3600 h y<sup>-1</sup>.

### **>0.25 – 0.5 km from the licensed site boundary**

Occupancy data are presented for 40 individuals in the >0.25 – 0.5 km zone. These observations were for 28 residents including a farmer that lived and worked in the area, and 12 employees at two small businesses. Two residents had the identical highest total occupancy rates of 8700 h y<sup>-1</sup>. A farmer who lived and worked in the area had the highest outdoor occupancy rate of 3900 h y<sup>-1</sup> and a resident had the highest indoor rate of 8100 h y<sup>-1</sup>.

### **>0.5 – 1.0 km from the licensed site boundary**

Occupancy data are presented for 26 individuals in the >0.5 – 1.0 km zone. These observations were for 17 residents, four farm workers and five visitors. One resident had the highest total and outdoor occupancy rates of 8300 h y<sup>-1</sup> and 2000 h y<sup>-1</sup> respectively. Another resident had the highest indoor occupancy rate of 7900 h y<sup>-1</sup>.

## **6.7 Gamma dose rate measurements**

Table 42 presents the gamma dose rate measurements for the Capenhurst direct radiation survey. Gamma dose rate measurements were taken both indoors and outdoors of most residences where interviews were conducted. Outdoor measurements were taken approximately 5 to 10 metres from the nearest building. Gamma dose rate measurements over rough grass were taken at locations at distances further than 5 km from the site centre to obtain background dose rates. All measurements were taken at a height of 1 metre above the substrate. It should be noted that these measurements have not been adjusted for natural background dose rates.

Thirty-five outdoor measurements taken over grass, ranged from 0.065 to 0.100 µGy h<sup>-1</sup>. Where interviews were conducted at properties that were in close proximity to each other, a single outdoor gamma dose rate measurement was taken and was used for these properties. This applies to four of the outdoor measurements presented in Table 42. The 36

measurements taken inside buildings ranged from 0.070 to 0.134  $\mu\text{Gy h}^{-1}$ . Background readings over rough grass ranged from 0.059 to 0.072  $\mu\text{Gy h}^{-1}$ . Twenty-four of the outdoor measurements within the survey area were above the maximum of these background measurements.

Comprehensive studies of background radiation have been carried out on a national scale by the Radiation Protection Division of the Health Protection Agency (previously the National Radiological Protection Board), the most recent of these being a review conducted in 2005 (Watson *et al*, 2005). The results from this review could be used for comparison with the data collected during the survey.

## 7 COMBINED PATHWAYS

In determining habits data for the purposes of assessing radiological doses to the public, it may be necessary to consider a combination of pathways. Data are provided in Annexes 1 and 2 so that the full effect of combining pathways can be assessed for individual observations, given the concentrations and dose rates for a particular assessment. In some circumstances, it will be possible to make simplifying assumptions and define the consumption and external exposure rates appropriate to a series of potential high-rate groups. Such assumptions will depend on the assessment in question but some initial observations are provided here as a starting point for those undertaking assessments.

The most extensive combinations of pathways for adult dose assessment are shown in Table 43. Each of the 14 combinations shown in Table 43 represents an actual individual (or individuals) from Annex 1 who has positive data (irrespective of the magnitude) for each pathway marked with an asterisk. It should be noted that combination numbers in Table 43 do not correlate directly with observation numbers in Annex 1. Other individuals from Annex 1 have combinations that are not listed in Table 43 because they have fewer pathways and a dose assessment for them would be adequately covered by one of the 14 listed combinations.

Combinations of pathways using mean rates for the high-rate groups may be achieved by considering the data in Annexes 1 and 2. Although these mean rates are not given in the annexes, the rates for individuals in the high-rate groups are emboldened and are therefore apparent.

## **7.1 Use of the data for total dose assessment**

The Environment Agencies and the Food Standards Agency have considered ways of using habits data to calculate total dose retrospectively. The adopted approach is to use the adult consumption and occupancy data collected in each habits survey to create a matrix with a series of habits profiles for each site. The relevant matrix for the Capenhurst adults' profiled habits data is shown in Annex 5. The National Dose Assessment Working Group (NDAWG) has considered this approach to assessing retrospective total doses (Camplin *et al*, 2005) and has agreed that using habits profiles is an appropriate approach. Retrospective total doses around Capenhurst will in future be made using these profiles and reported in the Radioactivity in Food and the Environment Reports (e.g. EA, FSA, NIEA and SEPA, 2008).

## **7.2 Use of the data for foetal dose assessment**

Dose assessment of the foetus was introduced routinely for the first time in the Radioactivity in Food and the Environment Report for 2005 (EA, EHS, FSA and SEPA, 2006), following the publication of recommendations by the Radiation Protection Division of the Health Protection Agency (National Radiological Protection Board, 2005). The adopted approach is to use ratios of the consumption and occupancy data for women of childbearing age in order to calculate the dose to the foetus. Therefore consumption and occupancy data collected during the Capenhurst habits survey for females of childbearing age are presented in Annex 6. The Office of National Statistics classifies women to be of childbearing age if they are between 15 – 44 years old ([www.statistics.gov.uk](http://www.statistics.gov.uk)); this age range has been used in Annex 6. It was not possible to collect ages for all female observations during the habits survey; however, these females with unknown ages have been included in Annex 6 as they are potentially women of childbearing age.

## 8 CONCLUSIONS AND SUGGESTIONS

### 8.1 Survey findings

The survey investigated the three potential sources of public radiation exposure from the Capenhurst site, which were:

- Discharges of liquid radioactive waste into the Rivacre Brook via the discharge ditch
- Discharges of gaseous radioactive waste to the atmosphere
- Emissions of direct radiation

Data were collected for 838 individuals including children playing in the Rivacre Brook, farmers, a market gardener, a smallholder, allotment holders, gardeners, beekeepers and people spending time within 1 km of the licensed site boundary. These people were targeted because their habits and where they live may cause them to be exposed to radioactivity from the site. However, it should be noted that the most exposed people can only be defined with the outcome of a dose assessment. All consumption rates recorded in this report are only for foods grown or produced within the survey areas, as defined in Section 2.3.

#### **Aquatic survey area**

The consumption of aquatic foods was not identified. It was considered highly unlikely that there were commonly eaten species inhabiting the discharge ditch or the Rivacre Brook.

Individuals were identified spending time over aquatic substrates in the Rivacre Brook. Only one adult dog walker was identified during the fieldwork, who spent 1 h  $y^{-1}$  over sand and stones in the Rivacre Brook. The mean occupancy rates for children over sand and stones for the 15-year-old and 10-year-old age groups were both 400 h  $y^{-1}$ , and for the 5-year-old age group was 12 h  $y^{-1}$ .

No adults were identified undertaking activities in or on water in the aquatic survey area. Children were identified paddling and playing on water in the Rivacre Brook. The maximum occupancy rate on water for the 15-year-old age group was 24 h y<sup>-1</sup> and for the 10-year-old age group was 12 h y<sup>-1</sup>.

### **Terrestrial survey area**

The mean consumption rates for the adult high-rate groups for the separate consumption pathways for foods affected by gaseous discharges were:

- 33 kg y<sup>-1</sup> for green vegetables
- 33 kg y<sup>-1</sup> for other vegetables
- 34 kg y<sup>-1</sup> for root vegetables
- 47 kg y<sup>-1</sup> for potato
- 45 kg y<sup>-1</sup> for domestic fruit
- 270 l y<sup>-1</sup> for milk
- 14 kg y<sup>-1</sup> for cattle meat
- 2.9 kg y<sup>-1</sup> for sheep meat
- 9.9 kg y<sup>-1</sup> for poultry
- 15 kg y<sup>-1</sup> for eggs
- 2.3 kg y<sup>-1</sup> for wild/free foods
- 2.3 kg y<sup>-1</sup> for rabbits/hares
- 5.4 kg y<sup>-1</sup> for honey
- 1.6 kg y<sup>-1</sup> for wild fungi
- 0.9 kg y<sup>-1</sup> for freshwater plants

No consumption of pig meat, venison, freshwater fish or cereals was identified. Consumption rates for children in the 15-year-old, 10-year-old and 5-year-old age groups were also recorded. No consumption was identified for the 1-year-old and 3-month-old age groups. Combinations of food groups consumed at mean high rates, together with external pathway

exposures, may be derived from the data for individuals in Annexes 1 and 2. Rates for individuals making up the high-rate groups are presented in bold type.

The human consumption of groundwater was not identified, although livestock were drinking borehole water at two farms. No access for livestock to the Rivacre Brook was identified.

The transfer of contamination off-site by wildlife was investigated as radionuclides could enter the food chain or contaminate the environment through this pathway. Representatives from the Urenco and Sellafield parts of the site were asked about wildlife observed on the site. It was reported that numbers of rabbits on site were considered to be high and numbers of pigeons were low. Urenco UK Ltd culled rabbits and these were not analysed. Sellafield Ltd culled pigeons and have analysed them in the past and no elevated levels were detected. Twenty-four individuals were identified consuming rabbits and four people were consuming pigeons that were shot within 5 km of the Capenhurst site.

### **Direct radiation survey area**

For occupancy by members of the public within 1 km of the Capenhurst licensed site boundary, the highest total occupancy, indoor occupancy and outdoor occupancy rates were:

- For the 0 - 0.25 km zone; 8760 h y<sup>-1</sup> total occupancy, 8760 h y<sup>-1</sup> indoor occupancy and 3600 h y<sup>-1</sup> outdoor occupancy
- For the >0.25 - 0.5 km zone; 8700 h y<sup>-1</sup> total occupancy, 8100 h y<sup>-1</sup> indoor occupancy and 3900 h y<sup>-1</sup> outdoor occupancy
- For the >0.5 - 1.0 km zone; 8300 h y<sup>-1</sup> total occupancy, 7900 h y<sup>-1</sup> indoor occupancy and 2000 h y<sup>-1</sup> outdoor occupancy

In all three zones, the highest total occupancy, indoor occupancy and outdoor occupancy rates were for residents, some of whom, such as farmers also worked in the area.

## 8.2 Comparisons with previous surveys

The results from this 2008 survey can be compared with the results from the last terrestrial survey undertaken by Cefas in 1997 (Tipple and Winpenny, 2000) and the direct radiation survey undertaken by Cefas in 2000 (Smedley and Allison, 2000). All comparisons of consumption rates are for adult data only. The Capenhurst aquatic survey area was investigated for the first time by Cefas in 2008 therefore no comparisons can be made.

### Terrestrial survey

A comparison between the 1997 and 2008 mean consumption rates for the adult high-rate group for terrestrial food groups are shown in Table A below.

Table A. Comparison between 1997 and 2008 mean consumption rates for the adult high-rate groups for terrestrial food groups at Capenhurst ( $\text{kg y}^{-1}$  or  $\text{l y}^{-1}$ )

Food Group	1997	2008
Green vegetables	63.9	33.0
Other vegetables	59.8	32.8
Root vegetables	56.7	33.7
Potato	96.9	46.6
Domestic fruit	88.1	45.0
Milk	257.6	272.4
Cattle meat	69.1	14.3
Pig meat	101.2	*
Sheep meat	14.4	2.9
Poultry	11.4	9.9
Eggs	18.9	15.0
Wild/free foods	2.3	2.3
Rabbits/hares	7.5	2.3
Honey	0.5	5.4
Wild fungi	6.7	1.6
Freshwater plants	*	0.9

\* Not identified during the survey

Consumption rates had decreased in 2008 in 12 food groups: green vegetables, other vegetables, root vegetables, potato, domestic fruit, cattle meat, pig meat (not consumed in 2008), sheep meat, poultry, eggs, rabbits/hares and wild fungi. Consumption rates had increased in 2008 in three food groups: milk, honey and freshwater plants (not consumed in 1997). Consumption of wild/free foods had remained the same. No consumption of venison, freshwater fish or cereals was identified in either survey.

In the 2008 survey, the following noteworthy changes in the availability or production of beef cattle, lambs, pigs and wild fungi led to significant decreases in consumption rates: fewer farmers were sending their beef cattle and lambs to abattoirs to be slaughtered for their own consumption; no pig farms were identified in 2008; and there was a lack of availability of wild fungi which was reported to be as a result of poor weather conditions. There were no obvious reasons for the significant decreases in the consumption rates of foods from the following food groups: green vegetables, other vegetables, root vegetables, potato and domestic fruit. These decreases were not due to a reduction in the number of people consuming terrestrial foods, which increased from 229 individuals in 1997 to 260 individuals in 2008.

### **Direct radiation survey**

The 2000 and 2008 direct radiation survey areas were essentially the same, although the 2000 direct radiation survey area did not have a defined outer limit. The data were not presented in distance zones in the 2000 report, so to facilitate comparison with the 2008 data, the 2000 data have been re-analysed into distance zones. Comparisons between the 2000 and 2008 direct radiation occupancy rates are shown below in tables B, C, and D.

Table B. Comparison between 2000 and 2008 direct radiation occupancy rates in the 0 – 0.25 km zone at Capenhurst ( $h y^{-1}$ )

	<b>2000</b>	<b>2008</b>
Highest total	8760	8760
Highest indoor	8760	8760
Highest outdoor	2850	3640

The highest total and indoor occupancy rates in 2000 and in 2008 were for residents at the same nursing home. The highest outdoor occupancy rate in 2000 was for an employee and in 2008 was for a farmer who also lived in the area.

Table C. Comparison between 2000 and 2008 direct radiation occupancy rates in the >0.25 – 0.5 km zone at Capenhurst ( $h y^{-1}$ )

	<b>2000</b>	<b>2008</b>
Highest total	8625	8696
Highest indoor	8306	8110
Highest outdoor	2956	3902

The highest total and indoor occupancy rates in 2000 were for the same resident. In 2008 the identical highest total occupancy rate was for two residents and the highest indoor occupancy rate was for a different resident. The highest outdoor occupancy rates in 2000 and 2008 were both for the same farmer.

Table D. Comparison between 2000 and 2008 direct radiation occupancy rates in the >0.5 – 1.0 km zone at Capenhurst ( $h y^{-1}$ )

	<b>2000</b>	<b>2008</b>
Highest total	8760	8337
Highest indoor	8760	7856
Highest outdoor	1807	1969

The highest total, indoor and outdoor occupancy rates in 2000 and 2008 were all for residents.

Commercial activities observed during both surveys were the same, namely; businesses, farming and the electricity sub-station. Activities at the primary school and pre-school were the same for both surveys.

Gamma dose rate measurements taken in 2008 can be compared with gamma dose rate measurements taken at the same locations in 2000. These are presented in Table E.

Table E. Comparison between 2000 and 2008 gamma dose rates at Capenhurst ( $\mu\text{Gy h}^{-1}$ )

	Outdoor		Indoor	
	2000	2008	2000	2008
Residence 4	0.097	NM	0.088	0.090
Residence 8	0.090	0.082	0.087	0.105
Residence 11	0.101	0.080	0.093	0.088
Residence 21	<0.072	0.084	0.091	0.107
School 2	<0.072	0.069	0.089	0.090
Business 3	0.109	0.083	NM	NM

These measurements have not been adjusted for natural background dose rates

These residence, business and school numbers correspond with those in Table 42.

NM = Not measured

### 8.3 Summary of current environmental monitoring programmes

The 2007 Capenhurst monitoring programmes operated by the Environment Agency and the Food Standards Agency are presented in the Radioactivity in Food and the Environment (RIFE) report (EA, FSA, NIEA and SEPA, 2008), and included the following samples and measurements. The location names and substrate classifications are taken directly from this publication. Some of the samples and measurements taken for the monitoring programme may be from outside the survey areas used for the 2008 Capenhurst habits survey.

Aquatic monitoring:

- Plaice from Liverpool Bay
- Plaice from Mersey Estuary
- Dab from Liverpool Bay
- Dab from Mersey Estuary
- Shrimps from Wirral
- Mussels from Liverpool Bay
- Mussels from Mersey Estuary
- Cockles from River Dee
- Sediment from Rivacre Brook
- Sediment from Rivacre Brook (1.6 km downstream)
- Sediment from Rivacre Brook (3.1 km downstream)
- Sediment from Rossmore (4.3 km downstream)

- Freshwater from Rivacre Brook
- Freshwater from Rivacre Brook (1.6 km downstream)
- Freshwater from Rivacre Brook (3.1 km downstream)
- Freshwater from Rossmore (4.3 km downstream)
- Freshwater from Dunkirk Lane Pond

Gamma dose rate measurements were taken over the following substrates:

- Concrete at Rivacre Brook Plant outlet
- Grass and mud at Rivacre Brook (1.5 km downstream)
- Grass and mud at Rivacre Brook (3.1 km downstream)
- Grass at Rivacre Brook (3.1 km downstream)
- Mud and pebbles at Rossmore Road West (4.3 km downstream)

Terrestrial monitoring:

- Milk
- Cabbage
- Gooseberries
- Potatoes
- Grass
- Grass/herbage
- Silage
- Soil

#### **8.4 Suggestions for changes to the monitoring programmes**

The following lists are suggestions for changes to the current environmental monitoring programmes. It should be noted that the suggestions are based on the findings of this survey. They are not the outcome of any form of radiological assessment. It is suggested that samples currently monitored, which are not listed below, remain unchanged in the monitoring programme.

Food Standards Agency monitoring:

- The consumption of foods from the 'other vegetables', 'root vegetables' and 'wild/free foods' groups were identified and are not currently monitored. It is suggested that a one-off sample of the most commonly consumed foods from these food groups (runner beans, onions and wild blackberries) could be added to the programme for reassurance purposes.
- A sample of gooseberries in the domestic fruit group could be replaced by a sample of apples since these were eaten in much greater amounts.
- The consumption of meats from the 'cattle meat', 'sheep meat' and 'poultry' food groups were identified and these are not currently monitored. It is suggested that one-off samples of beef, lamb or chicken could be added to the programme for reassurance purposes. If samples of meat are not available, samples of faeces could be taken, as previously monitored at Capenhurst.
- An annual sample of rabbit could be introduced since it was being consumed from the terrestrial survey area and rabbits could be potential carriers for off-site transfer of radioactive materials.
- An annual sample of mushrooms could be introduced since this is the most commonly eaten wild fungus and no sample for this food group is currently taken. Fungi are known to have large concentration factors for radionuclides.

## **9 ACKNOWLEDGEMENTS**

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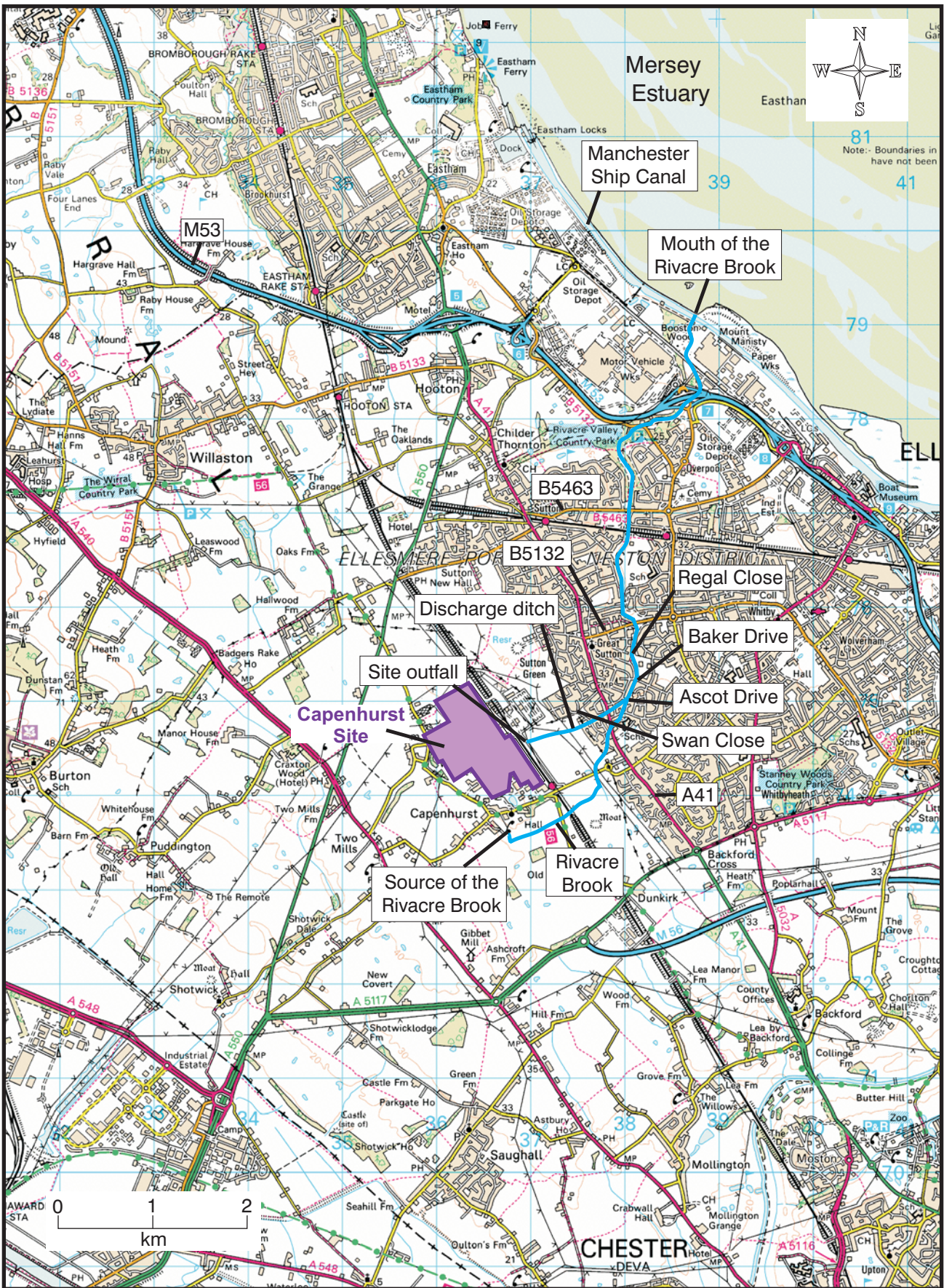


Figure 1. The Capenhurst aquatic survey area

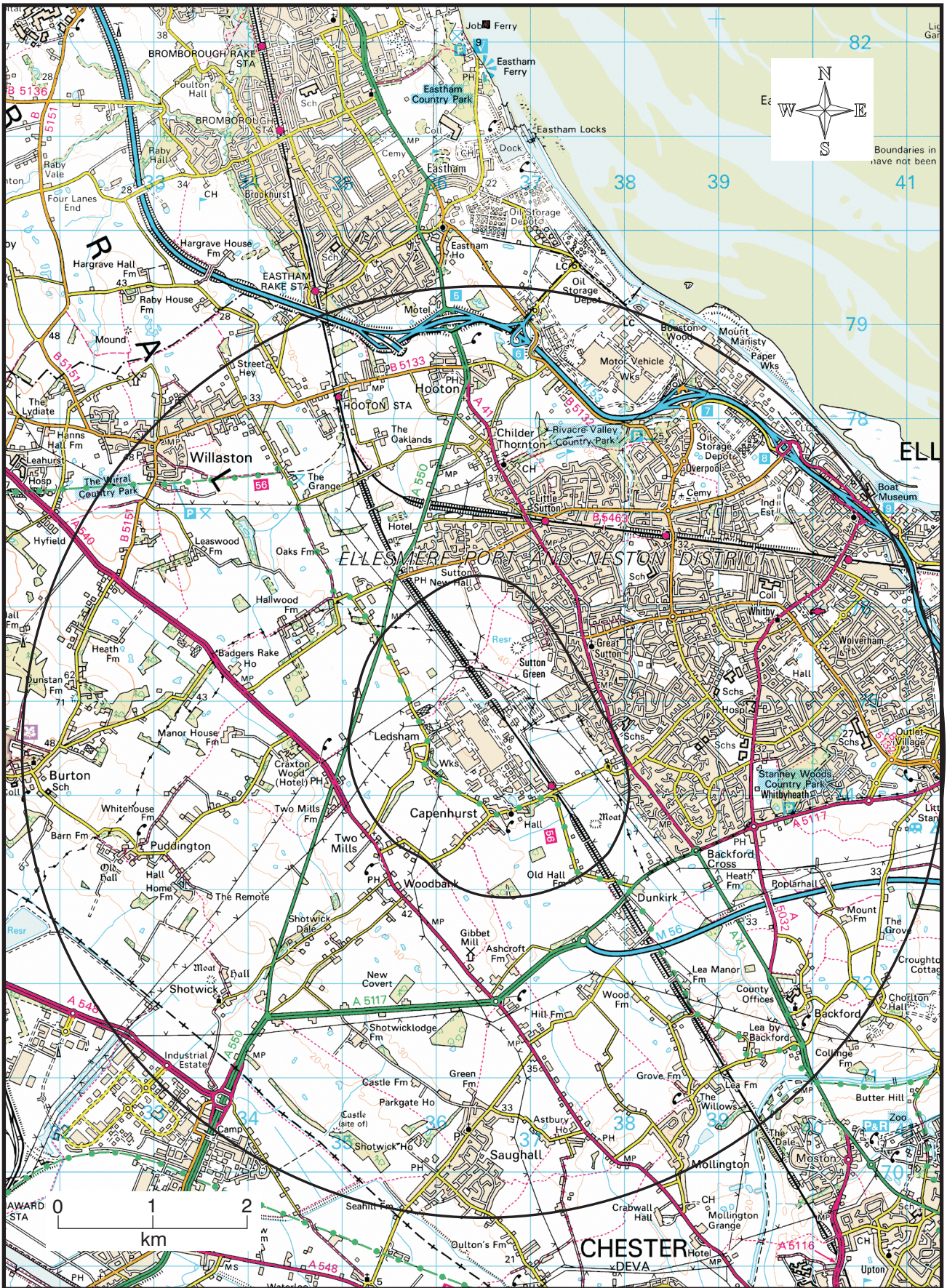


Figure 2. The Capenhurst terrestrial (outer ring) and direct radiation (inner ring) survey areas

**Table 1. Survey coverage**

Group	Criteria	Estimate of complete coverage	Number for whom positive data were obtained	Coverage for positive observations	Notes
<b>SUMMARY OF ALL PATHWAYS</b>					
All potential people in Capenhurst aquatic, terrestrial and direct radiation survey areas	Number of people resident in terrestrial survey area (excluding those resident in the direct radiation survey area) (See (B) terrestrial pathways)	66000 <sup>a</sup>	206 <sup>b</sup>	<1%	The survey targeted individuals who were potentially the most exposed (See Section 2.4), mostly producers of local food (farmers and allotment holders).
	Number of people resident in the direct radiation survey area (See (C) direct radiation pathways)	U	124	U	
Visitors	Visitors to shine residences	U	10	U	
	Number of people employed but not resident in the direct radiation survey area, excluding school staff. (See (C) direct radiation pathways)	350	269 <sup>b</sup>	78%	Excluding employees and contractors of Urenco UK Ltd and Sellafield Ltd and people living in the direct radiation survey area. Some part-time staff not entered on database
	Schools and college staff. (See (C) direct radiation pathways)	87	87	100%	
	Schools and college children. (See (C) direct radiation pathways)	441	128 (441)	100%	
	Number of people affected by liquid discharges (See (A) aquatic pathways)	U	14 <sup>b</sup>	U	
	Total for aquatic, terrestrial and direct radiation survey areas	U	838	U	In the Summary of All Pathways section each interviewee has only been counted once. This is in the section where their predominant activities took place
<b>(A) AQUATIC PATHWAYS</b>					
Rivacre Brook bank side users	People with bank side activities	U	12	U	Three of these children are also in the playing on water group
Rivacre Brook water users	Children playing on the water	U	5	U	
<b>(B) TERRESTRIAL PATHWAYS<sup>c</sup></b>					
Farms	Number of farmers and their family members consuming food from the survey area	U	86	U	32 working farms were visited during the survey
Smallholdings	Number of smallholders and their family members consuming food from the survey area	3	3	100%	One smallholding was visited during the survey

**Table 1. Survey coverage**

Group	Criteria	Estimate of complete coverage	Number for whom positive data were obtained	Coverage for positive observations	Notes
Market Gardens	Number of market gardeners and their family members consuming food from the survey area	4	4	100%	One market garden was visited during the survey
Allotments	Number of allotment holders and their family members consuming food from the survey area	1260	112	9%	Seven allotment sites visited out of 15 in the survey area. 34 plot holders were interviewed providing 112 consumers
Bee keepers	Number of people consuming honey in survey area	U	11	U	Four beekeepers were interviewed out of five identified in the survey area
<b>(C) DIRECT RADIATION PATHWAYS</b>					
Occupancy of area	Number with occupancies > 100 hours (excluding site employees)	U	621	U	
Residences	Number of residents in the survey area	U	124	U	
Visitors	Visitors to shine residences	U	10	U	
Employees (excluding staff at schools)	Number of people employed in the survey area >100 hours	350	272	78%	Observations are for 17 out of 20 organisations located in the area were obtained including the nursing home and electricity sub-station. Four nursing staff have been omitted from this number as they are resident in the survey area and included in that group. Plus 4 farm workers
School, pre-school and college staff	Number of staff at a pre-school, a school and a college in area	87	87	100%	
School, pre-school and college children	Number of children attending pre-school, school and college in the survey area	441	128 (441)	100%	Although times were recorded for all 330 college students only 40 observations were input to the database as repetitive times
<b>BREAKDOWN OF AGE GROUPS</b>					
Adults	17-year-old and over	U	666	U	
15-year-old	12-year-old to 16-year-old	U	39	U	
10-year-old	7-year-old to 11-year-old	U	80	U	
5-year-old	2-year-old to 6-year-old	U	50	U	
1-year-old	1-year-old	U	3	U	
3-months-old	Under 1-year-old	U	0	U	

**Notes**

<sup>a</sup> Data from www.statistics.gov.uk were used to estimate this figure for people resident in the 5 km survey area.

<sup>b</sup> The number of people for whom positive data was obtained, for pathways (A) and (B), may not equal the relevant totals in the summary of all pathways.

This is because some individuals, for example some of the children paddling in the Rivacre Brook were the same children with bank side occupancy rates

U - Unknown

Figures without parenthesis are those used in the analysis and include only representative samples of generic data. Figures in parenthesis include all generic data.

**Table 2. Typical food groups used in habits surveys**

<b>Food group</b>	<b>Foods within the food groups</b>
Green vegetables	Globe artichoke, asparagus, broccoli, Brussels sprout, cabbage, calabrese, cauliflower, chard, courgettes, cucumber, gherkin, herbs, kale, leaf beet, lettuce, marrow, spinach
Other vegetables	Aubergine, broad bean, chilli pepper, french bean, mangetout, pea, pepper, runner bean, sweetcorn, tomato
Root vegetables	Jerusalem artichoke, beetroot, carrot, celeriac, celery, chicory, fennel, garlic, kohlrabi, leek, onion, parsnip, radish, shallot, spring onion, swede, turnip
Potato	Potato
Domestic fruit	Apple, apricot, blackberry, blackcurrant, boysenberry, cherry, damson, fig, gooseberry, grapes, greengages, huckleberry, loganberry, melon, nectarines, peach, pear, plum, pumpkin, raspberry, redcurrants, rhubarb, rowanberry, strawberry, tayberry, whitecurrant
Milk	Cow's milk, cream, yoghurt, goat's milk
Solid milk products	Butter, cheese
Cattle meat <sup>b</sup>	Beef
Pig meat <sup>b</sup>	Pork
Sheep meat <sup>b</sup>	Lamb, mutton
Poultry	Chicken, duck, goose, grouse, guinea fowl, partridge, pheasant, pigeon, snipe, turkey, woodcock
Eggs	Chicken egg, duck egg, goose egg
Wild/free foods	Blackberry, chestnut, crab apple, damson, dandelion root, elderberry, nettle, raspberry, rowanberry, sloe, strawberry,
Honey	Honey
Wild Fungi	Mushrooms, other edible fungi
Rabbits/Hares	Rabbit, hare
Venison <sup>b</sup>	Venison
Fish (sea)	Bass, brill, cod, common ling, dab, Dover sole, flounder, gurnard, haddock, hake, herring, lemon sole, mackerel, monkfish, mullet, plaice, pollack, witch saithe, salmon, sea trout, squid <sup>a</sup> , cuttlefish <sup>a</sup> , rays, turbot, whitebait, whiting
Fish (freshwater)	Brown trout, rainbow trout, perch, pike, salmon (river), eels
Crustaceans	Brown crab, spider crab, crawfish, lobster, <i>Nephrops</i> , squat lobster, prawn, shrimp
Molluscs	Cockles, limpets, mussels, oysters, queens, scallops, razor shell, whelks, winkles

**Notes**

<sup>a</sup> Although squid and cuttlefish are molluscs, radiologically they are more akin to fish

<sup>b</sup> Including offal

**Table 3. Adults' occupancy rates over aquatic substrates (h y<sup>-1</sup>)**

Observation number	Location	Activity	Sand and stones
<b>351</b>	<b>Rivacre Brook</b>	<b>Dog walking</b>	<b>1</b>

**Notes**

Emboldened observations are the high-rate individuals

The occupancy rate over sand and stones based on the only observation is 1 h y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**Table 4. Children's occupancy rates over aquatic substrates (h y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Location	Activity	Sand and stones
<b>339</b>	<b>13</b>	<b>Rivacre Brook</b>	<b>Playing</b>	<b>400</b>
<b>337</b>	<b>12</b>	<b>Rivacre Brook</b>	<b>Playing</b>	<b>400</b>
<b>341</b>	<b>12</b>	<b>Rivacre Brook</b>	<b>Playing</b>	<b>400</b>

**Notes**

Emboldened observations are the high-rate individuals

The mean occupancy rate over sand and stones based on 3 high-rate 15-year-old observations is 400 h y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 3 observations for sand and stones is 400 h y<sup>-1</sup>

**Table 4. Children's occupancy rates over aquatic substrates (h y<sup>-1</sup>)**

**10-year-old age group**

Observation number	Age	Location	Activity	Sand and stones
<b>336</b>	<b>11</b>	<b>Rivacre Brook</b>	<b>Playing</b>	<b>400</b>
<b>338</b>	<b>11</b>	<b>Rivacre Brook</b>	<b>Playing</b>	<b>400</b>
<b>340</b>	<b>10</b>	<b>Rivacre Brook</b>	<b>Playing</b>	<b>400</b>
335	11	Rivacre Brook	Playing	12
332	8	Rivacre Brook	Playing	12
333	8	Rivacre Brook	Playing	12

**Notes**

Emboldened observations are the high-rate individuals

The mean occupancy rate over sand and stones based on 3 high-rate 10-year old observations is 400 h y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 6 observations for sand and stones is 400 h y<sup>-1</sup>

**5-year-old age group**

Observation number	Age	Location	Activity	Sand and stones
<b>334</b>	<b>6</b>	<b>Rivacre Brook</b>	<b>Playing</b>	<b>12</b>
352	6	Rivacre Brook	Dog walking	1

**Notes**

Emboldened observations are the high-rate individuals

The occupancy rate over sand and stones based on the only high-rate observation is 12 h y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 2 observations for sand and stones is 12 h y<sup>-1</sup>

**Table 5. Gamma dose rate measurements over aquatic substrates ( $\mu\text{Gy h}^{-1}$ )**

Location	NGR	Substrate	Mean gamma dose at 1 metre <sup>a</sup>
Rivacre Country Park (north)	SJ 383 780	Sand and stones	0.069
Rivacre Country Park (north)	SJ 384 780	Sand and stones	0.073
Rivacre Country Park (central)	SJ 379 777	Sand and stones	0.076
South of B5463 road	SJ 380 770	Sand and stones	0.073
South of railway line	SJ 380 767	Mud, sand and stones	0.064
Baker Drive area	SJ 381 752	Mud, sand and stones	0.078
Baker Drive area	SJ 381 753	Mud, sand and stones	0.077

**Notes**

<sup>a</sup> These measurements have not been adjusted for natural background dose rates

**Table 6. Children's occupancy rates on water ( $\text{h y}^{-1}$ )**

Observation number	Age	Location	Activity	On water
<b>15-year-old age group</b>				
337	12	Rivacre Brook	Paddling and playing	24
540	14	Rivacre Brook	Paddling and playing	2
<b>10-year-old age group</b>				
336	11	Rivacre Brook	Paddling and playing	12
338	11	Rivacre Brook	Paddling and playing	4
541	11	Rivacre Brook	Paddling and playing	2

**Notes**

There were no activities identified occurring in water at the time of the survey

**Table 7. Adults' consumption rates of green vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Asparagus	Broccoli	Brussels sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Herbs	Kale	Leaf beet	Lettuce	Marrow	Rocket	Spinach	Total
84	-	-	-	36.5	-	18.7	-	-	-	-	-	-	-	-	-	17.0	72.3
85	-	-	-	36.5	-	18.7	-	-	-	-	-	-	-	-	-	17.0	72.3
342	0.5	-	4.5	8.0	-	2.5	1.1	4.4	1.7	0.9	2.1	-	5.9	-	-	1.1	32.7
324	-	8.2	-	6.7	-	4.1	-	-	-	-	-	7.0	-	-	-	3.7	29.8
325	-	8.2	-	6.7	-	4.1	-	-	-	-	-	7.0	-	-	-	3.7	29.8
322	-	5.2	-	-	-	-	-	10.3	-	-	9.0	-	2.1	-	-	2.4	29.0
323	-	5.2	-	-	-	-	-	10.3	-	-	9.0	-	2.1	-	-	2.4	29.0
116	-	-	3.6	4.9	-	-	-	11.8	0.5	-	-	-	-	5.8	-	-	26.6
117	-	-	3.6	4.9	-	-	-	11.8	0.5	-	-	-	-	5.8	-	-	26.6
348	0.8	-	3.6	3.4	-	2.7	-	-	11.8	0.4	3.6	-	-	-	-	-	26.3
349	0.8	-	3.6	3.4	-	2.7	-	-	11.8	0.4	3.6	-	-	-	-	-	26.3
318	-	1.9	0.7	3.8	-	1.9	-	3.7	3.2	0.1	-	-	7.5	-	-	2.8	25.6
319	-	1.9	0.7	3.8	-	1.9	-	3.7	3.2	0.1	-	-	7.5	-	-	2.8	25.6
806	-	2.7	6.1	11.3	-	2.7	-	2.5	-	-	-	-	-	-	-	-	25.3
807	-	2.7	6.1	11.3	-	2.7	-	2.5	-	-	-	-	-	-	-	-	25.3
808	-	2.7	6.1	11.3	-	2.7	-	2.5	-	-	-	-	-	-	-	-	25.3
659	-	4.5	-	11.0	-	-	-	-	-	-	-	-	-	7.9	-	-	23.4
660	-	4.5	-	11.0	-	-	-	-	-	-	-	-	-	7.9	-	-	23.4
345	2.8	0.4	3.0	4.0	-	2.5	-	6.5	-	-	-	-	4.0	-	-	-	23.2
346	2.8	0.4	3.0	4.0	-	2.5	-	6.5	-	-	-	-	4.0	-	-	-	23.2
347	2.8	0.4	3.0	4.0	-	2.5	-	6.5	-	-	-	-	4.0	-	-	-	23.2
86	-	-	3.4	18.3	-	-	-	-	-	-	-	-	-	-	-	-	21.7
87	-	-	3.4	18.3	-	-	-	-	-	-	-	-	-	-	-	-	21.7
33	-	1.5	7.3	6.8	-	5.4	-	-	-	-	-	-	0.6	-	-	-	21.6
34	-	1.5	7.3	6.8	-	5.4	-	-	-	-	-	-	0.6	-	-	-	21.6
354	-	-	-	9.4	-	-	-	10.0	-	-	-	-	2.2	-	-	-	21.5
355	-	-	-	9.4	-	-	-	10.0	-	-	-	-	2.2	-	-	-	21.5
612	-	6.8	4.1	5.5	-	-	-	-	3.6	-	-	-	-	-	-	-	20.1
613	-	6.8	4.1	5.5	-	-	-	-	3.6	-	-	-	-	-	-	-	20.1
17	-	-	4.4	5.8	-	1.8	-	5.9	-	-	-	-	-	-	-	-	17.9
18	-	-	4.4	5.8	-	1.8	-	5.9	-	-	-	-	-	-	-	-	17.9
836	-	4.1	-	8.5	4.1	-	-	-	-	-	-	-	1.2	-	-	-	17.9

**Table 7. Adults' consumption rates of green vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Asparagus	Broccoli	Brussels sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Herbs	Kale	Leaf beet	Lettuce	Marrow	Rocket	Spinach	Total
639	-	-	-	6.1	-	-	-	-	-	-	-	-	6.0	-	-	3.4	15.5
640	-	-	-	6.1	-	-	-	-	-	-	-	-	6.0	-	-	3.4	15.5
643	-	5.6	3.4	4.6	-	0.9	-	0.9	-	-	-	-	-	-	-	-	15.4
641	-	5.6	3.4	4.6	-	0.9	-	0.9	-	-	-	-	-	-	-	-	15.4
642	-	5.6	3.4	4.6	-	0.9	-	0.9	-	-	-	-	-	-	-	-	15.4
320	-	-	4.6	-	-	-	-	4.6	-	-	-	-	4.5	-	-	1.7	15.4
321	-	-	4.6	-	-	-	-	4.6	-	-	-	-	4.5	-	-	1.7	15.4
360	1.8	8.2	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	13.9
361	1.8	8.2	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	13.9
362	1.8	8.2	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	13.9
113	-	-	-	-	-	-	-	6.6	-	-	-	-	0.9	4.3	-	-	11.8
114	-	-	-	-	-	-	-	6.6	-	-	-	-	0.9	4.3	-	-	11.8
115	-	-	-	-	-	-	-	6.6	-	-	-	-	0.9	4.3	-	-	11.8
93	-	-	-	-	-	-	-	5.9	-	-	-	-	-	5.8	-	-	11.6
94	-	-	-	-	-	-	-	5.9	-	-	-	-	-	5.8	-	-	11.6
626	-	2.2	-	-	-	-	-	-	-	-	-	-	6.3	-	-	2.0	10.6
627	-	2.2	-	-	-	-	-	-	-	-	-	-	6.3	-	-	2.0	10.6
628	-	2.2	-	-	-	-	-	-	-	-	-	-	6.3	-	-	2.0	10.6
629	-	2.2	-	-	-	-	-	-	-	-	-	-	6.3	-	-	2.0	10.6
630	-	2.2	-	-	-	-	-	-	-	-	-	-	6.3	-	-	2.0	10.6
631	-	2.2	-	-	-	-	-	-	-	-	-	-	6.3	-	-	2.0	10.6
30	-	-	1.1	1.5	-	-	-	5.1	-	-	-	-	-	-	-	1.7	9.4
31	-	-	1.1	1.5	-	-	-	5.1	-	-	-	-	-	-	-	1.7	9.4
32	-	-	1.1	1.5	-	-	-	5.1	-	-	-	-	-	-	-	1.7	9.4
19	-	-	3.4	4.5	-	1.4	-	-	-	-	-	-	-	-	-	-	9.3
20	-	-	3.4	4.5	-	1.4	-	-	-	-	-	-	-	-	-	-	9.3
21	-	-	3.4	4.5	-	1.4	-	-	-	-	-	-	-	-	-	-	9.3
22	-	-	3.4	4.5	-	1.4	-	-	-	-	-	-	-	-	-	-	9.3
23	-	-	3.4	4.5	-	1.4	-	-	-	-	-	-	-	-	-	-	9.3
24	-	-	3.4	4.5	-	1.4	-	-	-	-	-	-	-	-	-	-	9.3
329	-	-	-	2.7	-	1.4	-	-	2.6	0.5	-	-	1.5	-	-	-	8.6
327	-	-	0.9	2.6	-	2.0	-	-	-	-	-	-	2.1	-	-	-	7.5



**Table 7. Adults' consumption rates of green vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Asparagus	Broccoli	Brussels sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Herbs	Kale	Leaf beet	Lettuce	Marrow	Rocket	Spinach	Total
654	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	1.0	2.8
655	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	1.0	2.8
656	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	1.0	2.8
771	-	-	-	-	-	-	-	2.3	-	-	-	-	-	-	-	-	2.3
772	-	-	-	-	-	-	-	2.3	-	-	-	-	-	-	-	-	2.3
779	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	2.2
780	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	2.2
781	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	2.2
782	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	2.2
783	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	2.2
529	-	-	-	-	-	-	-	-	-	0.7	-	-	1.5	-	-	-	2.2
530	-	-	-	-	-	-	-	-	-	0.7	-	-	1.5	-	-	-	2.2
531	-	-	-	-	-	-	-	-	-	0.7	-	-	1.5	-	-	-	2.2
834	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	2.0
835	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	2.0
132	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-	1.6
133	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-	1.6
356	-	-	-	-	-	-	-	0.5	-	0.3	-	-	0.4	-	-	-	1.2
357	-	-	-	-	-	-	-	0.5	-	0.3	-	-	0.4	-	-	-	1.2
92	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	-	0.9
614	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
615	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
616	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
617	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
618	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
619	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
620	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
621	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
622	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
623	-	-	0.5	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.8
118	-	-	-	-	-	-	-	-	0.1	-	-	-	-	0.5	-	-	0.6
119	-	-	-	-	-	-	-	-	0.1	-	-	-	-	0.5	-	-	0.6

**Table 7. Adults' consumption rates of green vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Asparagus	Broccoli	Brussels sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Herbs	Kale	Leaf beet	Lettuce	Marrow	Rocket	Spinach	Total
61	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	0.4
62	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	0.4
63	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	0.4
108	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	0.4
109	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	0.4
110	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	0.4
48	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
49	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
50	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
51	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
52	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables based on the 16 high-rate adult consumers is 33.0 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 139 observations is 29.8 kg y<sup>-1</sup>

**Table 8. Adults' consumption rates of other vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Aubergine	Broad bean	Chilli pepper	French bean	Mangetout	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
17	-	8.7	-	-	-	6.5	0.8	-	39.2	-	-	7.2	62.4
18	-	8.7	-	-	-	6.5	0.8	-	39.2	-	-	7.2	62.4
88	-	9.7	-	-	-	8.6	-	-	28.9	-	-	-	47.3
89	-	9.7	-	-	-	8.6	-	-	28.9	-	-	-	47.3
84	-	9.1	-	-	-	-	-	-	27.2	-	2.3	-	38.6
85	-	9.1	-	-	-	-	-	-	27.2	-	2.3	-	38.6
116	-	7.3	-	-	-	3.6	-	-	21.8	-	-	5.8	38.4
117	-	7.3	-	-	-	3.6	-	-	21.8	-	-	5.8	38.4
612	-	4.1	-	3.3	-	12.3	-	-	12.4	0.2	1.2	3.8	37.2
613	-	4.1	-	3.3	-	12.3	-	-	12.4	0.2	1.2	3.8	37.2
322	-	6.4	-	7.6	-	-	-	-	19.0	-	-	-	33.0
323	-	6.4	-	7.6	-	-	-	-	19.0	-	-	-	33.0
320	-	9.1	-	8.1	-	9.0	-	-	6.1	-	-	-	32.3
321	-	9.1	-	8.1	-	9.0	-	-	6.1	-	-	-	32.3
806	-	3.6	-	4.3	-	7.2	-	-	10.9	-	-	6.0	32.0
807	-	3.6	-	4.3	-	7.2	-	-	10.9	-	-	6.0	32.0
808	-	3.6	-	4.3	-	7.2	-	-	10.9	-	-	6.0	32.0
527	-	-	-	-	-	-	-	-	10.2	-	-	21.6	31.8
528	-	-	-	-	-	-	-	-	10.2	-	-	21.6	31.8
19	-	6.8	-	-	-	3.4	-	-	20.3	-	-	-	30.5
20	-	6.8	-	-	-	3.4	-	-	20.3	-	-	-	30.5
21	-	6.8	-	-	-	3.4	-	-	20.3	-	-	-	30.5
22	-	6.8	-	-	-	3.4	-	-	20.3	-	-	-	30.5
23	-	6.8	-	-	-	3.4	-	-	20.3	-	-	-	30.5
24	-	6.8	-	-	-	3.4	-	-	20.3	-	-	-	30.5
836	6.1	-	0.9	-	-	-	2.9	-	9.5	-	-	10.8	30.3
348	-	9.0	-	-	-	0.1	-	-	6.7	-	1.2	12.5	29.5
349	-	9.0	-	-	-	0.1	-	-	6.7	-	1.2	12.5	29.5
93	-	7.3	-	-	-	-	-	-	10.9	-	-	8.6	26.8
94	-	7.3	-	-	-	-	-	-	10.9	-	-	8.6	26.8
329	-	4.6	0.1	-	-	0.5	0.1	-	13.6	-	-	7.2	26.0
342	-	9.0	0.2	-	-	-	0.4	1.6	9.0	-	2.3	2.9	25.3
324	-	-	-	11.9	-	-	-	-	-	0.2	2.5	8.1	22.7
325	-	-	-	11.9	-	-	-	-	-	0.2	2.5	8.1	22.7

**Table 8. Adults' consumption rates of other vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Aubergine	Broad bean	Chilli pepper	French bean	Mangetout	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
<b>538</b>	-	-	-	-	<b>2.3</b>	<b>2.3</b>	-	-	<b>12.2</b>	-	-	<b>5.4</b>	<b>22.2</b>
<b>539</b>	-	-	-	-	<b>2.3</b>	<b>2.3</b>	-	-	<b>12.2</b>	-	-	<b>5.4</b>	<b>22.2</b>
<b>826</b>	-	-	-	-	-	<b>7.2</b>	-	-	<b>13.6</b>	-	-	-	<b>20.8</b>
<b>827</b>	-	-	-	-	-	<b>7.2</b>	-	-	<b>13.6</b>	-	-	-	<b>20.8</b>
33	-	-	-	1.8	-	9.0	-	3.1	3.6	-	-	-	17.6
34	-	-	-	1.8	-	9.0	-	3.1	3.6	-	-	-	17.6
113	-	-	-	-	-	-	-	1.2	16.3	-	-	-	17.5
114	-	-	-	-	-	-	-	1.2	16.3	-	-	-	17.5
115	-	-	-	-	-	-	-	1.2	16.3	-	-	-	17.5
785	-	-	-	-	-	-	-	-	6.4	-	-	10.9	17.2
786	-	-	-	-	-	-	-	-	6.4	-	-	10.9	17.2
95	-	-	-	-	-	-	-	-	8.2	-	-	7.2	15.4
96	-	-	-	-	-	-	-	-	8.2	-	-	7.2	15.4
641	-	-	-	2.0	-	3.4	-	-	5.1	-	-	4.8	15.3
642	-	-	-	2.0	-	3.4	-	-	5.1	-	-	4.8	15.3
643	-	-	-	2.0	-	3.4	-	-	5.1	-	-	4.8	15.3
532	-	4.5	-	-	-	-	-	-	4.5	-	-	4.5	13.6
533	-	4.5	-	-	-	-	-	-	4.5	-	-	4.5	13.6
534	-	4.5	-	-	-	-	-	-	4.5	-	-	4.5	13.6
535	-	4.5	-	-	-	-	-	-	4.5	-	-	4.5	13.6
647	-	-	-	-	-	-	-	-	13.6	-	-	-	13.6
648	-	-	-	-	-	-	-	-	13.6	-	-	-	13.6
649	-	-	-	-	-	-	-	-	13.6	-	-	-	13.6
92	-	2.7	-	-	-	-	-	-	8.2	-	-	2.7	13.6
318	-	5.1	0.3	-	-	-	-	-	4.1	-	1.2	2.7	13.4
319	-	5.1	0.3	-	-	-	-	-	4.1	-	1.2	2.7	13.4
345	-	-	-	0.2	-	-	0.4	-	9.0	0.2	0.3	3.2	13.3
346	-	-	-	0.2	-	-	0.4	-	9.0	0.2	0.3	3.2	13.3
347	-	-	-	0.2	-	-	0.4	-	9.0	0.2	0.3	3.2	13.3
326	-	0.7	-	-	-	0.6	-	-	2.0	-	0.7	7.2	11.2
353	-	0.7	-	-	-	0.6	-	-	2.0	-	0.7	7.2	11.2
365	-	-	-	-	-	-	-	-	-	-	-	9.9	9.9
366	-	-	-	-	-	-	-	-	-	-	-	9.9	9.9
77	-	-	-	-	-	-	-	-	9.1	-	-	-	9.1



**Table 8. Adults' consumption rates of other vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Aubergine	Broad bean	Chilli pepper	French bean	Mangetout	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
83	-	-	-	-	-	-	-	-	-	-	-	5.4	5.4
529	-	-	-	-	-	-	-	-	-	-	-	5.4	5.4
530	-	-	-	-	-	-	-	-	-	-	-	5.4	5.4
531	-	-	-	-	-	-	-	-	-	-	-	5.4	5.4
784	-	-	-	-	-	-	-	-	-	-	-	5.4	5.4
316	-	-	-	-	-	-	-	-	5.1	-	-	-	5.1
317	-	-	-	-	-	-	-	-	5.1	-	-	-	5.1
779	-	-	-	3.2	-	0.7	-	-	-	-	-	-	3.9
780	-	-	-	3.2	-	0.7	-	-	-	-	-	-	3.9
781	-	-	-	3.2	-	0.7	-	-	-	-	-	-	3.9
782	-	-	-	3.2	-	0.7	-	-	-	-	-	-	3.9
783	-	-	-	3.2	-	0.7	-	-	-	-	-	-	3.9
819	-	-	-	-	-	-	-	-	-	-	-	3.6	3.6
820	-	-	-	-	-	-	-	-	-	-	-	3.6	3.6
86	-	1.3	-	-	-	-	-	-	-	-	1.7	-	3.0
87	-	1.3	-	-	-	-	-	-	-	-	1.7	-	3.0
632	-	-	-	1.1	-	-	0.2	-	-	-	-	1.3	2.5
633	-	-	-	1.1	-	-	0.2	-	-	-	-	1.3	2.5
634	-	-	-	1.1	-	-	0.2	-	-	-	-	1.3	2.5
635	-	-	-	1.1	-	-	0.2	-	-	-	-	1.3	2.5
636	-	-	-	1.1	-	-	0.2	-	-	-	-	1.3	2.5
108	-	-	-	0.1	-	-	-	-	-	-	-	2.4	2.5
109	-	-	-	0.1	-	-	-	-	-	-	-	2.4	2.5
110	-	-	-	0.1	-	-	-	-	-	-	-	2.4	2.5
602	-	-	-	-	-	1.3	-	0.3	-	-	0.4	-	2.0
603	-	-	-	-	-	1.3	-	0.3	-	-	0.4	-	2.0
604	-	-	-	-	-	1.3	-	0.3	-	-	0.4	-	2.0
605	-	-	-	-	-	1.3	-	0.3	-	-	0.4	-	2.0
67	-	-	-	-	-	-	-	-	-	-	-	1.8	1.8
68	-	-	-	-	-	-	-	-	-	-	-	1.8	1.8
614	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
615	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
616	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
617	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9

**Table 8. Adults' consumption rates of other vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Aubergine	Broad bean	Chilli pepper	French bean	Mangetout	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
618	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
619	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
620	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
621	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
622	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
623	-	-	-	-	-	-	-	-	-	-	0.2	0.7	0.9
48	-	-	-	0.3	-	0.5	-	-	-	-	-	-	0.8
49	-	-	-	0.3	-	0.5	-	-	-	-	-	-	0.8
50	-	-	-	0.3	-	0.5	-	-	-	-	-	-	0.8
51	-	-	-	0.3	-	0.5	-	-	-	-	-	-	0.8
52	-	-	-	0.3	-	0.5	-	-	-	-	-	-	0.8
356	-	-	-	-	-	-	-	-	-	-	-	0.6	0.6
357	-	-	-	-	-	-	-	-	-	-	-	0.6	0.6
644	-	-	-	0.6	-	-	-	-	-	-	-	-	0.6
645	-	-	-	0.6	-	-	-	-	-	-	-	-	0.6
646	-	-	-	0.6	-	-	-	-	-	-	-	-	0.6
637	-	-	-	-	-	-	-	-	0.5	-	-	-	0.5
638	-	-	-	-	-	-	-	-	0.5	-	-	-	0.5
771	-	-	-	-	-	-	-	-	0.5	-	-	-	0.5
772	-	-	-	-	-	-	-	-	0.5	-	-	-	0.5
596	-	-	-	-	-	-	-	-	-	-	0.3	-	0.3
597	-	-	-	-	-	-	-	-	-	-	0.3	-	0.3
598	-	-	-	-	-	-	-	-	-	-	0.3	-	0.3
599	-	-	-	-	-	-	-	-	-	-	0.3	-	0.3
600	-	-	-	-	-	-	-	-	-	-	0.3	-	0.3
601	-	-	-	-	-	-	-	-	-	-	0.3	-	0.3

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables based on the 38 high-rate adult consumers is 32.8 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 162 observations is 38.6 kg y<sup>-1</sup>

**Table 9. Adults' consumption rates of root vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Artichoke	Beetroot	Carrot	Celeriac	Celery	Fennel	Garlic	Kohl rabi	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
612	-	7.5	8.2	-	-	-	1.2	-	8.2	13.1	3.3	1.6	11.6	-	12.4	-	67.1
613	-	7.5	8.2	-	-	-	1.2	-	8.2	13.1	3.3	1.6	11.6	-	12.4	-	67.1
88	-	9.6	9.6	-	-	-	-	-	-	19.2	-	-	-	-	-	5.7	44.2
89	-	9.6	9.6	-	-	-	-	-	-	19.2	-	-	-	-	-	5.7	44.2
348	-	0.6	26.7	-	-	-	-	-	-	14.3	-	-	-	-	-	-	41.6
349	-	0.6	26.7	-	-	-	-	-	-	14.3	-	-	-	-	-	-	41.6
342	-	8.1	-	-	0.2	-	-	-	11.9	11.9	1.2	-	-	0.7	-	1.8	35.7
84	-	-	22.5	-	-	-	-	-	4.5	-	3.6	-	-	-	-	-	30.6
85	-	-	22.5	-	-	-	-	-	4.5	-	3.6	-	-	-	-	-	30.6
80	-	-	7.6	-	-	-	-	-	7.6	8.1	-	-	-	-	-	6.1	29.4
81	-	-	7.6	-	-	-	-	-	7.6	8.1	-	-	-	-	-	6.1	29.4
82	-	-	7.6	-	-	-	-	-	7.6	8.1	-	-	-	-	-	6.1	29.4
83	-	-	7.6	-	-	-	-	-	7.6	8.1	-	-	-	-	-	6.1	29.4
345	2.0	4.2	3.0	-	-	-	-	-	8.9	-	-	-	-	0.7	9.0	-	27.7
346	2.0	4.2	3.0	-	-	-	-	-	8.9	-	-	-	-	0.7	9.0	-	27.7
347	2.0	4.2	3.0	-	-	-	-	-	8.9	-	-	-	-	0.7	9.0	-	27.7
17	-	-	4.3	-	-	-	0.6	-	-	17.3	-	-	4.6	-	-	-	26.8
18	-	-	4.3	-	-	-	0.6	-	-	17.3	-	-	4.6	-	-	-	26.8
529	-	8.1	8.1	-	-	-	1.2	-	-	6.5	-	0.3	-	-	-	-	24.1
530	-	8.1	8.1	-	-	-	1.2	-	-	6.5	-	0.3	-	-	-	-	24.1
531	-	8.1	8.1	-	-	-	1.2	-	-	6.5	-	0.3	-	-	-	-	24.1
86	-	-	-	-	-	-	-	-	-	7.4	-	-	-	-	15.3	-	22.7
87	-	-	-	-	-	-	-	-	-	7.4	-	-	-	-	15.3	-	22.7
19	-	-	1.7	-	2.0	-	-	-	6.7	-	2.7	-	-	-	-	8.1	21.2
20	-	-	1.7	-	2.0	-	-	-	6.7	-	2.7	-	-	-	-	8.1	21.2
21	-	-	1.7	-	2.0	-	-	-	6.7	-	2.7	-	-	-	-	8.1	21.2
22	-	-	1.7	-	2.0	-	-	-	6.7	-	2.7	-	-	-	-	8.1	21.2
23	-	-	1.7	-	2.0	-	-	-	6.7	-	2.7	-	-	-	-	8.1	21.2
24	-	-	1.7	-	2.0	-	-	-	6.7	-	2.7	-	-	-	-	8.1	21.2
641	-	3.1	1.7	-	-	-	-	-	3.4	9.5	1.4	-	-	-	-	-	18.9
642	-	3.1	1.7	-	-	-	-	-	3.4	9.5	1.4	-	-	-	-	-	18.9
643	-	3.1	1.7	-	-	-	-	-	3.4	9.5	1.4	-	-	-	-	-	18.9

**Table 9. Adults' consumption rates of root vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Artichoke	Beetroot	Carrot	Celeriac	Celery	Fennel	Garlic	Kohl rabi	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
318	-	5.6	-	-	-	-	-	-	2.0	1.9	1.0	1.4	1.3	-	5.7	-	18.9
319	-	5.6	-	-	-	-	-	-	2.0	1.9	1.0	1.4	1.3	-	5.7	-	18.9
651	-	3.7	-	-	-	-	0.6	-	5.4	2.2	-	-	-	-	4.1	2.4	18.3
652	-	3.7	-	-	-	-	0.6	-	5.4	2.2	-	-	-	-	4.1	2.4	18.3
653	-	3.7	-	-	-	-	0.6	-	5.4	2.2	-	-	-	-	4.1	2.4	18.3
654	-	3.7	-	-	-	-	0.6	-	5.4	2.2	-	-	-	-	4.1	2.4	18.3
655	-	3.7	-	-	-	-	0.6	-	5.4	2.2	-	-	-	-	4.1	2.4	18.3
656	-	3.7	-	-	-	-	0.6	-	5.4	2.2	-	-	-	-	4.1	2.4	18.3
67	-	8.4	-	3.0	-	-	-	-	-	6.8	-	-	-	-	-	-	18.2
68	-	8.4	-	3.0	-	-	-	-	-	6.8	-	-	-	-	-	-	18.2
15	-	3.3	0.5	0.6	-	0.2	-	-	1.8	10.1	0.4	-	-	-	-	0.5	17.4
16	-	3.3	0.5	0.6	-	0.2	-	-	1.8	10.1	0.4	-	-	-	-	0.5	17.4
322	-	6.3	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	15.8
323	-	6.3	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	15.8
659	-	-	-	-	-	-	-	-	10.8	4.3	-	-	-	-	-	-	15.1
660	-	-	-	-	-	-	-	-	10.8	4.3	-	-	-	-	-	-	15.1
33	-	-	10.0	0.6	1.1	-	-	-	0.9	-	-	0.4	0.6	-	-	-	13.6
34	-	-	10.0	0.6	1.1	-	-	-	0.9	-	-	0.4	0.6	-	-	-	13.6
324	-	7.4	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	12.4
325	-	7.4	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	12.4
329	-	2.7	-	-	-	-	-	0.9	-	0.7	-	-	1.9	4.5	-	-	10.8
343	-	0.7	0.7	-	-	-	-	-	2.7	3.2	-	-	-	0.2	2.0	0.8	10.3
344	-	0.7	0.7	-	-	-	-	-	2.7	3.2	-	-	-	0.2	2.0	0.8	10.3
116	-	3.3	-	-	-	-	-	-	5.4	-	1.4	-	-	-	-	-	10.1
117	-	3.3	-	-	-	-	-	-	5.4	-	1.4	-	-	-	-	-	10.1
614	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
615	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
616	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
617	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
618	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
619	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
620	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1

**Table 9. Adults' consumption rates of root vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Artichoke	Beetroot	Carrot	Celeriac	Celery	Fennel	Garlic	Kohl rabi	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
621	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
622	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
623	-	4.9	-	-	-	-	0.4	-	-	1.1	-	-	-	-	2.7	-	9.1
92	-	2.5	4.1	-	-	-	-	-	-	1.1	-	-	-	-	-	-	7.6
326	-	3.4	2.3	-	-	-	-	-	-	1.4	-	0.5	-	-	-	-	7.5
353	-	3.4	2.3	-	-	-	-	-	-	1.4	-	0.5	-	-	-	-	7.5
93	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	7.2
94	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	7.2
806	-	3.6	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2
807	-	3.6	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2
808	-	3.6	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2
356	-	-	6.8	-	-	-	-	-	-	-	-	0.3	-	-	-	-	7.1
357	-	-	6.8	-	-	-	-	-	-	-	-	0.3	-	-	-	-	7.1
532	-	2.3	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8
533	-	2.3	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8
534	-	2.3	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8
535	-	2.3	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8
644	-	-	-	-	-	-	-	-	-	4.8	-	-	-	-	-	1.8	6.6
645	-	-	-	-	-	-	-	-	-	4.8	-	-	-	-	-	1.8	6.6
646	-	-	-	-	-	-	-	-	-	4.8	-	-	-	-	-	1.8	6.6
320	-	4.5	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	6.5
321	-	4.5	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	6.5
327	-	-	-	-	-	-	-	-	-	2.3	-	0.4	2.8	-	0.6	-	6.1
328	-	-	-	-	-	-	-	-	-	2.3	-	0.4	2.8	-	0.6	-	6.1
113	-	-	2.7	-	-	-	-	-	2.7	-	-	-	-	-	-	-	5.4
114	-	-	2.7	-	-	-	-	-	2.7	-	-	-	-	-	-	-	5.4
115	-	-	2.7	-	-	-	-	-	2.7	-	-	-	-	-	-	-	5.4
626	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	4.1	-	5.2
627	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	4.1	-	5.2
628	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	4.1	-	5.2
629	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	4.1	-	5.2
630	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	4.1	-	5.2

**Table 9. Adults' consumption rates of root vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Artichoke	Beetroot	Carrot	Celeriac	Celery	Fennel	Garlic	Kohl rabi	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
631	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	4.1	-	5.2
834	-	-	0.9	-	-	-	-	-	2.0	2.2	-	-	-	-	-	-	5.1
835	-	-	0.9	-	-	-	-	-	2.0	2.2	-	-	-	-	-	-	5.1
360	-	-	-	-	-	-	-	-	3.9	-	-	-	-	-	-	-	3.9
361	-	-	-	-	-	-	-	-	3.9	-	-	-	-	-	-	-	3.9
362	-	-	-	-	-	-	-	-	3.9	-	-	-	-	-	-	-	3.9
25	-	-	-	-	-	-	-	-	1.1	2.2	-	-	-	-	-	0.6	3.9
26	-	-	-	-	-	-	-	-	1.1	2.2	-	-	-	-	-	0.6	3.9
27	-	-	-	-	-	-	-	-	1.1	2.2	-	-	-	-	-	0.6	3.9
28	-	-	-	-	-	-	-	-	1.1	2.2	-	-	-	-	-	0.6	3.9
29	-	-	-	-	-	-	-	-	1.1	2.2	-	-	-	-	-	0.6	3.9
30	-	-	-	-	-	-	-	-	2.3	0.9	-	-	-	-	-	-	3.2
31	-	-	-	-	-	-	-	-	2.3	0.9	-	-	-	-	-	-	3.2
32	-	-	-	-	-	-	-	-	2.3	0.9	-	-	-	-	-	-	3.2
77	-	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0
78	-	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0
79	-	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0
785	-	1.1	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	2.9
786	-	1.1	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	2.9
69	-	-	0.9	-	1.7	-	-	-	-	-	-	-	-	0.2	-	-	2.8
70	-	-	0.9	-	1.7	-	-	-	-	-	-	-	-	0.2	-	-	2.8
647	-	-	-	-	-	-	-	-	2.3	-	-	-	-	-	-	-	2.3
648	-	-	-	-	-	-	-	-	2.3	-	-	-	-	-	-	-	2.3
649	-	-	-	-	-	-	-	-	2.3	-	-	-	-	-	-	-	2.3
596	-	-	-	-	-	-	-	-	-	0.6	0.6	-	-	-	-	0.9	2.2
597	-	-	-	-	-	-	-	-	-	0.6	0.6	-	-	-	-	0.9	2.2
598	-	-	-	-	-	-	-	-	-	0.6	0.6	-	-	-	-	0.9	2.2
599	-	-	-	-	-	-	-	-	-	0.6	0.6	-	-	-	-	0.9	2.2
600	-	-	-	-	-	-	-	-	-	0.6	0.6	-	-	-	-	0.9	2.2
601	-	-	-	-	-	-	-	-	-	0.6	0.6	-	-	-	-	0.9	2.2
61	-	1.1	0.6	-	-	-	-	-	-	0.5	-	-	-	-	-	-	2.2
62	-	1.1	0.6	-	-	-	-	-	-	0.5	-	-	-	-	-	-	2.2

**Table 9. Adults' consumption rates of root vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Artichoke	Beetroot	Carrot	Celeriac	Celery	Fennel	Garlic	Kohl rabi	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
63	-	1.1	0.6	-	-	-	-	-	-	0.5	-	-	-	-	-	-	2.2
48	-	-	-	-	-	-	-	-	1.0	1.1	-	-	-	-	-	-	2.0
49	-	-	-	-	-	-	-	-	1.0	1.1	-	-	-	-	-	-	2.0
50	-	-	-	-	-	-	-	-	1.0	1.1	-	-	-	-	-	-	2.0
51	-	-	-	-	-	-	-	-	1.0	1.1	-	-	-	-	-	-	2.0
52	-	-	-	-	-	-	-	-	1.0	1.1	-	-	-	-	-	-	2.0
632	-	0.3	0.1	-	-	-	-	-	-	-	-	0.1	-	-	-	1.1	1.5
633	-	0.3	0.1	-	-	-	-	-	-	-	-	0.1	-	-	-	1.1	1.5
634	-	0.3	0.1	-	-	-	-	-	-	-	-	0.1	-	-	-	1.1	1.5
635	-	0.3	0.1	-	-	-	-	-	-	-	-	0.1	-	-	-	1.1	1.5
636	-	0.3	0.1	-	-	-	-	-	-	-	-	0.1	-	-	-	1.1	1.5
779	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
780	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
781	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
782	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
783	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
602	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4
603	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4
604	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4
605	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4
132	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	0.1
133	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	0.1

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables based on the 23 high-rate adult consumers is 33.7 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 150 observations is 42.3 kg y<sup>-1</sup>

**Table 10. Adults' consumption rates of potato in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Potato
324	75.1
325	75.1
86	68.3
87	68.3
17	65.5
18	65.5
15	63.5
16	63.5
348	63.1
349	63.1
116	58.2
117	58.2
365	53.1
366	53.1
529	49.1
530	49.1
531	49.1
84	45.5
85	45.5
320	45.5
321	45.5
659	43.7
660	43.7
612	41.4
613	41.4
80	41.0
81	41.0
82	41.0
83	41.0
641	41.0
642	41.0
643	41.0
322	38.2
323	38.2
647	36.4
648	36.4
649	36.4
836	36.4
342	36.0
67	34.1
68	34.1
88	29.1
89	29.1
345	27.0
346	27.0
347	27.0
354	24.9
355	24.9
644	24.3
645	24.3
646	24.3
639	24.0

**Table 10. Adults' consumption rates of potato in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Potato
640	24.0
93	21.8
94	21.8
19	20.4
20	20.4
21	20.4
22	20.4
23	20.4
24	20.4
596	19.7
597	19.7
598	19.7
599	19.7
600	19.7
601	19.7
329	17.8
113	16.4
114	16.4
115	16.4
327	15.9
328	15.9
826	14.6
827	14.6
318	13.7
319	13.7
527	13.6
528	13.6
77	12.1
78	12.1
79	12.1
92	10.9
343	10.9
344	10.9
651	10.9
652	10.9
653	10.9
654	10.9
655	10.9
656	10.9
806	7.3
807	7.3
808	7.3
25	7.3
26	7.3
27	7.3
28	7.3
29	7.3
69	6.8
70	6.8
30	6.8
31	6.8
32	6.8

**Table 10. Adults' consumption rates of potato in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Potato
784	6.1
326	4.1
353	4.1
602	3.2
603	3.2
604	3.2
605	3.2
632	2.3
633	2.3
634	2.3
635	2.3
636	2.3
779	1.8
780	1.8
781	1.8
782	1.8
783	1.8
48	1.8
49	1.8
50	1.8
51	1.8
52	1.8
61	1.2
62	1.2
63	1.2
811	1.0
812	1.0

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of potato based on the 46 high-rate adult consumers is 46.6 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 131 observations is 67.6 kg y<sup>-1</sup>

**Table 11. Adults' consumption rates of domestic fruit in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Damson	Gooseberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	Total
<b>320</b>	<b>5.7</b>	<b>19.9</b>	<b>17.0</b>	-	-	-	-	-	-	<b>13.6</b>	-	<b>3.5</b>	<b>5.1</b>	-	<b>64.7</b>
<b>321</b>	<b>5.7</b>	<b>19.9</b>	<b>17.0</b>	-	-	-	-	-	-	<b>13.6</b>	-	<b>3.5</b>	<b>5.1</b>	-	<b>64.7</b>
<b>354</b>	<b>22.7</b>	-	-	-	-	-	-	-	<b>11.3</b>	<b>13.6</b>	-	-	<b>6.8</b>	-	<b>54.4</b>
<b>355</b>	<b>22.7</b>	-	-	-	-	-	-	-	<b>11.3</b>	<b>13.6</b>	-	-	<b>6.8</b>	-	<b>54.4</b>
<b>612</b>	<b>6.4</b>	<b>13.9</b>	-	<b>2.9</b>	-	-	<b>4.3</b>	<b>3.2</b>	-	<b>6.2</b>	<b>1.6</b>	<b>1.0</b>	<b>4.8</b>	<b>8.3</b>	<b>52.4</b>
<b>613</b>	<b>6.4</b>	<b>13.9</b>	-	<b>2.9</b>	-	-	<b>4.3</b>	<b>3.2</b>	-	<b>6.2</b>	<b>1.6</b>	<b>1.0</b>	<b>4.8</b>	<b>8.3</b>	<b>52.4</b>
<b>348</b>	<b>15.0</b>	-	<b>3.7</b>	-	-	-	-	<b>4.5</b>	-	<b>13.4</b>	<b>9.0</b>	<b>1.5</b>	<b>2.8</b>	-	<b>50.0</b>
<b>349</b>	<b>15.0</b>	-	<b>3.7</b>	-	-	-	-	<b>4.5</b>	-	<b>13.4</b>	<b>9.0</b>	<b>1.5</b>	<b>2.8</b>	-	<b>50.0</b>
<b>116</b>	<b>15.9</b>	-	<b>1.6</b>	-	-	<b>7.9</b>	<b>3.2</b>	<b>3.2</b>	<b>6.4</b>	<b>1.1</b>	<b>0.3</b>	<b>1.0</b>	<b>1.6</b>	-	<b>42.1</b>
<b>117</b>	<b>15.9</b>	-	<b>1.6</b>	-	-	<b>7.9</b>	<b>3.2</b>	<b>3.2</b>	<b>6.4</b>	<b>1.1</b>	<b>0.3</b>	<b>1.0</b>	<b>1.6</b>	-	<b>42.1</b>
<b>529</b>	<b>13.6</b>	-	-	-	-	-	-	-	-	<b>10.2</b>	-	<b>2.8</b>	-	-	<b>26.6</b>
<b>530</b>	<b>13.6</b>	-	-	-	-	-	-	-	-	<b>10.2</b>	-	<b>2.8</b>	-	-	<b>26.6</b>
<b>531</b>	<b>13.6</b>	-	-	-	-	-	-	-	-	<b>10.2</b>	-	<b>2.8</b>	-	-	<b>26.6</b>
<b>363</b>	<b>23.6</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>23.6</b>
317	-	-	2.3	-	-	-	3.4	-	-	4.5	2.3	-	9.1	-	21.5
596	-	5.3	3.0	-	-	-	-	-	-	1.1	-	0.9	9.5	-	19.9
597	-	5.3	3.0	-	-	-	-	-	-	1.1	-	0.9	9.5	-	19.9
598	-	5.3	3.0	-	-	-	-	-	-	1.1	-	0.9	9.5	-	19.9
599	-	5.3	3.0	-	-	-	-	-	-	1.1	-	0.9	9.5	-	19.9
600	-	5.3	3.0	-	-	-	-	-	-	1.1	-	0.9	9.5	-	19.9
601	-	5.3	3.0	-	-	-	-	-	-	1.1	-	0.9	9.5	-	19.9
30	4.5	0.5	0.5	-	-	-	0.5	2.3	0.8	0.5	-	2.9	5.7	-	17.9
31	4.5	0.5	0.5	-	-	-	0.5	2.3	0.8	0.5	-	2.9	5.7	-	17.9
32	4.5	0.5	0.5	-	-	-	0.5	2.3	0.8	0.5	-	2.9	5.7	-	17.9
345	-	-	3.7	-	-	-	2.7	-	-	4.5	1.1	1.5	3.0	-	16.5
346	-	-	3.7	-	-	-	2.7	-	-	4.5	1.1	1.5	3.0	-	16.5
347	-	-	3.7	-	-	-	2.7	-	-	4.5	1.1	1.5	3.0	-	16.5
361	11.8	-	0.5	-	-	-	-	-	-	1.2	-	-	2.6	-	16.0
784	4.5	-	-	-	-	-	-	0.9	1.6	-	-	-	6.8	-	13.8
316	-	-	2.3	-	-	-	3.4	-	-	4.5	2.3	-	-	-	12.5
364	11.8	-	-	-	-	-	-	-	-	-	-	-	-	-	11.8
327	5.7	-	-	-	-	-	-	2.8	2.8	-	-	-	-	-	11.3
328	5.7	-	-	-	-	-	-	2.8	2.8	-	-	-	-	-	11.3
806	-	-	-	-	-	-	-	-	-	10.2	-	-	-	-	10.2
807	-	-	-	-	-	-	-	-	-	10.2	-	-	-	-	10.2

**Table 11. Adults' consumption rates of domestic fruit in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Damson	Gooseberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	Total
808	-	-	-	-	-	-	-	-	-	10.2	-	-	-	-	10.2
641	-	-	-	-	-	-	-	-	-	2.5	-	1.7	5.4	-	9.6
642	-	-	-	-	-	-	-	-	-	2.5	-	1.7	5.4	-	9.6
643	-	-	-	-	-	-	-	-	-	2.5	-	1.7	5.4	-	9.6
815	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5
816	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5
653	2.6	2.4	-	-	-	-	0.4	-	-	0.2	0.5	2.3	-	-	8.3
651	2.6	2.4	-	-	-	-	0.4	-	-	0.2	0.5	2.3	-	-	8.3
652	2.6	2.4	-	-	-	-	0.4	-	-	0.2	0.5	2.3	-	-	8.3
655	2.6	2.4	-	-	-	-	0.4	-	-	0.2	0.5	2.3	-	-	8.3
656	2.6	2.4	-	-	-	-	0.4	-	-	0.2	0.5	2.3	-	-	8.3
356	6.8	-	-	-	-	-	-	-	-	-	-	1.5	-	-	8.3
357	6.8	-	-	-	-	-	-	-	-	-	-	1.5	-	-	8.3
329	-	-	1.7	-	-	-	1.6	-	4.5	-	-	-	-	-	7.9
33	2.3	-	-	-	0.2	-	-	2.3	2.3	-	-	-	-	-	7.0
34	2.3	-	-	-	0.2	-	-	2.3	2.3	-	-	-	-	-	7.0
527	0.9	-	-	-	-	-	-	-	-	-	-	5.8	-	-	6.7
528	0.9	-	-	-	-	-	-	-	-	-	-	5.8	-	-	6.7
654	2.6	-	-	-	-	-	0.4	-	-	0.2	0.5	2.3	-	-	6.0
639	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4
640	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4
318	-	-	-	-	-	-	1.0	-	-	0.5	1.7	1.7	-	-	5.0
319	-	-	-	-	-	-	1.0	-	-	0.5	1.7	1.7	-	-	5.0
538	1.8	-	-	-	-	1.0	-	-	2.0	-	-	-	-	-	4.9
539	1.8	-	-	-	-	1.0	-	-	2.0	-	-	-	-	-	4.9
88	-	-	-	-	-	-	-	-	-	-	-	3.5	1.2	-	4.6
89	-	-	-	-	-	-	-	-	-	-	-	3.5	1.2	-	4.6
588	1.5	-	-	-	-	-	-	-	3.0	-	-	-	-	-	4.5
589	1.5	-	-	-	-	-	-	-	3.0	-	-	-	-	-	4.5
590	1.5	-	-	-	-	-	-	-	3.0	-	-	-	-	-	4.5
591	1.5	-	-	-	-	-	-	-	3.0	-	-	-	-	-	4.5
15	-	-	-	-	-	-	-	-	-	-	-	4.3	-	-	4.3
16	-	-	-	-	-	-	-	-	-	-	-	4.3	-	-	4.3
326	-	-	1.1	-	-	-	-	-	-	0.7	0.7	1.1	0.7	-	4.3
353	-	-	1.1	-	-	-	-	-	-	0.7	0.7	1.1	0.7	-	4.3

**Table 11. Adults' consumption rates of domestic fruit in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Damson	Gooseberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	Total
17	-	-	0.9	-	-	-	-	-	-	-	-	-	3.4	-	4.3
18	-	-	0.9	-	-	-	-	-	-	-	-	-	3.4	-	4.3
360	-	-	0.5	-	-	-	-	-	-	1.2	-	-	2.6	-	4.2
362	-	-	0.5	-	-	-	-	-	-	1.2	-	-	2.6	-	4.2
771	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2
772	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2
67	3.2	-	0.2	-	-	-	0.2	-	-	-	0.2	-	-	-	3.9
68	3.2	-	0.2	-	-	-	0.2	-	-	-	0.2	-	-	-	3.9
48	0.9	-	0.5	-	-	-	-	-	-	0.4	-	-	1.8	-	3.6
49	0.9	-	0.5	-	-	-	-	-	-	0.4	-	-	1.8	-	3.6
50	0.9	-	0.5	-	-	-	-	-	-	0.4	-	-	1.8	-	3.6
51	0.9	-	0.5	-	-	-	-	-	-	0.4	-	-	1.8	-	3.6
52	0.9	-	0.5	-	-	-	-	-	-	0.4	-	-	1.8	-	3.6
86	-	-	-	-	-	-	-	-	-	-	-	3.5	-	-	3.5
87	-	-	-	-	-	-	-	-	-	-	-	3.5	-	-	3.5
118	2.5	-	-	-	-	-	-	-	-	-	-	0.7	-	-	3.2
119	2.5	-	-	-	-	-	-	-	-	-	-	0.7	-	-	3.2
785	2.3	-	-	-	-	-	-	-	-	0.6	-	-	-	-	2.8
786	2.3	-	-	-	-	-	-	-	-	0.6	-	-	-	-	2.8
809	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3
810	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3
811	0.7	-	-	-	-	-	0.7	0.7	-	-	-	-	-	-	2.0
812	0.7	-	-	-	-	-	0.7	0.7	-	-	-	-	-	-	2.0
343	-	-	0.9	-	-	-	-	-	-	0.7	-	-	-	-	1.5
344	-	-	0.9	-	-	-	-	-	-	0.7	-	-	-	-	1.5
614	0.5	-	-	-	-	-	-	0.5	-	-	-	-	0.5	-	1.4
615	0.5	-	-	-	-	-	-	0.5	-	-	-	-	0.5	-	1.4
132	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	0.9
133	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	0.9
779	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
780	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
781	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
782	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
783	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7
602	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	0.6

**Table 11. Adults' consumption rates of domestic fruit in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Damson	Gooseberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	Total
603	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	0.6
604	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	0.6
605	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	0.6
69	-	-	0.1	-	-	-	0.1	-	-	0.1	-	-	0.2	-	0.5
70	-	-	0.1	-	-	-	0.1	-	-	0.1	-	-	0.2	-	0.5
616	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.5
617	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.5
618	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.5
619	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.5
620	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.5
621	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.5
622	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.5
623	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.5
324	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	0.3
325	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	0.3
108	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	0.3
109	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	0.3
110	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	0.3
25	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
26	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
27	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
28	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
29	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit based on the 14 high-rate adult consumers is 45.0 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 128 observations is 54.0 kg y<sup>-1</sup>

**Table 12. Adults' consumption rates of milk in the Capenhurst area ( $l\ y^{-1}$ )**

Observation number	Milk
<b>77</b>	<b>486.7</b>
<b>78</b>	<b>486.7</b>
<b>79</b>	<b>486.7</b>
<b>76</b>	<b>414.9</b>
<b>69</b>	<b>365.0</b>
<b>70</b>	<b>365.0</b>
<b>3</b>	<b>311.1</b>
<b>4</b>	<b>311.1</b>
<b>5</b>	<b>311.1</b>
<b>6</b>	<b>311.1</b>
<b>806</b>	<b>304.2</b>
<b>807</b>	<b>304.2</b>
<b>808</b>	<b>304.2</b>
<b>11</b>	<b>273.8</b>
<b>12</b>	<b>273.8</b>
<b>13</b>	<b>273.8</b>
<b>14</b>	<b>273.8</b>
<b>61</b>	<b>212.9</b>
<b>62</b>	<b>212.9</b>
<b>63</b>	<b>212.9</b>
<b>74</b>	<b>207.4</b>
<b>75</b>	<b>207.4</b>
<b>588</b>	<b>207.4</b>
<b>589</b>	<b>207.4</b>
<b>590</b>	<b>207.4</b>
<b>591</b>	<b>207.4</b>
<b>7</b>	<b>182.5</b>
<b>8</b>	<b>182.5</b>
<b>9</b>	<b>182.5</b>
<b>10</b>	<b>182.5</b>
<b>609</b>	<b>172.9</b>
<b>610</b>	<b>172.9</b>
<b>611</b>	<b>172.9</b>
48	146.0
49	146.0
50	146.0
51	146.0
52	146.0
53	103.7
54	103.7
55	103.7
57	45.6
58	45.6
59	45.6

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of milk based on the 33 high-rate adult consumers is  $272.4\ l\ y^{-1}$

The observed 97.5<sup>th</sup> percentile rate based on 44 observations is  $486.7\ l\ y^{-1}$

**Table 13. Adults' consumption rates of cattle meat in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Beef
<b>45-46</b>	<b>22.5</b>
<b>33-40</b>	<b>13.9</b>
<b>637-638</b>	<b>7.9</b>
30-32	5.9

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat based on the 12 high-rate adult consumers is 14.3 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 15 observations is 22.5 kg y<sup>-1</sup>

**Table 14. Adults' consumption rates of sheep meat in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Lamb
<b>538-539</b>	<b>5.0</b>
<b>588-591</b>	<b>1.9</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of sheep meat based on the 6 high-rate adult consumers is 2.9 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 6 observations is 5.0 kg y<sup>-1</sup>

**Table 15. Adults' consumption rates of poultry in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Chicken	Duck	Goose	Pheasant	Pigeon	Turkey	Total
<b>594-595</b>	<b>13.5</b>	-	-	-	-	-	<b>13.5</b>
<b>363-364</b>	-	<b>5.0</b>	-	<b>4.1</b>	-	-	<b>9.0</b>
<b>30-32</b>	<b>5.0</b>	-	-	-	-	<b>3.0</b>	<b>8.0</b>
118-119	-	0.7	1.1	0.9	-	-	2.7
76	-	-	-	1.1	-	-	1.1
318-319	-	-	-	0.5	-	-	0.5
532-535	-	-	-	-	0.3	-	0.3

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of poultry based on the 7 high-rate adult consumers is 9.9 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 16 observations is 13.5 kg y<sup>-1</sup>

**Table 16. Adults' consumption rates of eggs in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Chicken egg	Duck egg	Total
<b>819</b>	<b>23.7</b>	-	<b>23.7</b>
<b>820</b>	<b>23.7</b>	-	<b>23.7</b>
<b>327</b>	<b>22.2</b>	-	<b>22.2</b>
<b>328</b>	<b>22.2</b>	-	<b>22.2</b>
<b>826</b>	<b>20.8</b>	-	<b>20.8</b>
<b>348</b>	<b>17.8</b>	-	<b>17.8</b>
<b>349</b>	<b>17.8</b>	-	<b>17.8</b>
<b>69</b>	<b>15.6</b>	-	<b>15.6</b>
<b>70</b>	<b>15.6</b>	-	<b>15.6</b>
<b>527</b>	<b>14.8</b>	-	<b>14.8</b>
<b>528</b>	<b>14.8</b>	-	<b>14.8</b>
<b>345</b>	<b>11.9</b>	-	<b>11.9</b>
<b>346</b>	<b>11.9</b>	-	<b>11.9</b>
<b>347</b>	<b>11.9</b>	-	<b>11.9</b>
<b>806</b>	<b>11.9</b>	-	<b>11.9</b>
<b>807</b>	<b>11.9</b>	-	<b>11.9</b>
<b>808</b>	<b>11.9</b>	-	<b>11.9</b>
<b>827</b>	<b>10.4</b>	-	<b>10.4</b>
<b>322</b>	<b>10.3</b>	-	<b>10.3</b>
<b>323</b>	<b>10.3</b>	-	<b>10.3</b>
<b>639</b>	<b>8.9</b>	-	<b>8.9</b>
<b>640</b>	<b>8.9</b>	-	<b>8.9</b>
365	5.9	-	5.9
366	5.9	-	5.9
529	5.9	-	5.9
530	5.9	-	5.9
531	5.9	-	5.9
538	5.9	-	5.9
539	5.9	-	5.9
614	5.9	-	5.9
615	5.9	-	5.9
30	2.5	1.0	3.4
31	2.5	1.0	3.4
32	2.5	1.0	3.4
118	3.4	-	3.4
119	3.4	-	3.4
316	2.1	-	2.1
317	2.1	-	2.1
637	1.4	-	1.4
638	1.4	-	1.4

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of eggs based on the 22 high-rate adult consumers is 15.0 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 40 observations is 23.7 kg y<sup>-1</sup>

**Table 17. Adults' consumption rates of wild/free foods in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Blackberry	Elderberry	Nettle	Sloe	Total
<b>527</b>	<b>3.4</b>	-	-	<b>0.5</b>	<b>3.9</b>
<b>528</b>	<b>3.4</b>	-	-	<b>0.5</b>	<b>3.9</b>
<b>329</b>	<b>1.8</b>	-	-	-	<b>1.8</b>
<b>360</b>	<b>1.8</b>	-	-	-	<b>1.8</b>
<b>361</b>	<b>1.8</b>	-	-	-	<b>1.8</b>
<b>362</b>	<b>1.8</b>	-	-	-	<b>1.8</b>
<b>326</b>	<b>1.6</b>	-	-	-	<b>1.6</b>
<b>353</b>	<b>1.6</b>	-	-	-	<b>1.6</b>
118	1.1	-	-	-	1.1
119	1.1	-	-	-	1.1
538	1.1	-	-	-	1.1
539	1.1	-	-	-	1.1
837	-	-	-	1.0	1.0
838	-	-	-	1.0	1.0
116	1.0	-	-	-	1.0
117	1.0	-	-	-	1.0
785	0.8	-	-	-	0.8
786	0.8	-	-	-	0.8
69	0.7	-	-	-	0.7
70	0.7	-	-	-	0.7
48	0.5	0.1	-	-	0.6
49	0.5	0.1	-	-	0.6
50	0.5	0.1	-	-	0.6
51	0.5	0.1	-	-	0.6
52	0.5	0.1	-	-	0.6
77	0.6	-	-	-	0.6
78	0.6	-	-	-	0.6
79	0.6	-	-	-	0.6
15	0.5	-	-	-	0.5
16	0.5	-	-	-	0.5
33	0.5	-	-	-	0.5
34	0.5	-	-	-	0.5
61	0.5	-	-	-	0.5
62	0.5	-	-	-	0.5
63	0.5	-	-	-	0.5
324	0.5	-	-	-	0.5
325	0.5	-	-	-	0.5
532	0.5	-	-	-	0.5
533	0.5	-	-	-	0.5
534	0.5	-	-	-	0.5
535	0.5	-	-	-	0.5
806	0.5	-	-	-	0.5
807	0.5	-	-	-	0.5
808	0.5	-	-	-	0.5
67	0.2	-	-	0.1	0.3
68	0.2	-	-	0.1	0.3
356	0.3	-	-	-	0.3
357	0.3	-	-	-	0.3
88	0.2	-	0.1	-	0.3
89	0.2	-	0.1	-	0.3
17	0.2	-	-	-	0.2
18	0.2	-	-	-	0.2
132	0.2	-	-	-	0.2

**Table 17. Adults' consumption rates of wild/free foods in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Blackberry	Elderberry	Nettle	Sloe	Total
133	0.2	-	-	-	0.2
779	0.2	-	-	-	0.2
780	0.2	-	-	-	0.2
781	0.2	-	-	-	0.2
782	0.2	-	-	-	0.2
783	0.2	-	-	-	0.2

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods based on the 8 high-rate adult consumers is 2.3 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 59 observations is 3.0 kg y<sup>-1</sup>

**Table 18. Adults' consumption rates of rabbits/hares in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Rabbit
<b>647</b>	<b>3.4</b>
<b>648</b>	<b>3.4</b>
<b>649</b>	<b>3.4</b>
<b>330</b>	<b>2.5</b>
<b>118</b>	<b>1.8</b>
<b>119</b>	<b>1.8</b>
<b>318</b>	<b>1.8</b>
<b>331</b>	<b>1.8</b>
<b>76</b>	<b>1.1</b>
614-623	1.1
348-349	0.2

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of rabbits/hares based on the 9 high-rate adult consumers is 2.3 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 21 observations is 3.4 kg y<sup>-1</sup>

**Table 19. Adults' consumption rates of honey in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Honey
<b>529</b>	<b>7.3</b>
<b>530</b>	<b>7.3</b>
<b>531</b>	<b>7.3</b>
<b>536</b>	<b>4.5</b>
<b>537</b>	<b>4.5</b>
<b>316</b>	<b>3.4</b>
<b>317</b>	<b>3.4</b>
532	1.1
533	1.1
534	1.1
535	1.1
651	0.5
652	0.5

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of honey based on the 7 high-rate adult consumers is 5.4 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 13 observations is 7.3 kg y<sup>-1</sup>

**Table 20. Adults' consumption rates of wild fungi in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Mushrooms
<b>318-319</b>	<b>1.6</b>
538	0.5
33-34	0.3
779-783	0.2
77-79	0.2
69-70	0.1

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild fungi based on the 2 high-rate adult consumers is 1.6 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 15 observations is 1.6 kg y<sup>-1</sup>

**Table 21. Adults' consumption rates of freshwater plants in the Capenhurst area (kg y<sup>-1</sup>)**

Observation number	Watercress
<b>532</b>	<b>0.9</b>
<b>533</b>	<b>0.9</b>
<b>534</b>	<b>0.9</b>
<b>535</b>	<b>0.9</b>
<b>536</b>	<b>0.9</b>
<b>537</b>	<b>0.9</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of freshwater plants based on the 6 high-rate adult consumers is 0.9 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 6 observations is 0.9 kg y<sup>-1</sup>

**Table 22. Children's consumption rates of green vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Broccoli	Brussels sprout	Cabbage	Cauliflower	Chard	Courgette	Cucumber	Herbs	Lettuce	Rocket	Spinach	Total
<b>606</b>	<b>16</b>	-	<b>0.9</b>	<b>1.2</b>	<b>0.7</b>	<b>0.6</b>	<b>0.5</b>	<b>1.2</b>	-	<b>0.6</b>	<b>0.6</b>	<b>0.7</b>	<b>6.9</b>
<b>607</b>	<b>12</b>	-	<b>0.9</b>	<b>1.2</b>	<b>0.7</b>	<b>0.6</b>	<b>0.5</b>	<b>1.2</b>	-	<b>0.6</b>	<b>0.6</b>	<b>0.7</b>	<b>6.9</b>
<b>71</b>	<b>12</b>	<b>0.2</b>	<b>1.4</b>	-	<b>0.2</b>	-	<b>0.9</b>	<b>0.3</b>	-	<b>1.0</b>	-	-	<b>4.0</b>
624	12	-	0.5	-	-	-	0.4	-	-	-	-	-	0.8
64	16	-	-	-	-	-	-	-	-	0.4	-	-	0.4
65	14	-	-	-	-	-	-	-	-	0.4	-	-	0.4
66	12	-	-	-	-	-	-	-	-	0.4	-	-	0.4

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables based on the 3 high-rate 15-year-old age group consumers is 6.0 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 7 observations is 6.9 kg y<sup>-1</sup>

**10-year-old age group**

Observation number	Age	Broccoli	Brussels sprout	Cabbage	Cauliflower	Chard	Courgette	Cucumber	Herbs	Lettuce	Rocket	Spinach	Total
<b>608</b>	<b>10</b>	-	<b>0.9</b>	<b>1.2</b>	<b>0.7</b>	<b>0.6</b>	<b>0.5</b>	<b>1.2</b>	-	<b>0.6</b>	<b>0.6</b>	<b>0.7</b>	<b>6.9</b>
<b>72</b>	<b>9</b>	<b>0.2</b>	<b>1.4</b>	-	<b>0.2</b>	-	<b>0.9</b>	<b>0.3</b>	-	<b>1.0</b>	-	-	<b>4.0</b>
358	8	-	-	-	-	-	0.5	-	0.3	0.4	-	-	1.2
625	10	-	0.5	-	-	-	0.4	-	-	-	-	-	0.8

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables based on the 2 high-rate 10-year-old age group consumers is 5.5 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 4 observations is 6.7 kg y<sup>-1</sup>

**Table 22. Children's consumption rates of green vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

**5-year-old age group**

Observation number	Age	Broccoli	Brussels sprout	Cabbage	Cauliflower	Chard	Courgette	Cucumber	Herbs	Lettuce	Rocket	Spinach	Total
<b>359</b>	<b>2</b>	-	-	-	-	-	<b>1.0</b>	-	-	<b>0.2</b>	-	-	<b>1.2</b>
<b>91</b>	<b>6</b>	-	-	-	-	-	<b>0.7</b>	-	-	<b>0.3</b>	-	-	<b>0.9</b>
<b>657</b>	<b>3</b>	-	-	<b>0.5</b>	-	-	-	-	-	-	-	<b>0.3</b>	<b>0.7</b>
<b>658</b>	<b>5</b>	-	-	<b>0.5</b>	-	-	-	-	-	-	-	<b>0.3</b>	<b>0.7</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables based on the 4 high-rate 5-year-old age group consumers is 0.9 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 4 observations is 1.2 kg y<sup>-1</sup>

**Table 23. Children's consumption rates of other vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Broad bean	French bean	Pea	Pumpkin	Runner bean	Sweetcorn	Tomato	Total
<b>71</b>	<b>12</b>	-	<b>0.1</b>	-	<b>0.7</b>	<b>0.1</b>	<b>0.7</b>	<b>5.4</b>	<b>7.0</b>
606	16	-	-	1.3	0.3	-	0.4	-	2.0
607	12	-	-	1.3	0.3	-	0.4	-	2.0
624	12	-	-	-	-	-	0.2	0.7	0.9

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of other vegetables based on the only high-rate 15-year-old age group consumer is 7.0 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 4 observations is 6.7 kg y<sup>-1</sup>

**10-year-old age group**

Observation number	Age	Broad bean	French bean	Pea	Pumpkin	Runner bean	Sweetcorn	Tomato	Total
<b>72</b>	<b>9</b>	-	<b>0.1</b>	-	<b>0.7</b>	<b>0.1</b>	<b>0.7</b>	<b>5.4</b>	<b>7.0</b>
<b>650</b>	<b>9</b>	-	-	-	-	<b>6.8</b>	-	-	<b>6.8</b>
90	10	-	-	2.2	-	-	-	-	2.2
608	10	-	-	1.3	0.3	-	0.4	-	2.0
625	10	-	-	-	-	-	0.2	-	0.9
358	8	-	-	-	-	-	-	0.6	0.6

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables based on the 2 high-rate 10-year-old age group consumers is 6.9 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 6 observations is 7.0 kg y<sup>-1</sup>

**5-year-old age group**

Observation number	Age	Broad bean	French bean	Pea	Pumpkin	Runner bean	Sweetcorn	Tomato	Total
<b>91</b>	<b>6</b>	<b>2.4</b>	-	<b>2.2</b>	-	<b>7.2</b>	-	-	<b>11.7</b>
657	3	-	-	-	-	-	-	-	1.4
658	5	-	-	-	-	-	-	-	1.4
359	2	-	-	-	-	-	-	0.9	0.9
350	4	-	-	0.1	-	-	-	-	0.1

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of other vegetables based on the only high-rate 5-year-old age group consumer is 11.7 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 5 observations is 10.7 kg y<sup>-1</sup>

**Table 24. Children's consumption rates of root vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Beetroot	Carrot	Celery	Garlic	Leek	Onion	Radish	Spring onion	Swede	Turnip	Total
<b>624</b>	<b>12</b>	<b>2.5</b>	-	-	<b>0.4</b>	-	<b>1.1</b>	-	-	<b>2.7</b>	-	<b>6.6</b>
<b>71</b>	<b>12</b>	-	<b>0.9</b>	<b>1.7</b>	-	-	-	-	<b>0.2</b>	-	-	<b>2.8</b>
64	16	1.1	0.6	-	-	-	0.5	-	-	-	-	2.2
65	14	1.1	0.6	-	-	-	0.5	-	-	-	-	2.2
66	12	1.1	0.6	-	-	-	0.5	-	-	-	-	2.2
606	16	-	-	-	-	-	-	-	0.4	-	-	0.4
607	12	-	-	-	-	-	-	-	0.4	-	-	0.4

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables based on the 2 high-rate 15-year-old age group consumers is 4.7 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 7 observations is 6.1 kg y<sup>-1</sup>

**10-year-old age group**

Observation number	Age	Beetroot	Carrot	Celery	Garlic	Leek	Onion	Radish	Spring onion	Swede	Turnip	Total
<b>358</b>	<b>8</b>	-	<b>6.8</b>	-	-	-	-	<b>0.3</b>	-	-	-	<b>7.1</b>
<b>625</b>	<b>10</b>	<b>2.5</b>	-	-	<b>0.4</b>	-	<b>1.1</b>	-	-	<b>2.7</b>	-	<b>6.6</b>
<b>72</b>	<b>9</b>	-	<b>0.9</b>	<b>1.7</b>	-	-	-	-	<b>0.2</b>	-	-	<b>2.8</b>
650	9	-	-	-	-	1.1	-	-	-	-	-	1.1
608	10	-	-	-	-	-	-	-	0.4	-	-	0.4

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables based on the 3 high-rate 10-year-old age group consumers is 5.5 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 5 observations is 7.1 kg y<sup>-1</sup>

**Table 24. Children's consumption rates of root vegetables in the Capenhurst area (kg y<sup>-1</sup>)**

**5-year-old age group**

Observation number	Age	Beetroot	Carrot	Celery	Garlic	Leek	Onion	Radish	Spring onion	Swede	Turnip	Total
<b>91</b>	<b>6</b>	<b>2.4</b>	<b>2.4</b>	-	-	-	<b>4.8</b>	-	-	-	<b>1.4</b>	<b>11.0</b>
<b>657</b>	<b>3</b>	<b>0.9</b>	-	-	<b>0.1</b>	<b>1.4</b>	<b>0.5</b>	-	-	<b>1.0</b>	<b>0.6</b>	<b>4.6</b>
<b>658</b>	<b>5</b>	<b>0.9</b>	-	-	<b>0.1</b>	<b>1.4</b>	<b>0.5</b>	-	-	<b>1.0</b>	<b>0.6</b>	<b>4.6</b>
359	2	-	2.3	-	-	-	-	-	-	-	-	2.3

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables based on the 3 high-rate 5-year-old age group consumers is 6.7 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 4 observations is 10.6 kg y<sup>-1</sup>

**Table 25. Children's consumption rates of potato in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Potato
<b>71</b>	<b>12</b>	<b>6.8</b>
<b>606</b>	<b>16</b>	<b>3.2</b>
<b>607</b>	<b>12</b>	<b>3.2</b>
64	16	1.2
65	14	1.2
66	12	1.2

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of potato based on the 3 high-rate 15-year-old age group consumers is 4.4 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 6 observations is 6.4 kg y<sup>-1</sup>

**10-year-old age group**

Observation number	Age	Potato
<b>650</b>	<b>9</b>	<b>18.2</b>
<b>72</b>	<b>9</b>	<b>6.8</b>
608	10	3.2
813	8	1.0

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of potato based on the 2 high-rate 10-year-old age group consumers is 12.5 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 4 observations is 17.3 kg y<sup>-1</sup>

**5-year-old age group**

Observation number	Age	Potato
<b>91</b>	<b>6</b>	<b>7.3</b>
<b>657</b>	<b>3</b>	<b>2.7</b>
<b>658</b>	<b>5</b>	<b>2.7</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of potato based on the 3 high-rate 5-year-old age group consumers is 4.2 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 3 observations is 7.1 kg y<sup>-1</sup>

**Table 26. Children's consumption rates of domestic fruit in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Apple	Blackberry	Blackcurrant	Gooseberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Total
<b>606</b>	<b>16</b>	-	-	-	-	-	-	-	-	<b>0.6</b>	-	<b>0.6</b>
<b>607</b>	<b>12</b>	-	-	-	-	-	-	-	-	<b>0.6</b>	-	<b>0.6</b>
<b>71</b>	<b>12</b>	-	-	<b>0.1</b>	<b>0.1</b>	-	-	<b>0.1</b>	-	-	<b>0.2</b>	<b>0.5</b>
<b>624</b>	<b>12</b>	-	-	-	-	-	-	-	-	-	<b>0.5</b>	<b>0.5</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit based on the 4 high-rate 15-year-old age group consumers is 0.5 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 4 observations is 0.6 kg y<sup>-1</sup>

**10-year-old age group**

Observation number	Age	Apple	Blackberry	Blackcurrant	Gooseberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Total
<b>358</b>	<b>8</b>	<b>6.8</b>	-	-	-	-	-	-	-	<b>1.5</b>	-	<b>8.3</b>
<b>90</b>	<b>10</b>	-	-	-	-	-	-	-	-	<b>3.5</b>	<b>1.2</b>	<b>4.6</b>
<b>592</b>	<b>8</b>	<b>1.5</b>	-	-	-	-	<b>3.0</b>	-	-	-	-	<b>4.5</b>
813	8	0.7	-	-	0.7	0.7	-	-	-	-	-	2.0
608	10	-	-	-	-	-	-	-	-	0.6	-	0.6
72	9	-	-	0.1	0.1	-	-	0.1	-	-	0.2	0.5
625	10	-	-	-	-	-	-	-	-	-	0.5	0.5

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit based on the 3 high-rate 10-year-old age group consumers is 5.8 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 7 observations is 7.8 kg y<sup>-1</sup>

**5-year-old age group**

Observation number	Age	Apple	Blackberry	Blackcurrant	Gooseberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Total
<b>91</b>	<b>6</b>	-	-	-	-	-	-	-	-	<b>3.5</b>	-	<b>3.5</b>
<b>359</b>	<b>2</b>	<b>2.3</b>	-	-	-	-	-	-	-	<b>0.9</b>	-	<b>3.2</b>
<b>593</b>	<b>5</b>	<b>1.1</b>	-	-	-	-	<b>1.5</b>	-	-	-	-	<b>2.6</b>
<b>657</b>	<b>3</b>	<b>0.6</b>	<b>0.6</b>	-	<b>0.1</b>	-	-	<b>0.1</b>	<b>0.1</b>	<b>0.6</b>	-	<b>2.1</b>
<b>658</b>	<b>5</b>	<b>0.6</b>	<b>0.6</b>	-	<b>0.1</b>	-	-	<b>0.1</b>	<b>0.1</b>	<b>0.6</b>	-	<b>2.1</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit based on the 5 high-rate 5-year-old age group consumers is 2.7 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 5 observations is 3.4 kg y<sup>-1</sup>

**Table 27. Children's consumption rates of milk in the Capenhurst area (l y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Milk
<b>71</b>	<b>12</b>	<b>365.0</b>
<b>64</b>	<b>16</b>	<b>212.9</b>
<b>65</b>	<b>14</b>	<b>212.9</b>
<b>66</b>	<b>12</b>	<b>212.9</b>
56	14	103.7
60	15	45.6

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of milk based on the 4 high-rate 15-year-old age group consumers is 250.9 l y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 6 observations is 346.0 l y<sup>-1</sup>

**10-year-old age group**

Observation number	Age	Milk
<b>72</b>	<b>9</b>	<b>365.0</b>
<b>592</b>	<b>8</b>	<b>207.4</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of milk based on the 2 high-rate 10-year-old age group consumers is 286.2 l y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 2 observations is 361.1 l y<sup>-1</sup>

**Table 27. Children's consumption rates of milk in the Capenhurst area ( $l\ y^{-1}$ )**

**5-year-old age group**

Observation number	Age	Milk
<b>593</b>	<b>5</b>	<b>103.7</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of milk based on the only 5-year-old age group consumer is  $103.7\ l\ y^{-1}$

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**Table 28. Children's consumption rates of cattle meat in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Beef
<b>41</b>	<b>15</b>	<b>13.9</b>
<b>42</b>	<b>12</b>	<b>6.9</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat based on the 2 high-rate 15-year-old age group consumers is 10.4 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 2 observations is 13.7 kg y<sup>-1</sup>

**10-year-old age group**

Observation number	Age	Beef
<b>43</b>	<b>9</b>	<b>6.9</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of cattle meat based on the only 10-year-old age group consumer is 6.9 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**5-year-old age group**

Observation number	Age	Beef
<b>44</b>	<b>5</b>	<b>3.5</b>
<b>47</b>	<b>4</b>	<b>2.0</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat based on the 2 high-rate 5-year-old age group consumers is 2.8 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 2 observations is 3.5 kg y<sup>-1</sup>

**Table 29. Children's consumption rates of sheep meat in the Capenhurst area (kg y<sup>-1</sup>)**

**10-year-old age group**

Observation number	Age	Lamb
<b>592</b>	<b>8</b>	<b>1.9</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of sheep meat based on the only 10-year-old age group consumer is 1.9 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**5-year-old age group**

Observation number	Age	Lamb
<b>593</b>	<b>5</b>	<b>0.9</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of sheep meat based on the only 5-year-old age group consumer is 0.9 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**Table 30. Children's consumption rates of eggs in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Chicken egg
<b>71</b>	<b>12</b>	<b>15.6</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of eggs based on the only 15-year-old age group consumer is 15.6 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**10-year-old age group**

Observation number	Age	Chicken egg
<b>72</b>	<b>9</b>	<b>15.6</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of eggs based on the only 10-year-old age group consumer is 15.6 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**Table 31. Children's consumption rates of wild/free foods in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Blackberry
<b>71</b>	<b>12</b>	<b>0.7</b>
<b>64</b>	<b>16</b>	<b>0.5</b>
<b>65</b>	<b>14</b>	<b>0.5</b>
<b>66</b>	<b>12</b>	<b>0.5</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods based on the 4 high-rate 15-year-old age group consumers is 0.5 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 4 observations is 0.7 kg y<sup>-1</sup>

**10-year-old age group**

Observation number	Age	Blackberry
<b>72</b>	<b>9</b>	<b>0.7</b>
<b>358</b>	<b>8</b>	<b>0.3</b>
90	10	0.2

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods based on the 2 high-rate 10-year-old age group consumers is 0.5 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 3 observations is 0.7 kg y<sup>-1</sup>

**5-year-old age group**

Observation number	Age	Blackberry
<b>91</b>	<b>6</b>	<b>0.2</b>
<b>359</b>	<b>2</b>	<b>0.2</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods based on the 2 high-rate 5-year-old age group consumers is 0.2 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 2 observations is 0.2 kg y<sup>-1</sup>

**Table 32. Children's consumption rates of rabbits/hares in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Rabbit
<b>624</b>	<b>12</b>	<b>0.5</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of rabbits/hares based on the only 15-year-old age group consumer is 0.5 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**10-year-old age group**

Observation number	Age	Rabbit
<b>650</b>	<b>9</b>	<b>1.7</b>
625	10	0.5

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of rabbits/hares based on the only high-rate 10-year-old age group consumer is 1.7 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 2 observations is 1.7 kg y<sup>-1</sup>

**Table 33. Children's consumption rates of honey in the Capenhurst area (kg y<sup>-1</sup>)**

**5-year-old age group**

Observation number	Age	Honey
<b>658</b>	<b>5</b>	<b>0.5</b>
<b>657</b>	<b>3</b>	<b>0.5</b>

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of honey based on the 2 high-rate 5-year-old age group consumers is 0.5 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate based on 2 observations is 0.5 kg y<sup>-1</sup>

**Table 34. Children's consumption rates of wild fungi in the Capenhurst area (kg y<sup>-1</sup>)**

**15-year-old age group**

Observation number	Age	Mushrooms
<b>71</b>	<b>12</b>	<b>0.1</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of wild fungi based on the only 15-year-old age group consumer is 0.1 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**10-year-old age group**

Observation number	Age	Mushrooms
<b>72</b>	<b>9</b>	<b>0.1</b>

**Notes**

Emboldened observation is the high-rate consumer

The consumption rate of wild fungi based on the only 10-year-old age group consumer is 0.1 kg y<sup>-1</sup>

The observed 97.5<sup>th</sup> percentile rate is not applicable for 1 observation

**Table 35. Summary of adults' consumption rates in the Capenhurst area (kg y<sup>-1</sup> or l y<sup>-1</sup>)**

Food group	Number of observations	Number of high-rate consumers	Observed maximum consumption rate for the high-rate group	Observed minimum consumption rate for the high-rate group	Observed mean consumption rate for the high-rate group	Observed 97.5 <sup>th</sup> percentile consumption rate	Generic mean consumption rate	Generic 97.5 <sup>th</sup> percentile consumption rate
Fish	NC	NC	NC	NC	NC	NC	15.0	40.0
Crustaceans	NC	NC	NC	NC	NC	NC	3.5	10.0
Green vegetables	139	16	72.3	25.3	33.0	29.8	15.0	45.0
Other vegetables	162	38	62.4	20.8	32.8	38.6	20.0	50.0
Root vegetables	150	23	67.1	22.7	33.7	42.3	10.0	40.0
Potato	131	46	75.1	27.0	46.6	67.6	50.0	120.0
Domestic fruit	128	14	64.7	23.6	45.0	54.0	20.0	75.0
Milk	44	33	486.7	172.9	272.4	486.7	95.0	240.0
Cattle meat	15	12	22.5	7.9	14.3	22.5	15.0	45.0
Pig meat	NC	NC	NC	NC	NC	NC	15.0	40.0
Sheep meat	6	6	5.0	1.9	2.9	5.0	8.0	25.0
Poultry	16	7	13.5	8.0	9.9	13.5	10.0	30.0
Eggs	40	22	23.7	8.9	15.0	23.7	8.5	25.0
Wild/free foods	59	8	3.9	1.6	2.3	3.0	7.0	25.0
Rabbits/hares	21	9	3.4	1.1	2.3	3.4	6.0	15.0
Honey	13	7	7.3	3.4	5.4	7.3	2.5	9.5
Wild fungi	15	2	1.6	1.6	1.6	1.6	3.0	10.0
Venison	NC	NC	NC	NC	NC	NC	ND	ND
Cereals	NC	NC	NC	NC	NC	NC	50.0	100.0
Freshwater fish	NC	NC	NC	NC	NC	NC	15.0	40.0
Freshwater plants	6	6	0.9	0.9	0.9	0.9	ND	ND

ND = not determined

NC = not consumed

**Table 36. Summary of 15-year-old children's consumption rates in the Capenhurst area (kg y<sup>-1</sup> or l y<sup>-1</sup>)**

Food group	Number of observations	Number of high-rate consumers	Observed maximum consumption rate for the high-rate group	Observed minimum consumption rate for the high-rate group	Observed mean consumption rate for the high-rate group	Observed 97.5 <sup>th</sup> percentile consumption rate	Generic mean consumption rate	Generic 97.5 <sup>th</sup> percentile consumption rate
Fish	NC	NC	NC	NC	NC	NC	6.5	20.0
Crustaceans	NC	NC	NC	NC	NC	NC	2.5	6.0
Green vegetables	7	3	6.9	4.0	6.0	6.9	9.0	25.0
Other vegetables	4	1	7.0	7.0	7.0	6.7	10.0	30.0
Root vegetables	7	2	6.6	2.8	4.7	6.1	7.5	20.0
Potato	6	3	6.8	3.2	4.4	6.4	60.0	130.0
Domestic fruit	4	4	0.6	0.5	0.5	0.6	15.0	50.0
Milk	6	4	365.0	212.9	250.9	346.0	110.0	260.0
Cattle meat	2	2	13.9	6.9	10.4	13.7	15.0	35.0
Pig meat	NC	NC	NC	NC	NC	NC	10.0	30.0
Sheep meat	NC	NC	NC	NC	NC	NC	5.5	15.0
Poultry	NC	NC	NC	NC	NC	NC	6.5	20.0
Eggs	1	1	15.6	15.6	15.6	NA	7.0	25.0
Wild/free foods	4	4	0.7	0.5	0.5	0.7	3.0	13.0
Rabbits/hares	1	1	0.5	0.5	0.5	NA	ND	ND
Honey	NC	NC	NC	NC	NC	NC	2.0	5.0
Wild fungi	1	1	0.1	0.1	0.1	NA	2.0	5.5
Venison	NC	NC	NC	NC	NC	NC	ND	ND
Cereals	NC	NC	NC	NC	NC	NC	50.0	95.0
Freshwater fish	NC	NC	NC	NC	NC	NC	6.5	20.0
Freshwater plants	NC	NC	NC	NC	NC	NC	ND	ND

ND = not determined

NC = not consumed

NA = not applicable

**Table 37. Summary of 10-year-old children's consumption rates in the Capenhurst area (kg y<sup>-1</sup> or l y<sup>-1</sup>)**

Food group	Number of observations	Number of high-rate consumers	Observed maximum consumption rate for the high-rate group	Observed minimum consumption rate for the high-rate group	Observed mean consumption rate for the high-rate group	Observed 97.5 <sup>th</sup> percentile consumption rate	Generic mean consumption rate	Generic 97.5 <sup>th</sup> percentile consumption rate
Fish	NC	NC	NC	NC	NC	NC	6.0	20.0
Crustaceans	NC	NC	NC	NC	NC	NC	2.5	7.0
Green vegetables	4	2	6.9	4.0	5.5	6.7	6.0	20.0
Other vegetables	6	2	7.0	6.8	6.9	7.0	8.0	25.0
Root vegetables	5	3	7.1	2.8	5.5	7.1	6.0	20.0
Potato	4	2	18.2	6.8	12.5	17.3	45.0	85.0
Domestic fruit	7	3	8.3	4.5	5.8	7.8	15.0	50.0
Milk	2	2	365.0	207.4	286.2	361.1	110.0	240.0
Cattle meat	1	1	6.9	6.9	6.9	NA	15.0	30.0
Pig meat	NC	NC	NC	NC	NC	NC	8.5	25.0
Sheep meat	1	1	1.9	1.9	1.9	NA	4.0	10.0
Poultry	NC	NC	NC	NC	NC	NC	5.5	15.0
Eggs	1	1	15.6	15.6	15.6	NA	6.5	20.0
Wild/free foods	3	2	0.7	0.3	0.5	0.7	3.0	11.0
Rabbits/hares	2	1	1.7	1.7	1.7	1.7	ND	ND
Honey	NC	NC	NC	NC	NC	NC	2.0	7.5
Wild fungi	1	1	0.1	0.1	0.1	NA	1.5	4.5
Venison	NC	NC	NC	NC	NC	NC	ND	ND
Cereals	NC	NC	NC	NC	NC	NC	45.0	75.0
Freshwater fish	NC	NC	NC	NC	NC	NC	6.0	20.0
Freshwater plants	NC	NC	NC	NC	NC	NC	ND	ND

ND = not determined

NC = not consumed

NA = not applicable

**Table 38. Summary of 5-year-old children's consumption rates in the Capenhurst area (kg y<sup>-1</sup> or l y<sup>-1</sup>)**

Food group	Number of observations	Number of high-rate consumers	Observed maximum consumption rate for the high-rate group	Observed minimum consumption rate for the high-rate group	Observed mean consumption rate for the high-rate group	Observed 97.5 <sup>th</sup> percentile consumption rate	Generic mean consumption rate	Generic 97.5 <sup>th</sup> percentile consumption rate
Fish	NC	NC	NC	NC	NC	NC	ND	ND
Crustaceans	NC	NC	NC	NC	NC	NC	ND	ND
Green vegetables	4	4	1.2	0.7	0.9	1.2	ND	ND
Other vegetables	5	1	11.7	11.7	11.7	10.7	ND	ND
Root vegetables	4	3	11.0	4.6	6.7	10.6	ND	ND
Potato	3	3	7.3	2.7	4.2	7.1	ND	ND
Domestic fruit	5	5	3.5	2.1	2.7	3.4	ND	ND
Milk	1	1	103.7	103.7	103.7	NA	ND	ND
Cattle meat	2	2	3.5	2.0	2.8	3.5	ND	ND
Pig meat	NC	NC	NC	NC	NC	NC	ND	ND
Sheep meat	1	1	0.9	0.9	0.9	NA	ND	ND
Poultry	NC	NC	NC	NC	NC	NC	ND	ND
Eggs	NC	NC	NC	NC	NC	NC	ND	ND
Wild/free foods	2	2	0.2	0.2	0.2	0.2	ND	ND
Rabbits/hares	NC	NC	NC	NC	NC	NC	ND	ND
Honey	2	2	0.5	0.5	0.5	0.5	ND	ND
Wild fungi	NC	NC	NC	NC	NC	NC	ND	ND
Venison	NC	NC	NC	NC	NC	NC	ND	ND
Cereals	NC	NC	NC	NC	NC	NC	ND	ND
Freshwater fish	NC	NC	NC	NC	NC	NC	ND	ND
Freshwater plants	NC	NC	NC	NC	NC	NC	ND	ND

ND = not determined

NC = not consumed

NA = not applicable

**Table 39. Percentage contribution each food type makes to its terrestrial food group for adults**

<p><b>Green vegetables</b></p> <p><b><i>Cabbage</i></b> 28.3 %            Courgette 14.3 %            Brussels sprout 11.4 %            Lettuce 10.3 %            Broccoli 9.0 %            Cauliflower 7.6 %            Spinach 6.4 %            Marrow 4.2 %            Cucumber 3.6 %            Kale 1.9 %            Asparagus 1.1 %            Leaf beet 1.0 %            Herbs 0.4 %            Calabrese 0.3 %            Chard 0.2 %            Rocket 0.2 %</p>	<p><b>Root vegetables</b></p> <p>Onion 21.6 %            Carrot 19.0 %            Leek 17.1 %            Beetroot 15.9 %            Swede 10.0 %            Turnip 7.0 %            Parsnip 2.9 %            Shallot 2.5 %            Celery 1.0 %            Garlic 0.8 %            Radish 0.6 %            Spring onion 0.6 %            Celeriac 0.5 %            Artichoke 0.3 %            Kohl rabi 0.1 %            Fennel 0.03 %</p>	<p><b>Sheep meat</b></p> <p>Lamb 100.0 %</p> <p><b>Poultry</b></p> <p>Chicken 54.0 %            Pheasant 15.3 %            Duck 14.5 %            Turkey 11.7 %            Goose 2.8 %            Pigeon 1.8 %</p> <p><b>Eggs</b></p> <p>Chicken egg 99.3 %            Duck egg 0.7 %</p>
<p><b>Other vegetables</b></p> <p>Runner bean 44.4 %            Tomato 24.6 %            Broad bean 12.2 %            Pea 9.1 %            French bean 5.5 %            Sweetcorn 1.8 %            Squash 0.8 %            Pumpkin 0.7 %            Pepper 0.4 %            Aubergine 0.3 %            Mangetout 0.2 %            Chilli pepper 0.1 %</p>	<p><b>Potato</b></p> <p><b><i>Potato</i></b> 100.0 %</p> <p><b>Domestic fruit</b></p> <p>Apple 27.9 %            Raspberry 16.0 %            Strawberry 14.6 %            Blackberry 8.6 %            Rhubarb 8.3 %            Blackcurrant 7.1 %            Plum 5.4 %            Pear 3.2 %  <b><i>Gooseberry</i></b> 3.0 %            Redcurrant 2.9 %            Damson 1.4 %            Tayberry 1.3 %            Blueberry 0.4 %            Cherry 0.03 %</p> <p><b>Milk</b></p> <p><b><i>Cow's milk</i></b> 100.0 %</p> <p><b>Cattle meat</b></p> <p>Beef 100.0 %</p>	<p><b>Wild/free foods</b></p> <p>Blackberry 91.6 %            Sloe 7.2 %            Elderberry 1.0 %            Nettle 0.2 %</p> <p><b>Rabbits/hares</b></p> <p>Rabbit 100.0 %</p> <p><b>Honey</b></p> <p>Honey 100.0 %</p> <p><b>Wild fungi</b></p> <p>Mushrooms 100.0 %</p> <p><b>Fresh water plants</b></p> <p>Watercress 100.0 %</p>

**Notes**

Food types in emboldened italics were monitored by FSA in 2007 (EA, EHS, FSA and SEPA, 2008)  
 Percentages are based on the consumption of all adults in the survey consuming that particular food group

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
<b>0 to 0.25 km zone</b>					
376	F	U	8396	364	8760
377	F	U	8396	364	8760
378	F	U	8396	364	8760
379	M	U	8396	364	8760
380	M	U	8396	364	8760
381	M	U	8578	182	8760
382	M	U	8578	182	8760
383	M	U	8578	182	8760
384	M	U	8578	182	8760
385	M	U	8578	182	8760
386	M	U	8578	182	8760
387	M	U	8578	182	8760
388	M	U	8578	182	8760
389	M	U	8578	182	8760
390	F	U	8578	182	8760
391	F	U	8578	182	8760
392	F	U	8578	182	8760
393	F	U	8578	182	8760
394	F	U	8578	182	8760
395	F	U	8578	182	8760
396	F	U	8578	182	8760
397	F	U	8578	182	8760
398	F	U	8578	182	8760
367	F	U	8760	-	8760
368	F	U	8760	-	8760
369	F	U	8760	-	8760
370	F	U	8760	-	8760
371	F	U	8760	-	8760
372	M	U	8760	-	8760
373	M	U	8760	-	8760
374	M	U	8760	-	8760
375	M	U	8760	-	8760
399	M	U	8760	-	8760
366	F	88	8760	-	8760
813	F	8	8526	130	8656
814	M	45	8602	54	8656
365	M	89	8300	260	8560
779	M	58	6141	2295	8436
780	F	55	8226	210	8436
771	M	57	6312	2000	8312
772	F	54	8116	196	8312
770	F	85	8292	-	8292
118	M	70	8198	58	8256
527	M	81	4550	3640	8190
528	F	78	7800	390	8190
111	F	79	7796	392	8188
116	M	80	8060	98	8158
811	F	53	8006	130	8136
358	M	8	7881	144	8025
359	F	2	7881	144	8025
119	F	68	7296	690	7986
114	F	57	7597	306	7903
117	F	72	6736	1103	7839

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
133	F	49	7374	350	7724
812	M	52	7252	468	7720
356	F	40	7389	144	7533
782	F	21	6234	1278	7512
400	F	33	7388	-	7388
815	M	73	7097	238	7335
817	F	84	6736	356	7092
818	M	84	6736	356	7092
816	F	74	6785	238	7023
357	M	49	6679	130	6809
123	F	1	6639	147	6786
355	F	57	5748	980	6728
121	F	36	6394	147	6541
809	F	60	5718	546	6264
132	M	43	5899	175	6074
122	M	5	5659	147	5806
113	M	58	5201	306	5507
354	M	61	5200	132	5332
120	M	37	4728	343	5071
115	F	23	4928	-	4928
1	M	63	4600	308	4908
2	F	69	4600	308	4908
783	M	19	4721	105	4826
781	M	23	4652	156	4808
810	M	58	4083	546	4629
285	M	U	1729	741	2470
286	M	U	1729	741	2470
112	F	48	2334	-	2334
271	M	U	2009	223	2233
272	M	U	2009	223	2233
273	M	U	2009	223	2233
274	M	U	2009	223	2233
275	M	U	2009	223	2233
276	M	U	2009	223	2233
277	M	U	2009	223	2233
278	M	U	2009	223	2233
279	F	U	1985	221	2205
280	M	U	1985	221	2205
787	F	U	1960	-	1960
270	M	U	782	1173	1955
258	F	U	1955	-	1955
259	F	U	1955	-	1955
260	F	U	1955	-	1955
261	F	U	1955	-	1955
262	M	U	1955	-	1955
263	M	U	1955	-	1955
264	M	U	1955	-	1955
265	M	U	1955	-	1955
266	M	U	1955	-	1955
267	M	U	1955	-	1955
268	M	U	1955	-	1955
269	M	U	1955	-	1955
457	M	U	1955	-	1955
458	M	U	1955	-	1955

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
459	M	U	1955	-	1955
460	M	U	1955	-	1955
461	M	U	1955	-	1955
462	M	U	1955	-	1955
463	M	U	1955	-	1955
464	M	U	1955	-	1955
465	F	U	1955	-	1955
466	F	U	1955	-	1955
467	F	U	1955	-	1955
468	F	U	1955	-	1955
469	F	U	1955	-	1955
470	F	U	1955	-	1955
471	F	U	1955	-	1955
422	M	U	1913	-	1913
423	M	U	1913	-	1913
424	M	U	1913	-	1913
425	M	U	1913	-	1913
426	M	U	1913	-	1913
427	M	U	1913	-	1913
428	M	U	1913	-	1913
429	M	U	1913	-	1913
430	M	U	1913	-	1913
431	M	U	1913	-	1913
432	M	U	1913	-	1913
433	M	U	1913	-	1913
434	M	U	1913	-	1913
435	M	U	1913	-	1913
436	M	U	1913	-	1913
437	M	U	1913	-	1913
438	M	U	1913	-	1913
439	M	U	1913	-	1913
440	F	U	1913	-	1913
441	F	U	1913	-	1913
442	F	U	1913	-	1913
443	F	U	1913	-	1913
444	F	U	1913	-	1913
445	F	U	1913	-	1913
446	F	U	1913	-	1913
447	F	U	1913	-	1913
448	F	U	1913	-	1913
449	F	U	1913	-	1913
450	F	U	1913	-	1913
451	F	U	1913	-	1913
452	F	U	1913	-	1913
453	F	U	1913	-	1913
454	F	U	1913	-	1913
455	F	U	1913	-	1913
456	F	U	1913	-	1913
134	M	U	1863	46	1909
135	M	U	1863	46	1909
136	M	U	1863	46	1909
137	M	U	1863	46	1909
138	M	U	1863	46	1909
139	M	U	1863	46	1909

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
140	M	U	1863	46	1909
141	M	U	1863	46	1909
142	M	U	1863	46	1909
143	M	U	1863	46	1909
169	F	U	1863	46	1909
170	F	U	1863	46	1909
171	F	U	1863	46	1909
172	F	U	1863	46	1909
173	F	U	1863	46	1909
144	M	U	1909	-	1909
145	M	U	1909	-	1909
146	M	U	1909	-	1909
147	M	U	1909	-	1909
148	M	U	1909	-	1909
149	M	U	1909	-	1909
150	M	U	1909	-	1909
151	M	U	1909	-	1909
152	M	U	1909	-	1909
153	M	U	1909	-	1909
154	M	U	1909	-	1909
155	M	U	1909	-	1909
156	M	U	1909	-	1909
157	M	U	1909	-	1909
158	M	U	1909	-	1909
159	M	U	1909	-	1909
160	M	U	1909	-	1909
161	M	U	1909	-	1909
162	M	U	1909	-	1909
163	M	U	1909	-	1909
164	M	U	1909	-	1909
165	M	U	1909	-	1909
166	F	U	1909	-	1909
167	F	U	1909	-	1909
168	F	U	1909	-	1909
281	M	U	1645	235	1880
282	M	U	1645	235	1880
315	M	U	1288	552	1840
583	M	U	1656	184	1840
584	M	U	1656	184	1840
585	M	U	1656	184	1840
586	M	U	1656	184	1840
310	M	U	1656	184	1840
311	M	U	1656	184	1840
312	M	U	1656	184	1840
313	F	U	1656	184	1840
314	F	U	1656	184	1840
542	M	U	1840	-	1840
543	M	U	1840	-	1840
544	M	U	1840	-	1840
545	M	U	1840	-	1840
546	M	U	1840	-	1840
547	M	U	1840	-	1840
548	M	U	1840	-	1840
549	M	U	1840	-	1840

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
550	M	U	1840	-	1840
551	M	U	1840	-	1840
552	M	U	1840	-	1840
553	M	U	1840	-	1840
554	M	U	1840	-	1840
555	M	U	1840	-	1840
556	M	U	1840	-	1840
557	M	U	1840	-	1840
558	M	U	1840	-	1840
559	M	U	1840	-	1840
560	M	U	1840	-	1840
561	M	U	1840	-	1840
562	M	U	1840	-	1840
563	M	U	1840	-	1840
564	M	U	1840	-	1840
565	M	U	1840	-	1840
566	M	U	1840	-	1840
567	M	U	1840	-	1840
568	M	U	1840	-	1840
569	M	U	1840	-	1840
570	M	U	1840	-	1840
571	M	U	1840	-	1840
572	M	U	1840	-	1840
573	M	U	1840	-	1840
574	M	U	1840	-	1840
575	M	U	1840	-	1840
576	M	U	1840	-	1840
577	M	U	1840	-	1840
578	M	U	1840	-	1840
579	M	U	1840	-	1840
580	F	U	1840	-	1840
581	F	U	1840	-	1840
582	F	U	1840	-	1840
290	F	U	1674	88	1763
291	F	U	1674	88	1763
292	F	U	1674	88	1763
293	F	U	1674	88	1763
294	F	U	1674	88	1763
295	F	U	1674	88	1763
296	F	U	1674	88	1763
297	F	U	1674	88	1763
298	F	U	1674	88	1763
299	F	U	1674	88	1763
300	F	U	1674	88	1763
301	F	U	1674	88	1763
302	M	U	1674	88	1763
303	M	U	1674	88	1763
304	M	U	1674	88	1763
305	M	U	1674	88	1763
306	M	U	1674	88	1763
307	M	U	1674	88	1763
308	M	U	1674	88	1763
309	M	U	1674	88	1763
174	M	U	1564	-	1564

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children ( $\text{h y}^{-1}$ )**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
175	M	U	1564	-	1564
176	M	U	1564	-	1564
177	M	U	1564	-	1564
178	M	U	1564	-	1564
179	M	U	1564	-	1564
180	M	U	1564	-	1564
181	M	U	1564	-	1564
182	M	U	1564	-	1564
183	M	U	1564	-	1564
184	M	U	1564	-	1564
185	M	U	1564	-	1564
186	M	U	1564	-	1564
187	M	U	1564	-	1564
188	M	U	1564	-	1564
189	M	U	1564	-	1564
190	M	U	1564	-	1564
191	M	U	1564	-	1564
192	M	U	1564	-	1564
193	M	U	1564	-	1564
194	M	U	1564	-	1564
195	M	U	1564	-	1564
196	M	U	1564	-	1564
197	M	U	1564	-	1564
198	M	U	1564	-	1564
199	M	U	1564	-	1564
200	M	U	1564	-	1564
201	M	U	1564	-	1564
202	M	U	1564	-	1564
203	M	U	1564	-	1564
204	M	U	1564	-	1564
205	M	U	1564	-	1564
206	M	U	1564	-	1564
207	M	U	1564	-	1564
208	M	U	1564	-	1564
209	M	U	1564	-	1564
210	M	U	1564	-	1564
211	M	U	1564	-	1564
212	M	U	1564	-	1564
213	M	U	1564	-	1564
214	M	U	1564	-	1564
215	M	U	1564	-	1564
216	M	U	1564	-	1564
217	M	U	1564	-	1564
218	M	U	1564	-	1564
219	M	U	1564	-	1564
220	M	U	1564	-	1564
221	M	U	1564	-	1564
222	M	U	1564	-	1564
223	M	U	1564	-	1564
224	F	U	1564	-	1564
225	F	U	1564	-	1564
226	F	U	1564	-	1564
227	F	U	1564	-	1564
228	F	U	1564	-	1564

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children ( $\text{h y}^{-1}$ )**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
229	F	U	1564	-	1564
230	F	U	1564	-	1564
231	F	U	1564	-	1564
232	F	U	1564	-	1564
233	F	U	1564	-	1564
234	F	U	1564	-	1564
235	F	U	1564	-	1564
236	F	U	1564	-	1564
237	F	U	1564	-	1564
238	F	U	1564	-	1564
239	F	U	1564	-	1564
240	F	U	1564	-	1564
241	F	U	1564	-	1564
242	F	U	1564	-	1564
243	F	U	1564	-	1564
244	F	U	1564	-	1564
245	F	U	1564	-	1564
246	F	U	1564	-	1564
247	F	U	1564	-	1564
248	F	U	1564	-	1564
249	F	U	1564	-	1564
250	F	U	1564	-	1564
251	F	U	1564	-	1564
252	F	U	1564	-	1564
253	F	U	1564	-	1564
254	F	U	1564	-	1564
255	F	U	1564	-	1564
256	F	U	1564	-	1564
257	F	U	1564	-	1564
661	U	U	1521	39	1560
662	U	U	1521	39	1560
401	F	U	1360	50	1410
402	F	U	1360	50	1410
403	F	U	1360	50	1410
404	F	U	1360	50	1410
405	F	U	1360	50	1410
406	F	U	1360	50	1410
407	F	U	1360	50	1410
408	M	U	1360	50	1410
409	M	U	1360	50	1410
410	M	U	1360	50	1410
411	M	U	1360	50	1410
412	M	U	1360	50	1410
413	M	U	1360	50	1410
414	M	U	1360	50	1410
415	M	U	1360	50	1410
416	M	U	1360	50	1410
417	M	U	1360	50	1410
418	F	U	1360	50	1410
419	F	U	1360	50	1410
420	F	U	1360	50	1410
421	F	U	1360	50	1410
678	U	4	950	380	1330
679	U	4	950	380	1330

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
680	U	4	950	380	1330
681	U	4	950	380	1330
682	U	5	950	380	1330
683	U	5	950	380	1330
684	U	5	950	380	1330
685	U	5	950	380	1330
686	U	5	1045	285	1330
687	U	5	1045	285	1330
688	U	5	1045	285	1330
689	U	5	1045	285	1330
690	U	5	1045	285	1330
691	U	6	1045	285	1330
692	U	6	1045	285	1330
693	U	6	1045	285	1330
694	U	6	1045	285	1330
695	U	6	1045	285	1330
696	U	6	1045	285	1330
697	U	6	1045	285	1330
698	U	6	1045	285	1330
699	U	6	1045	285	1330
700	U	6	1045	285	1330
701	U	6	1045	285	1330
702	U	6	1045	285	1330
703	U	7	1045	285	1330
704	U	7	1045	285	1330
705	U	7	1045	285	1330
706	U	7	1045	285	1330
707	U	7	1045	285	1330
708	U	7	1045	285	1330
709	U	7	1045	285	1330
710	U	7	1045	285	1330
711	U	7	1045	285	1330
712	U	7	1045	285	1330
713	U	7	1045	285	1330
714	U	7	1045	285	1330
715	U	7	1045	285	1330
716	U	7	1045	285	1330
717	U	8	1045	285	1330
718	U	8	1045	285	1330
719	U	8	1045	285	1330
720	U	8	1045	285	1330
721	U	8	1045	285	1330
722	U	8	1045	285	1330
723	U	8	1045	285	1330
724	U	8	1045	285	1330
725	U	8	1045	285	1330
726	U	8	1045	285	1330
727	U	8	1045	285	1330
728	U	8	1045	285	1330
729	U	8	1045	285	1330
730	U	9	1045	285	1330
731	U	9	1045	285	1330
732	U	9	1045	285	1330
733	U	9	1045	285	1330

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
734	U	9	1045	285	1330
735	U	9	1045	285	1330
736	U	9	1045	285	1330
737	U	9	1045	285	1330
738	U	9	1045	285	1330
739	U	9	1045	285	1330
740	U	9	1045	285	1330
741	U	9	1045	285	1330
742	U	9	1045	285	1330
743	U	10	1045	285	1330
744	U	10	1045	285	1330
745	U	10	1045	285	1330
746	U	10	1045	285	1330
747	U	10	1045	285	1330
748	U	10	1045	285	1330
749	U	10	1045	285	1330
750	U	10	1045	285	1330
751	U	10	1045	285	1330
752	U	10	1045	285	1330
753	U	10	1045	285	1330
754	U	10	1045	285	1330
755	U	11	1045	285	1330
756	U	11	1045	285	1330
757	U	11	1045	285	1330
758	U	11	1045	285	1330
283	F	U	1081	235	1316
284	F	U	1081	235	1316
673	U	U	760	293	1053
674	U	U	1014	39	1053
675	U	U	1014	39	1053
676	U	U	1014	39	1053
677	U	U	988	52	1040
587	M	U	1035	-	1035
788	M	U	98	882	980
789	M	U	98	882	980
790	M	U	98	882	980
791	M	U	98	882	980
792	M	U	98	882	980
793	M	U	98	882	980
287	M	U	672	288	960
288	M	U	672	288	960
289	M	U	672	288	960
759	F	U	380	380	760
760	F	U	380	380	760
761	F	U	380	380	760
762	F	U	380	380	760
763	U	4	380	380	760
764	U	4	380	380	760
765	U	4	380	380	760
766	U	4	380	380	760
767	U	3	380	380	760
768	U	3	380	380	760
769	U	3	380	380	760
472	F	U	713	-	713

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
473	F	U	713	-	713
474	F	U	713	-	713
475	F	U	713	-	713
476	F	U	713	-	713
477	F	U	713	-	713
478	F	U	713	-	713
479	F	U	713	-	713
480	M	U	713	-	713
481	M	U	713	-	713
482	M	U	713	-	713
483	M	U	713	-	713
484	M	U	713	-	713
485	M	U	713	-	713
486	M	U	713	-	713
668	U	U	546	39	585
669	U	U	546	39	585
670	U	U	546	39	585
671	U	U	546	39	585
672	U	U	546	39	585
487	M	17	540	-	540
488	M	17	540	-	540
489	M	17	540	-	540
490	M	17	540	-	540
491	M	17	540	-	540
492	M	17	540	-	540
493	M	17	540	-	540
494	M	17	540	-	540
495	M	17	540	-	540
496	M	17	540	-	540
497	M	18	540	-	540
498	M	18	540	-	540
499	M	18	540	-	540
500	M	18	540	-	540
501	M	18	540	-	540
502	M	18	540	-	540
503	M	18	540	-	540
504	M	18	540	-	540
505	M	18	540	-	540
506	M	18	540	-	540
663	U	U	351	39	390
664	U	U	351	39	390
665	U	U	351	39	390
666	U	U	351	39	390
667	U	U	351	39	390
776	M	10	104	208	312
777	M	8	104	208	312
778	M	6	104	208	312
507	M	15	216	-	216
508	M	15	216	-	216
509	M	15	216	-	216
510	M	15	216	-	216
511	M	15	216	-	216
512	M	15	216	-	216
513	M	15	216	-	216

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
514	M	15	216	-	216
515	M	15	216	-	216
516	M	15	216	-	216
517	M	16	216	-	216
518	M	16	216	-	216
519	M	16	216	-	216
520	M	16	216	-	216
521	M	16	216	-	216
522	M	16	216	-	216
523	M	16	216	-	216
524	M	16	216	-	216
525	M	16	216	-	216
526	M	16	216	-	216
773	M	3	154	-	154
774	F	6	154	-	154
775	M	8	154	-	154
<b>&gt;0.25 to 0.5 km zone</b>					
363	M	70	6148	2548	8696
364	F	75	6876	1820	8696
360	M	58	4691	3902	8592
831	F	4	8110	378	8488
361	F	57	7764	714	8478
830	F	2	7954	378	8332
832	F	4	7954	378	8332
833	F	7	7954	378	8332
784	F	60	7958	258	8216
785	F	67	5930	1806	7736
836	M	55	6518	1162	7680
828	F	27	7278	378	7656
834	M	59	6192	1092	7284
95	M	71	5172	2100	7272
96	F	67	6572	700	7272
106	M	73	6901	299	7200
107	F	70	6993	207	7200
104	F	39	6941	212	7153
105	M	1	6941	212	7153
362	F	23	6811	301	7112
786	M	62	6434	630	7064
835	F	51	6134	256	6390
100	M	10	6168	144	6312
98	F	43	5928	96	6024
99	F	15	5736	48	5784
97	M	51	5352	96	5448
829	M	34	4371	189	4560
103	M	33	4303	183	4486
794	M	U	423	1692	2115
795	M	U	423	1692	2115
804	M	U	1504	376	1880
805	M	U	1504	376	1880
796	F	U	1880	-	1880
797	F	U	1880	-	1880
798	M	U	1880	-	1880
799	M	U	1880	-	1880
800	M	U	1880	-	1880

**Table 40. Occupancy rates in the Capenhurst direct radiation survey area for adults and children (h y<sup>-1</sup>)**

Observation number	Sex	Age (years)	Indoor occupancy	Outdoor occupancy	Total occupancy
801	M	U	1880	-	1880
802	M	U	1880	-	1880
803	M	U	1880	-	1880
<b>&gt;0.5 to 1 km zone</b>					
124	M	61	6368	1969	8337
102	F	U	7856	165	8021
821	F	1	7453	448	7901
819	F	68	7289	448	7737
130	M	9	6912	672	7584
131	M	6	6912	672	7584
101	M	U	6456	672	7128
128	F	U	6600	336	6936
837	M	61	6334	136	6470
838	F	62	6334	136	6470
125	F	58	6297	41	6338
127	M	U	5928	336	6264
109	F	U	6031	45	6076
110	F	U	5918	45	5963
820	M	37	5720	208	5928
129	M	12	4992	672	5664
108	M	U	4681	45	4726
126	M	22	1200	84	1284
824	M	8	850	-	850
825	M	7	850	-	850
822	F	13	772	-	772
823	F	13	772	-	772
69	M	U	-	240	240
73	M	U	-	240	240
33	M	U	-	180	180
45	M	U	-	180	180

**Notes**

U = Unknown

**Table 41. Analysis of occupancy rates in the Capenhurst direct radiation survey area**

<b>0 - 0.25 km zone</b>	
Number of hours	Number of observations
8000 to 8760	50
7000 to 8000	12
6000 to 7000	6
5000 to 6000	4
4000 to 5000	6
3000 to 4000	0
2000 to 3000	13
1000 to 2000	373
0 to 1000	91
<b>0 to 8760</b>	<b>555</b>

<b>&gt;0.25 - 0.5 km zone</b>	
Number of hours	Number of observations
8000 to 8760	9
7000 to 8000	12
6000 to 7000	3
5000 to 6000	2
4000 to 5000	2
3000 to 4000	0
2000 to 3000	2
1000 to 2000	10
0 to 1000	0
<b>0 to 8760</b>	<b>40</b>

<b>&gt;0.5 - 1 km zone</b>	
Number of hours	Number of observations
8000 to 8760	2
7000 to 8000	5
6000 to 7000	6
5000 to 6000	3
4000 to 5000	1
3000 to 4000	0
2000 to 3000	0
1000 to 2000	1
0 to 1000	8
<b>0 to 8760</b>	<b>26</b>

**Table 42. Gamma dose rate measurements for the Capenhurst direct radiation survey ( $\mu\text{Gy h}^{-1}$ )**

Location	Outdoor substrate	Outdoor gamma dose rate at 1 metre <sup>a</sup>	Indoor substrate	Indoor gamma dose rate at 1 metre <sup>a</sup>
Business 1	Concrete	0.066	-	NM
Business 2	Grass	0.074	Concrete	0.084
Business 3	Concrete	0.083	-	NM
Business 4	Grass	0.073	Concrete	0.093
Residence 1	Grass	0.075	Concrete	0.107
Residence 2	Grass	0.086	-	NM
Residence 3	Grass	0.074	Brick	0.109
Residence 4	-	NM	Wood	0.090
Residence 5	Grass	0.083	Concrete	0.124
Residence 6	Grass	0.082	Concrete	0.124
Residence 7	Grass	0.082	Concrete	0.120
Residence 8	Grass	0.082	Concrete	0.105
Residence 9	Grass	0.082	Concrete	0.110
Residence 10	Grass	0.100	Tiles	0.110
Residence 11	Grass	0.080	Concrete	0.088
Residence 12	Grass	0.086	Concrete	0.109
Residence 13	Grass	0.086	Wood	0.134
Residence 14	Grass	0.068	Concrete	0.095
Residence 15	Grass	0.068	Concrete	0.099
Residence 16	Grass	0.074	Concrete	0.111
Residence 17	Grass	0.074	Concrete	0.074
Residence 18	Grass	0.075	Tiles	0.096
Residence 19	Grass	0.073	Tiles	0.100
Residence 20	Grass	0.079	Wood	0.100
Residence 21	Grass	0.084	Concrete	0.107
Residence 22	Grass	0.077	Brick	0.096
Residence 23	Grass	0.083	Concrete	0.116
Residence 24	Grass	0.080	Concrete	0.094
Residence 25	Grass	0.076	Concrete	0.074
Residence 26	Grass	0.076	Brick	0.085
Residence 27	Grass	0.070	-	NM
Residence 28	Grass	0.077	Brick	0.079

**Table 42. Gamma dose rate measurements for the Capenhurst direct radiation survey ( $\mu\text{Gy h}^{-1}$ )**

Location	Outdoor substrate	Outdoor gamma dose rate at 1 metre <sup>a</sup>	Indoor substrate	Indoor gamma dose rate at 1 metre <sup>a</sup>
Residence 29	Grass	0.077	Tiles	0.097
Residence 30	Grass	0.067	Concrete	0.070
Residence 31	Grass	0.068	Concrete	0.086
Residence 32	Grass	0.068	Concrete	0.086
Residence 33	Grass	0.065	Concrete	0.095
Residence 34	Grass	0.068	Wood	0.110
School 1	Grass	0.069	Wood	0.097
School 2	Grass	0.069	Brick	0.090

	Location	Substrate	Background gamma dose rate at 1 metre
Background 1	Near Sealand	Rough grass	0.069
Background 2	Near Wimbolds Trafford	Rough grass	0.072
Background 3	Near Burton	Rough grass	0.059
Background 4	Eastham Country Park	Rough grass	0.062

**Notes**

<sup>a</sup> These measurements have not been adjusted for natural background dose rates.

NM = Not measured

A common set of outdoor measurements have been used where properties are in close proximity to each other.

**Table 43. Combinations of adult pathways for use in dose assessments in the Capenhurst area**

Combination number	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Fresh water plants	Occupancy over sand and stones	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
1	*	*	*	*	*						*			*			*	*
2	*	*	*	*	*	*				*	*			*			*	*
3	*	*	*	*	*		*		*	*								
4	*	*	*		*		*				*			*				*
5						*			*			*						
6	*				*				*	*	*	*					*	*
7	*	*	*	*	*					*			*					
8	*	*	*	*	*				*			*		*				
9	*	*	*	*	*					*		*						
10															*			
11		*		*	*					*	*						*	*
12		*	*						*		*		*		*			
13		*			*			*		*	*			*				
14					*	*		*										

**Notes**

The food groups and external exposure pathways marked with an asterisk are combined for the corresponding combination number. For example, combination number 1 represents an individual (or individuals) from Annex 1 who had positive data in the following pathways; green vegetables, other vegetables, root vegetables, potato, domestic fruit, wild/free foods, wild fungi and indoor and outdoor occupancies within 1 km of the perimeter fence











**Annex 1. Adults' consumption rates (kg y<sup>-1</sup> or l y<sup>-1</sup>) and occupancy rates (h y<sup>-1</sup>) in the Capenhurst area**

Observation number	Sex	Age (years)	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Freshwater plants	Occupancy rates over sand and stones	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
233	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
234	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
235	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
236	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
237	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
238	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
239	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
240	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
241	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
242	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
243	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
244	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
245	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
246	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
247	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
248	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
249	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
250	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
251	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
252	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
253	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
254	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
255	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
256	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
257	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1564	.
258	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
259	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
260	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
261	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
262	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
263	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
264	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
265	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
266	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
267	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
268	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
269	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1955	.
270	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	782	1173
271	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2009	223
272	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2009	223
273	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2009	223
274	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2009	223

**Annex 1. Adults' consumption rates (kg y<sup>-1</sup> or l y<sup>-1</sup>) and occupancy rates (h y<sup>-1</sup>) in the Capenhurst area**

Observation number	Sex	Age (years)	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Freshwater plants	Occupancy rates over sand and stones	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
275	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2009	223
276	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2009	223
277	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2009	223
278	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2009	223
279	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1985	221
280	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1985	221
281	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1645	235
282	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1645	235
283	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1081	235
284	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1081	235
285	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1729	741
286	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1729	741
287	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	672	288
288	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	672	288
289	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	672	288
290	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
291	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
292	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
293	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
294	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
295	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
296	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
297	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
298	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
299	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
300	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
301	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
302	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
303	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
304	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
305	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
306	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
307	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
308	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
309	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1674	88
310	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1656	184
311	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1656	184
312	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1656	184
313	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1656	184
314	F	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1656	184
315	M	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1288	552
316	M	62	.	5.1	.	.	12.5	.	.	.	.	2.1	.	.	<b>3.4</b>	.	.	.	.	.

















**Annex 1. Adults' consumption rates (kg y<sup>-1</sup> or l y<sup>-1</sup>) and occupancy rates (h y<sup>-1</sup>) in the Capenhurst area**

Observation number	Sex	Age (years)	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Freshwater plants	Occupancy rates over sand and stones	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
793	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	882
794	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	423	1692
795	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	423	1692
796	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1880	-
797	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1880	-
798	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1880	-
799	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1880	-
800	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1880	-
801	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1880	-
802	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1880	-
803	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1880	-
804	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1504	376
805	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1504	376
806	F	63	<b>25.3</b>	<b>32.0</b>	7.2	7.3	10.2	<b>304.2</b>	-	-	-	<b>11.9</b>	0.5	-	-	-	-	-	-	-
807	M	62	<b>25.3</b>	<b>32.0</b>	7.2	7.3	10.2	<b>304.2</b>	-	-	-	<b>11.9</b>	0.5	-	-	-	-	-	-	-
808	F	28	<b>25.3</b>	<b>32.0</b>	7.2	7.3	10.2	<b>304.2</b>	-	-	-	<b>11.9</b>	0.5	-	-	-	-	-	-	-
809	F	60	-	-	-	-	2.3	-	-	-	-	-	-	-	-	-	-	-	5718	546
810	M	58	-	-	-	-	2.3	-	-	-	-	-	-	-	-	-	-	-	4083	546
811	F	53	-	-	-	1.0	2.0	-	-	-	-	-	-	-	-	-	-	-	8006	130
812	M	52	-	-	-	1.0	2.0	-	-	-	-	-	-	-	-	-	-	-	7252	468
814	M	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8602	54
815	M	73	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	-	-	7097	238
816	F	74	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	-	-	6785	238
817	F	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6736	356
818	M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6736	356
819	F	68	-	3.6	-	-	-	-	-	-	-	<b>23.7</b>	-	-	-	-	-	-	7289	448
820	M	37	-	3.6	-	-	-	-	-	-	-	<b>23.7</b>	-	-	-	-	-	-	5720	208
826	M	U	-	<b>20.8</b>	-	14.6	-	-	-	-	-	<b>20.8</b>	-	-	-	-	-	-	-	-
827	F	U	-	<b>20.8</b>	-	14.6	-	-	-	-	-	<b>10.4</b>	-	-	-	-	-	-	-	-
828	F	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7278	378
829	M	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4371	189
834	M	59	2.0	-	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	6192	1092
835	F	51	2.0	-	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	6134	256
836	M	55	17.9	<b>30.3</b>	-	<b>36.4</b>	-	-	-	-	-	-	-	-	-	-	-	-	6518	1162
837	M	61	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	6334	136
838	F	62	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	6334	136

**Notes**

Emboldened observations are the high-rate group individuals

U = Unknown



**Annex 2. Children's consumption rates (kg y<sup>-1</sup> or l y<sup>-1</sup>) and occupancy rates (h y<sup>-1</sup>) in the Capenhurst area**

Observation number	Sex	Age (years)	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Occupancy rates over sand and stones	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
72	M	9	4.0	7.0	2.8	6.8	0.5	365.0	-	-	15.6	0.7	-	-	0.1	-	-	-	-
90	F	10	-	2.2	-	-	4.6	-	-	-	-	0.2	-	-	-	-	-	-	-
100	M	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6168	144
130	M	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6912	672
332	F	8	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-
333	F	8	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-
335	F	11	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-
336	M	11	-	-	-	-	-	-	-	-	-	-	-	-	-	400	12	-	-
338	M	11	-	-	-	-	-	-	-	-	-	-	-	-	-	400	4	-	-
340	M	10	-	-	-	-	-	-	-	-	-	-	-	-	-	400	-	-	-
358	M	8	1.2	0.6	7.1	-	8.3	-	-	-	-	0.3	-	-	-	-	-	7881	144
541	M	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
592	M	8	-	-	-	-	4.5	207.4	-	1.9	-	-	-	-	-	-	-	-	-
608	M	10	6.9	2.0	0.4	3.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-
625	M	10	0.8	0.9	6.6	-	0.5	-	-	-	-	-	0.5	-	-	-	-	-	-
650	M	9	-	6.8	1.1	18.2	-	-	-	-	-	-	1.7	-	-	-	-	-	-
703	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
704	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
705	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
706	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
707	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
708	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
709	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
710	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
711	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
712	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
713	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
714	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
715	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
716	U	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
717	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
718	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
719	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
720	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
721	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
722	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
723	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
724	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
725	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
726	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
727	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
728	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285

**Annex 2. Children's consumption rates (kg y<sup>-1</sup> or l y<sup>-1</sup>) and occupancy rates (h y<sup>-1</sup>) in the Capenhurst area**

Observation number	Sex	Age (years)	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Occupancy rates over sand and stones	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
729	U	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285	
730	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
731	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
732	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
733	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
734	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
735	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
736	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
737	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
738	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
739	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
740	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
741	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
742	U	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
743	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
744	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
745	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
746	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
747	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
748	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
749	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
750	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
751	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
752	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
753	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
754	U	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
755	U	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
756	U	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
757	U	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
758	U	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1045	285
775	M	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	154	-
776	M	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	208
777	M	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	208
813	F	8	-	-	-	1.0	2.0	-	-	-	-	-	-	-	-	-	-	-	8526	130
824	M	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	850	-
825	M	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	850	-
833	F	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7954	378
<b>5-year-old age group</b>																				
44	M	5	-	-	-	-	-	-	3.5	-	-	-	-	-	-	-	-	-	-	-
47	M	4	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-
91	M	6	0.9	11.7	11.0	7.3	3.5	-	-	-	-	0.2	-	-	-	-	-	-	-	-
122	M	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5659	147



**Annex 2. Children's consumption rates (kg y<sup>-1</sup> or l y<sup>-1</sup>) and occupancy rates (h y<sup>-1</sup>)  
in the Capenhurst area**

Observation number	Sex	Age (years)	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Occupancy rates over sand and stones	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
778	M	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	208
830	F	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7954	378
831	F	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8110	378
832	F	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7954	378
<b>1-year-old age group</b>																			
105	M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6941	212
123	F	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6639	147
821	F	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7453	448

**Notes**

Emboldened observations are the high-rate group individuals

U = Unknown

**Annex 3. Qualitative and estimated data for use in dose assessment**

Details of activity	Exposure pathways involved	Estimated rate
None identified	None identified	Not applicable

#### Annex 4. Ratios for determining consumption and occupancy rates for children

Group	Ratio child/adult <sup>(a)</sup>	
	1-year-old	10-year-old
Fish <sup>(b)</sup>	0.050	0.200
Crustaceans <sup>(b)</sup>	0.050	0.250
Molluscs <sup>(b)</sup>	0.050	0.250
Green vegetables	0.222	0.444
Other vegetables	0.200	0.500
Root vegetables	0.375	0.500
Potatoes	0.292	0.708
Domestic fruit	0.467	0.667
Milk	1.333	1.000
Cattle meat	0.222	0.667
Pig meat	0.138	0.625
Sheep meat	0.120	0.400
Poultry	0.183	0.500
Eggs	0.600	0.800
Wild/free foods <sup>(c)</sup>	0.110	0.490
Game <sup>(d)</sup>	0.140	0.500
Honey	0.789	0.789
Wild fungi	0.150	0.450
Freshwater fish <sup>(b)</sup>	0.050	0.250
Direct radiation	1.000	1.000
External exposure	0.030	0.500
Plume	1.000	1.000

#### **Notes**

<sup>a</sup>The age groups suggested for assessment in this table are those relating to dose coefficients representing 1 to 2 year olds (labelled 1-year-old) and 7 to 12 year olds (labelled 10-year-old). Excepting notes b and c, consumption ratios were derived from Byrom et al., (1995) for 1-year-old (6 to 12 months) and 10-year-old children (10 to 11 years)

<sup>b</sup>Ratios were derived from Smith and Jones, (2003) which presented data for infants and children.

<sup>c</sup>Ratios were derived from FSA data for wild fruit and nuts for infants and 10-yr-old children.

<sup>d</sup>Game includes rabbits/hares and venison.

Annex 5. Summary of adults' profiled consumption data (kg y<sup>-1</sup> or l y<sup>-1</sup>) and occupancy data (h y<sup>-1</sup>) in the Capenhurst area

Profile Name	Number of individuals	Pathway Name																			
		Direct <sup>a</sup>	Eggs	Freshwater Plants	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Sediment <sup>b</sup>	Honey	Meat - Cow	Meat - Game <sup>c</sup>	Meat - Poultry	Meat - Sheep	Milk	Mushrooms	Plume (IN; 0-0.25km) <sup>d</sup>	Plume (MID; >0.25-0.5km) <sup>d</sup>	Plume (OUT; >0.5-1km) <sup>d</sup>	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
		-	kg	kg	kg	kg	h	kg	kg	kg	kg	kg	l	kg	h	h	h	kg	kg	kg	kg
Occupants for direct radiation	487	1	0.2	-	0.7	-	-	-	0.1	-	-	-	0.7	-	2360	360	180	0.5	0.9	0.8	0.2
Egg consumers	22	0.2	15	-	10.4	0.5	-	-	-	-	-	74.7	-	740	-	630	14.1	18.1	20.7	10.8	
Freshwater plant consumers	6	-	-	0.9	-	0.3	-	2.3	-	0.2	-	-	-	-	-	-	-	9.1	-	4.5	
Domestic Fruit consumers	14	0.4	3.8	-	45	0.1	-	1.6	-	0.6	-	-	-	2000	620	-	16.2	22	43.8	23.1	
Wild fruit and nut consumers	8	0.6	3.7	-	6.8	2.3	-	-	-	-	-	-	-	2050	3020	-	7.2	16.3	6.6	4.7	
Occupants for exposure - Sediment	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Honey consumers	7	-	3.1	0.3	16.2	-	-	5.4	-	-	-	-	-	-	-	-	-	0.9	3.8	21.1	10.3
Cattle meat consumers	12	0.2	0.2	-	1.2	0.1	-	-	14.3	-	-	-	-	0.1	-	-	30	3.6	3	-	2.3
Game meat consumers	9	0.2	0.8	-	1.3	0.3	-	-	-	2.3	0.8	-	46.1	0.2	1800	-	-	3	6	13.7	2.9
Poultry meat consumers	7	0.3	1.5	-	12.7	-	-	-	2.5	-	9.9	-	-	-	2480	-	4	2.9	2.9	1.4	
Sheep meat consumers	6	-	2	-	4.6	0.4	-	-	-	-	2.9	138.3	0.1	-	-	-	-	7.4	-	-	
Milk consumers	33	-	2	-	1.5	0.2	-	-	-	-	0.2	272.4	-	-	-	10	3.2	4.2	2.3	1.3	
Mushroom consumers	2	-	-	-	5	-	-	-	-	0.9	0.5	-	1.6	-	-	-	25.6	13.4	13.7	18.9	
Occupants for plume pathways (inner area)	73	1	0.7	-	3.7	0.2	-	-	-	0.1	-	-	-	7860	-	-	2.1	3.5	4.9	0.7	
Occupants for plume pathways (mid area)	21	1	-	-	3.8	0.3	-	-	-	0.9	-	-	-	-	7150	-	3.2	5.7	2	1.3	
Occupants for plume pathways (outer area)	13	1	3.6	-	0.1	0.2	-	-	-	-	-	-	-	-	6650	-	0.1	1.1	-	-	
Green vegetable consumers	16	0.1	5.7	-	14.1	0.3	-	-	-	0.1	0.1	-	57	0.2	1000	-	-	33	29.5	40.3	19.7
Other domestic vegetable consumers	38	0.1	4.3	-	13.1	0.4	-	-	-	-	-	0.3	24	-	850	200	-	18.3	32.8	33.1	18.9
Potato consumers	46	0.1	2.6	-	13.4	0.1	-	0.5	-	0.2	-	-	-	720	170	-	16.6	20.6	46.6	22.4	
Root vegetable consumers	23	-	3.9	-	15.6	-	-	0.9	-	-	-	-	-	-	-	-	18.8	23.4	45.8	33.7	

**Notes**

<sup>a</sup>Direct radiation is expressed as a proportion of the group who are present within 1km of the site

<sup>b</sup>Gamma ext - Sediment includes occupancy over sand and stones

<sup>c</sup>Game meat is rabbit only

<sup>d</sup>Plume times are the sums of individuals' indoor and outdoor times

The means of the high-rate groups are determined by the 'cut-off' method and are highlighted on the diagonal









**Annex 6. Female consumption (kg y<sup>-1</sup> or l y<sup>-1</sup>) and occupancy rates (h y<sup>-1</sup>) in the Capenhurst area, for use in foetal dose assessments**

Observation number	Sex	Age (years)	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Freshwater plants	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
797	F	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808	F	28	25.3	32.0	7.2	7.3	10.2	304.2	-	-	-	11.9	0.5	-	-	-	-	1880	-
827	F	U	-	20.8	-	14.6	-	-	-	-	-	10.4	-	-	-	-	-	-	-
828	F	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7278	378

**Notes**

U = Unknown

Although the exact age of observation number 367 to 398 were unknown, they were known to be over 44 years old and are therefore not included in this appendix.

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